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WILLIAM PAUL, F.L.S.



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— TO —

WILLIAM PAUL, F.L.S.,

THE SIXTY - THIRD VOLUME OF "THE GARDEN"

Is dedicated.

MR. WILLIAM PAUL, founder of the Royal Nurseries, Waltham Cross, is a son of the late Mr. Adam Paul, and was born in 1822 at Churchgate (about two miles from the present Waltham Cross Nurseries), where his father had purchased a nursery in 1806. He was educated privately, and joined his father in business in due course. In 1847, after the death of Mr. Adam Paul, Mr. William Paul inherited his father's share in the business, and became an equal partner with his brother in the old firm of "A. Paul and Son." This firm was dissolved in 1860, the present firms of "William Paul and Son, Waltham Cross," and "Paul and Son, Cheshunt," dating from that year.

In the course of a long life this famous rosarian has been associated with most of the well-known writers and workers in the field of horticulture, including London, Dr. Lindley, Sir J. Paxton, Dr. Hogg, Thomas Moore, and Robert Fortune, and has been a frequent contributor to the horticultural Press. Darwin, in "Animals and Plants under Domestication" (second edition, vol. ii., page 216), alluding to Mr. Paul's writings, says: "How well this practical horticulturist appreciates and illustrates the gradual and accumulative force of selection."

Although Mr. Paul is known as a rosarian, he has devoted much attention in the past to Fruit trees, Hollyhocks, zonal Geraniums (as introducer of the late Donald Beaton's seedlings), Camellias, Hyacinths, Rhododendrons, and other flowers, and has lectured on these subjects before the Society of Arts, the Royal Society of Literature, and other learned societies. He was also one of the promoters of the first National Rose Show, held in July, 1858; also an active worker in the great International Horticultural Exhibition held in London in 1866, and an Associate Commissioner for the Paris Exhibition of 1867.

Mr. Paul's best known work is "The Rose Garden," the first edition of which appeared in 1848, and he has written also treatises upon the Cultivation of Roses in Pots, Hollyhocks, Villa Gardening, and Rhododendrons and other American plants.

Mr. Paul is an enthusiastic collector of horticultural books, and in his library at Waltham House there are many rare editions. In his beautiful home, for many years the residence of Anthony Trollope, this great horticulturist, one of the few links between the past and present generation of horticulturists, still lives an active and interesting life. May he long continue to do so.

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THE GARDEN

No. 1624.—Vol. LXIII.]

[JANUARY 3, 1903

NEW HARDY FLOWERS OF 1902.

THE following list comprises plants that have been given either an award of merit or a first-class certificate by the Royal Horticultural Society in 1902. It is not a formidable one, and it is regrettable that the number of plants given a certificate of the first class is not large. This, however, may be regarded from two standpoints. One is, Is the standard for first-class certificates set too high? We think not. It is best in the case of an untried novelty to err on the side of giving the lower award, for if the plant be worthy and its owner or introducer has sufficient faith in it the plant will assuredly appear again, entered doubtless for the higher award. This is much the best course, as to distribute the first-class certificate broadcast is to realise, a little later, that very few of the plants deserve the honour. It is noticeable also that a large percentage of the certificated plants are species of recent introduction, the novelties resulting from cross-bred or hybridised plants, if we except the Daffodils, *i.e.*, the genus *Narcissus*, being in quite a minority. This is not as it should be, and not a few genera among hardy plants are merely waiting some energetic worker or enthusiast to take them in hand and to try his utmost to improve them. In this direction the field is open and very wide, and in the near future we hope to see the honours list more equally shared between these new comers from other lands and the cross-bred plants raised in gardens and nurseries at home.

In this list F.C.C. indicates "first-class certificate" and A.M. "award of merit."

Alstroemeria Mrs. Salter.—Apparently a vigorous form of *A. aurantiaca*, the large heads of flowers being of quite exceptional size and almost globular in form. In the examples shown at the time there were between two and three dozen flowers, and these, supported on long pedicels, created quite a feature in this valued section of hardy plants. A.M., July 12.

Anemone japonica Queen Charlotte.—There is not the least doubt that when established this will prove one of the most valuable additions to the autumn-flowering kinds; indeed, such a plant was required, as the only pink-flowered kind hitherto was rather pale and did not grow well in all gardens. The present plant, although not a novelty of 1902, was never seen so fine as last year. In the form of its petals and the largeness of the flowers generally it is a great improvement, and

should prove quite a first-rate plant. A.M., October 21.

Astilbe chinensis var. Davidii.—This is without doubt the greatest acquisition to hardy plants, not of 1902 only, but for many years past, and from it will probably come through hybridisation a distinct and interesting race. The plant, so far as European gardens are concerned, is remarkable, and equally so its effect when grouped in the garden. This novelty and acquisition opens a large field for the expert plant breeder, and we know that it will not be for any want of skill or trial if a group of intermediate forms be not soon forthcoming. It is also very hardy. The colour is also exceptional, in truth remarkable in its tone of violet or reddish purple. Growing fully 6 feet high, perfectly hardy, vigorous, and free-flowering, it is certainly an acquisition. Already the plant has produced good seeds in England and young plants. In the capable hands of Messrs. Veitch we feel assured no opportunity will be lost in making the most of this fine new perennial. From Central China. F.C.C., August 5.

Corydalis thalictrifolia.—This is also a valuable new species. It is only 1 foot high, forming a compact free-flowering mass; indeed, it is almost always in bloom, from the beginning of May till sharp frosts occur. The pedicels are long and slender and furnished with bluish, deeply incised lobes, that together produce quite a charming feature, while the flowers are yellow. The plant has a shortly rhizomatous rootstock and is deciduous, in fact almost disappears from view. Having proved hardy and being a good seeder, this *Corydalis* will probably become very popular. Not only will it make an excellent rock garden plant, but for ruins, old walls, or even carpeting beds of choice things it will be found useful. From Central China. F.C.C., June 10.

Cimicifuga japonica.—This is not a novelty, but it is an excellent plant. The pure white flowers are very beautiful, and the plant attains 4 feet high or thereabouts, the flowers clustering closely on long cylindrical spikes. The foliage is finely cut. A.M., October 21.

Delphinium Kitty Wardell.—As this is the only Larkspur certificated by the Royal Horticultural Society during the past season, it may fairly be conceded that perfection in certain directions has been well-nigh attained. The flowers are semi-double, large, and violet-blue in colour; the spike is very handsome. A.M., July 8.

Fritillaria askhabadensis.—An entirely new species, vigorous, and very free-flowering. The fine example as exhibited by Miss Willmott, was upwards of 2 feet high, and crowned by a leafy erect tuft, and from eight to ten greenish yellow openly campanulate flowers. This interesting species comes close to the Crown Imperial, the flowers being smaller, but the leaves and inflorescence are the same. This species was discovered growing in calcareous soil near the village of Kasakala, near the

town of Askhabad, on the Russian border. A.M., March 25.

Heuchera brizoides gracillima.—An elegant plant, which attains nearly 18 inches high, and produces numerous light and elegant spikes, on which the dainty rosy scarlet flowers are arranged. It is a hybrid kind from the continent, apparently between *H. micrantha* and *H. brizoides*, and may be classed among the most hardy and graceful of dwarf perennials. A.M., June 10.

Iris Sarpedon.—This is one of the flag Irises, and said to be a hybrid between *I. asiatica* and *I. pallida dalmatica*. In the hybrid the vigour of the latter is well seen, while the colour partakes of the other kind, the standards being of a deep azure blue, and the falls violet-purple. A.M., June 10.

I. Sunshine is also of the flag section, the colour a pleasing combination of soft yellow and creamy white. A.M., June 24.

I. orientalis Snow Queen.—Hitherto in the forms of *I. sibirica* and their near allies no good pure white kind existed, and as this *Iris* is white and free-flowering it will doubtless prove a valuable addition. The habit is the same as that of the type, the only difference being in the pretty and very pure blossoms. A most welcome plant. A.M., June 24.

I. Barnume.—A rather dwarf member of the *Oncocyclus* group, with almost self purple flowers. It is curiously fragrant at certain stages, and is certainly one of the hardiest of the race. A.M., May 20.

I. Sofarano magnifica.—This is also of the *Oncocyclus* group, and is a really handsome and vigorous kind; indeed, there is almost the boldness of *I. susiana*, and in other respects it may be regarded as nearly intermediate between this and *I. atrofusca*. A very handsome variety. A.M., May 28.

I. Tauri.—A new species of the *I. persica* group, which has now been grown for two seasons. In the earliest examples that came before us there was a marked freedom of flowering, which has not in the same decisive way been maintained. The plant, however, is one of the best, and if a variable species, which it is undoubtedly, there is hope and the pleasure of even better forms to come. In all its variations the plant displays some shade of violet or this with purple. It is very useful for any warm position in the rock garden in very sandy loam, and next to *I. Heldreichi*, is one of the finest of the earliest Irises. A.M., January 14.

I. Warleyensis.—Some surprise was expressed quite early in the year when it was announced that this kind on eminent authority was regarded as a new species. It is now admitted, however, to be a member of the *I. orchoides* group, and a very beautiful one. It is not easy briefly to describe the many colour variations in this plant. The predominant note is pale to deep violet, the deeper shade being upon the blade of the fall, which again is distinctly margined white. From

Eastern Bokhara, at an altitude of from 5,000 feet to 6,000 feet. F.C.C., March 25.

I. Bucharica.—Another beautiful species, belonging to the same group as the above, though even more widely distinct and charming. It is, however, in the exquisite combination of colours that this lovely plant appeals to all lovers of beautiful flowers. The predominant colours are the pure white as seen in the upper portions of the flower and the rich golden-yellow of the blade and crest. In many other respects is this one of the most fascinating Irises we have seen. From Eastern Bokhara. F.C.C., April 8.

Kniphofia Rufus.—A very striking kind with spikes of scarlet and yellow flowers. A.M., August 19.

Liatris graminifolia var. dubia.—Not quite a novelty, but certainly one of the best of this family and not at all well known. The spikes are 5 feet high, columnar, and densely furnished with rosy purple flowers. A.M., September 23.

(To be continued.)

PILGRIMS GO A-RANCHING.

"A-ranching we will go,
A-ranching we will go,
A-ranching we will go—o,
A-ranching we will go."

ACCORDINGLY I write this, eleven miles from San Diego, in the midst of an Orange and Lemon grove in full fruit, while on the lawn and around the house are many fine Rose bushes and climbing Roses just coming in flower, notably La France and Safrano. Towering far above the second-story housetop are large Eucalyptus, while on either side is a gigantic Pepper Tree, whose weeping foliage is most effective. There are Loquats in full flower, masses of Guavas in fruit, and many deciduous fruit trees, while everywhere is a tangle of Blackberries and Dewberries. The solemn hills on every side tempt one to believe that one is actually in Scotland again, only the tropical surroundings belie it. Hot days and cool nights have obtained for the three weeks since our arrival. An eventful journey of five days and nights brought us from Chicago, in somewhat bad shape, it is true, as regards the only male member of the expedition, who injured his knee badly in the cars, and had to be assisted at the various changes, thus somewhat damping the wild enthusiasm of the *tout ensemble*, but the honest German face of our host at the depôt made up for much. Then an eleven mile drive to the cosiest of homes, peacefully nestling under the hills through a boulevard lined with Palms on either side, brought the weary pilgrims to meet a genuine English welcome from our hostess. At Truckee, on entering the State of California, we encountered hard frost, freezing the car windows, but here is no frost. The trip from Los Angeles is surpassingly lovely, 250 miles through beautiful scenery, skirting the Pacific Ocean for a considerable portion of the ride. We passed the largest Olive ranche (supposedly) in the world; this year totally without a crop. Tomatoes are largely grown around here, and fetch now 2½ cents a pound.

Since we arrived everyone who has come in touch with us has endeavoured to "touch us" into buying a ranche. They all have one or two up their sleeve, and produce them on every available opportunity. We have rented this house I write from now for 5dols. monthly; it is hard-finished, two-story, with six immense rooms, two bay windows with a profusion of coloured glass transoms and panelled doors. I can buy this, with large reservoir, 12½ acres

of fruit, and barn, for 2,000dols., or about £400. It is the loveliest spot I have ever seen, and is all piped with water over the entire area. There is a school, church, and village half a mile from here, and a railway depôt two miles off. Provisions are nearly as cheap as in Chicago, while the climate is beyond praise. Unluckily, you cannot live on the climate, and I suspect that accounts for the bargains our ingenious friends have been pressing on us. I went to inspect the ranche we nearly bought from our pious Chicago friend. The mortgage was the only flourishing thing about it. It had been abandoned for a year, and is worth *nil*. I intend giving details of cost of production and market prices in future papers as I acquire this useful knowledge.

La Mesa, California. C. MACQUARIE.

EDITOR'S TABLE.

FLOWERS FROM BEDFORD.

"B. M. B." (Bedford) sends a delightful gathering of outdoor flowers with the following interesting note:—"I send a small bunch of outdoor flowers.



CERASTIUM TOMENTOSUM.

The Chrysanthemum is always the last to remain in bloom, and is still opening its flowers in spite of the severe weather at the beginning of December, when we had as much as 22° of frost. The Wall-flower is Barr's extra early Parisian, which flowers from September to the following June without intermission. Does anyone else, I wonder, use *Limnanthes Douglasi* as a winter carpeting plant? The green is very bright and vivid, no frost seems to harm the foliage, and there are always stray blooms up to January and again in the early spring. Seed can be sown in August. The few Pansies and Violets are not particularly remarkable. I have besides in flower Double Daisies, *Crocus speciosus*, *C. hyemalis*, *Arabis*, *Alyssum*, *Violets*, *Galanthus cilicicus*, and some China Roses; but frost has spoiled most things."

CHRISTMAS HARDY FLOWERS.

Mr. Field, Ashwellthorpe Gardens, Norwich, writes (December 24):—"I am sending a few sweet-smelling flowers for your table on Christmas Day. I was afraid when the early frost set in that it would be all over with the flowers before this, but we can still gather handfuls of Wall-flowers, Winter Heliotrope, Violets, &c., and the Snowdrops will soon be in bloom."

A welcome gathering, comprising the Winter Sweet (*Chimonanthus fragrans*), the Winter Colt's-foot, and Violets.

CLIANTHUS PUNICEUS AND ROSES FROM THE OPEN GARDEN.

Mr. S. W. Fitzherbert sends from Kingswear, South Devon, a gathering of flowers of *Clianthus puniceus* from the open wall, also a few blooms of *Mimulus (Diplacus) glutinosus* from an entirely unprotected plant. Mr. Fitzherbert writes:—"On Christmas Eve I picked a couple of dozen good Roses from bush plants in the open, including Queen Mab, Laurette Messimy, Irene Watts, Leonie Lamesch, and Marquise de Salisbury. We have as yet had no frost to speak of here. The mercury has never fallen below freezing point in the screen, and on the grass only 2° or 3° of frost have been registered."

A BEAUTIFUL VARIETY OF WINTER SWEET.

Mr. Burrell sends from Claremont, Esher, a beautiful variety of Winter Sweet (*Chimonanthus fragrans*). The flowers are very clear in colour, the petals a soft lemon-yellow, and the sepals quite a crimson shade, and they are set more densely on the leafless twig than the ordinary form. Its pretty colouring, sweetness, and freedom make this one of the best forms of the somewhat variable *Chimonanthus* we have seen.

CERASTIUM TOMENTOSUM.

"R. H." sends from Devonshire a few flowers of this *Cerastium* to show the mildness of the weather during Christmas. It is too well known to describe, but we have made a little drawing of it to show how freely it has flowered in a favoured Devonshire nook.

NOTES OF THE WEEK.

FORTHCOMING EVENTS.

January 6.—National Amateur Gardeners' Association Meeting.

January 10.—Annual dinner of the Société Française d'Horticulture de Londres.

January 13.—Royal Horticultural Society's committees meet at Drill Hall.

January 14.—East Anglian Horticultural Club Meeting.

January 22.—Gardeners' Royal Benevolent Institution Meeting and Election of Pensioners at Simpson's, Strand.

January 27.—Royal Horticultural Society's Meeting.

February 3.—National Amateur Gardeners' Association Meeting.

"The Garden."—With this issue is presented a coloured plate of Tea Rose Lady Roberts, and a calendar printed in two colours, giving the dates of the principal horticultural exhibitions and meetings throughout the year. This we feel sure will prove useful to many of our readers.

Cup prizes for the National Dahlia Society.—Mr. Tulloch's circular *re* the provision of two £10 cups for competition at the National Dahlia Society's shows, as published on page 422 of THE GARDEN, came before the members of that society in an informal way at the recent general meeting, but did not seem to arouse much enthusiasm. The proposal is simply another effort to rivet the chains of mere show or competitive effort on the society, and does nothing towards making Dahlias popular garden flowers. If someone choose to fling away £10 unwisely elsewhere in similar fashion it does not at all follow that a society having the reputation of the National Dahlia Society should follow. A greater need of the society is a reserve fund to guarantee it against any possible adversities than that it should seek to raise £20 to throw away in probably three years at the outside in cups. It is, indeed, doubtful whether any more exhibits would be seen at the shows than the ordinary prizes now bring were cups offered.—A. DEAN.

Oakwood and Glebe Farm, Wisley Common, near Ripley, Surrey, is to be sold by auction at the Mart, Tokenhouse Yard, E.C., on Tuesday, the 20th inst., at two o'clock. The estate is about 60 acres, and is being sold by the executors of the late Mr. G. F. Wilson, F.R.S.

Prunus Pissardi.—In the notes from Swanswick, page 442, "M. L. W." comments on *Prunus Pissardi* as a prospective fruit-bearing tree which the writer of the "Tuscan Garden" says is grown in Tuscany for its fruit. I am afraid it will not in this respect give much satisfaction to "M. L. W." as in most parts of England fruits are rarely borne. It is only a coloured-leaved variety of the Myrobalan or Cherry Plum (*Prunus cerasifera*, better known as *Prunus Myrobalana*); indeed, in the "Kew Hand List" the name of *Pissardi* is discarded in favour of *Prunus cerasifera atropurpurea*. The flowers are borne so early that the fruit seldom develops, but when it does come to maturity it is fairly good, though not for one moment to be compared with many of the delicious garden Plums. In the climate of Tuscany the fruit probably sets readily, and the brighter sunshine may account for a richer flavour, but here its principal claim is as a good purple-leaved tree.—H. P.

Alterations at Kew.—The most important addition to the establishment during the past year is the new wing to the Herbarium. This extension, which is of the same size as the large hall built at the back of the old building twenty-five years ago, practically doubles the accommodation for dried specimens. It is fire-proof, and each storey is connected by a corridor with the rest of the Herbarium. The architecture and elevation are the same as in the original building, and the front faces Kew Green. It is rapidly approaching completion, and will probably be fit for occupation early this year. The reglazing of the central block of the Temperate house has been proceeded with during the past summer, and the loftier part of the roof is now finished. The use of clear untinted glass and large panes, in place of the narrow green ones, makes the house much lighter and better fitted for the class of plants it contains. The soil throughout the whole of the beds has been renewed and a system of thorough drainage adopted. The greater part of the old soil had been in the beds since the house was built—exactly forty years ago—and no drainage had been provided. As some of the beds were 5 feet or 6 feet deep it is not surprising that the soil had become sour. The northern wing—known as the Himalayan house—has proved a great success. The chief feature is the collection of *Rhododendrons*, but the conditions are found to be admirably adapted for many other warm temperate plants. *Buddleia Colvillei* has flowered here for the first time at Kew, and many other plants are developing beauties that one never previously knew they possessed.—*Kew Guild Journal*.

Schizostylis coccinea.—How sadly neglected this beautiful Kaffir Lily seems to be, for one rarely finds it grown in such quantity as its merits and usefulness deserve. In November we had a brilliant picture with masses of this subject interspersed with the lovely *Sternbergia lutea*. Soon after the *Sternbergia* had finished flowering the severe frosts came and checked the *Schizostylis*, but a few mild days have brought it into flower again. An ideal spot for the *Schizostylis* is at the foot of a warm wall or in a border in front of the glass houses. It likes a light rather than a heavy soil, and well repays such attention as copious waterings during the hot and dry weather. About every third year the clumps should be lifted in the spring, divided and replanted.—A. C. BARTLETT.

Kew Guild Journal.—This annual publication is always of much interest, more especially of course to members of the Kew Guild—that admirable association of those who have worked, and who now are working, at Kew. A portrait of Mr. John Reader Jackson, late keeper of the Economic Museums at Kew, forms the frontispiece of this number. Mr. Jackson held this post for forty-three years, having retired in 1901. Perhaps his most important literary work

is "Commercial Botany of the Nineteenth Century," published in 1890. Many past Kewites will remember with pleasure Mr. Jackson's lectures on "Economic Botany." At the annual dinner of the Kew Guild held in May last 114 were present, when Mr. J. G. Baker, F.R.S., presided. It is interesting to note that the British Botany Club, the Debating Society, and the Cricket Club are all flourishing. Notification of several important appointments serves to show the importance of Kew as a training ground for gardeners. Notes from past Kewites in various parts of the world make most interesting reading. There are notes from South Africa, Morocco, Teneriffe, India, Malay States, West Indies, West Africa, and other more remote colonies. Mr. W. Botting Hemsley contributes an article concerning William Aiton, and there is also a notice of John Rogers, one of the oldest Kewites. Mr. W. Watson has resigned the post of secretary and editor, and has succeeded Mr. George Nicholson in the less laborious position of president. Mr. W. N. Winn is now secretary, and Mr. W. J. Bean is editor and treasurer. In addition to portraits of John Reader Jackson, William Aiton, and John Rogers, the journal contains a full-page illustration of the Rock Garden at Kew. Under the new editorship the general excellence and interest of the journal is well maintained.

New varieties of Apples.—When recently looking over the new branch nursery made by Messrs. J. Backhouse and Son in Yorkshire, my attention was drawn to several new Apples in the fruit quarters. The best were James Grieve, Rivers' Codlin, and Northern Dumpling. The two latter are, as their names will suggest, kitchen Apples. The former is a dessert variety of much promise. Judging by the specimen before me I should say it has some of Cox's Orange Pippin blood in its veins, though the fruit is larger than that variety generally grown in the north. The nursery has only been made two years, so the trees on which the fruits were growing must be young ones.—H. J. CLAYTON, *Tadcaster*.

Tubers on Nephrolepis.—Concerning the question regarding tubers of *Nephrolepis* in THE GARDEN of the 20th ult., I may say that there is one distinct species or garden form, *Nephrolepis Bausei*, in which the tubers afford the only trustworthy means of keeping it from one season to another. It is a very pretty Fern, but is available only for the greenhouse, and, what is more, the entire crown and rootstock usually die, leaving nothing but a few detached tubers, which, when growing, were connected with the parent plant by a slender thread-like substance. These elongated tubers with their roughened exterior greatly resemble the cocoons of some of the moths, but closer inspection reveals the origin. So thoroughly does this *Nephrolepis* appear to die in the autumn that I have known plants of it to be thrown away in the belief that they were quite dead, the small tubers being overlooked. A good way to treat this Fern is to allow it to occupy the pot in which it has grown, and keep it moderately dry throughout the winter, then early in the new year take it from the soil and pick out the tubers. If potted singly into small pots these grow away rapidly and soon form effective plants.—H. P.

Chrysanthemums as shown.—Having visited a great many of the Chrysanthemum exhibitions during the past autumn I was particularly interested in a portion of the article on page 451, over the well-known initials of "C. H. P.," as the writer's ideas entirely coincide with my own. The part alluded to is that in which reference is made to the large coarse flowers that now do duty for the incurved section, which at one time used to be models of symmetry, but that is now all changed, and everything sacrificed to size. The Japanese, too, are very disappointing, the rich coloured flowers being conspicuous by their almost total absence. At many of the exhibitions artificial light is necessary during the greater part of the time, and then whites and yellows appear much the same, while those subtle tints to which such descriptions as lilac, silvery rose, light purple, pale rose, lilac-rose, rosy mauve, and various other

combinations are applied, are indistinguishable the one from the other, particularly as their depth of colouring depends a good deal upon the treatment given to the plants. Such sameness makes one sigh for the time when the rich coloured Edwin Molyneux was in the height of its popularity, or, to go a little further back, when to my way of thinking the most beautiful crimson Japanese that has ever figured at these exhibitions was so generally seen on the show-boards. This was Jeanne Delaux, distributed by that well-known cultivator M. Delaux in 1882, at which time the *Chrysanthemum* was beginning to get popular. It was for a time after its distribution frequently met with in this country as F. A. Davis, for the set which was sent out that year by this well-known nurseryman was rechristened on arriving in this country, a most reprehensible practice, costly to myself and many others, for I obtained the set direct from M. Delaux, and bought several of them again under other names. The flowers of Jeanne Delaux were beautiful in contour, rich in colour, and to my mind vastly superior to the huge blooms now in vogue.—T.

Reinwardtia trigyna.—In the fall light that often prevails during a dull winter's day flowers of an orange tint are more conspicuous than those of any other hue, a great point in favour of this *Reinwardtia*, whose period of blooming is during the winter months. It has been long known in gardens, particularly under the name of *Linum trigynum*, but for some reason or other its merits do not seem to be sufficiently recognised. It is one of those sub-shrubs so common among tropical plants, and was introduced from India over a century ago. If struck from cuttings early in the year and the young plants have their points pinched out two or three times they form neat little bushes, which will bear a cluster of flowers on the point of every shoot. The individual flowers, in shape not unlike a Primrose, are about an inch across, and of a rich glowing orange-yellow colour. A succession is kept up from one cluster for a considerable time. A second species (*R. tetragyna*) has primrose-coloured flowers with a yellower centre. Which is the more beautiful is at least an open question, but for my part I prefer the deeper tinted and older species. A place, however, may well be found for both in most gardens where there is a structure in which an intermediate temperature is maintained during the winter months, as they occupy little space and their cultural requirements are not at all exacting. Red spider is their principal enemy, but if the plants are grown during the summer in a frame these pests do not give so much trouble as when they are kept throughout that period in an artificially-heated structure.—H. P.

Cactus Dahlias for garden decoration.—As intimated, I brought before the members of the National Dahlia Society my proposal that the consent of the Royal Horticultural Society be obtained for a trial at Chiswick of new Cactus Dahlias, sent by raisers specially to show fitness for garden decoration. I was much pleased to have the support to my proposal of the esteemed president, Mr. Mawley, who has higher tastes in relation to Dahlias than by making them mere exhibition flowers, and who intimated that the Royal Horticultural Society would have such a trial at Chiswick at their own option, and urged members to send varieties to that trial. Mr. Wyatt, of the well-known firm of Keynes, Williams and Co., mentioned that "they had two or three varieties specially for garden decoration," and we wish other raisers, now so devoted to the show side of these flowers, would do the same. Showing Dahlias gratifies a few—growing them for garden decoration gratifies thousands.—A. D.

Palms as room plants.—In reference to the terrible slaughter among Palms when treated as room plants, alluded to by your correspondent "M. L. W.," page 443, the blame must, I think, be shared between the producers, the retail sellers, and the ultimate purchasers. The producers in the first place, in order to get the plants in a

saleable state as soon as possible, push them on in a hot steamy atmosphere, the result being that when removed from it they are very susceptible to the cold, while drying winds are equally hurtful. Then the retailer often keeps them in hand perhaps for a long while, exposed it may be to draughts and various other adverse conditions, so that by the time they are bought and taken indoors the roots have received such a check that, though the plants may exist for a time, they will die before regaining their normal health. The hardships that many room plants have to put up with is greatly against Palms, which to be kept in health should be well sponged once a week, carefully attended to in the matter of water, by avoiding drought or the opposite extreme. Above all never allow the water to stand in the saucers. There is also a great tendency, especially among amateurs, to shift them into larger pots, whereas most Palms may be kept in health for years in the same pot. I do not mean to say that all Palms sold finish their career as above detailed, but the great changes they undergo are doubtless answerable for much of the mortality that takes place among them.—T.

A prize station garden.—For the fourth time in succession the special prize of £5 offered by the directors of the Great Western Railway Company for the best-kept flower garden at their stations in the Reading division, which embraces a large number of towns and villages, has been awarded to Mr. Treacher, stationmaster at Theale, near Reading.

Mr. Frank Garrett.—It will be a source of regret to many to know that Mr. Garrett, who for over sixteen years has had charge of the Ornamental Department at Kew, left on October 31 last to take charge of the gardens at Blenheim, a post which is regarded as one of the first prizes in horticulture. Besides his long experience at Kew, Mr. Garrett has served in some of the finest private gardens in this country, such as Longleat, Syon, Downton Castle, and Sandringham. Too modest to seek fame, Mr. Garrett has nevertheless gained it by his successful work at Kew. Scores of young men have benefited by his supervision of their work and by the sound practical doctrine he taught. It may be a larger sphere of labour to which he has moved, but Kew men will not admit it to be a more useful one. He was presented before his departure with a handsome clock as a mark of respect from many members of the staff. Mr. A. Osborn succeeds Mr. Garrett as foreman of the Ornamental Department. He came to Kew in April, 1899, and for two years and a half was sub-foreman in the Ferneries. Previously he had been with Messrs. Sutton and Messrs. Veitch, and had spent some years in private gardens.—*Kew Guild Journal.*

The Flageolet Bean.—It is interesting to note that Mr. Isherwood's query with respect to the old red Flageolet Bean should have just now been made, as it was but very recently when with members of the fruit and vegetable committee of the Royal Horticultural Society at Chiswick we were discussing with Mr. Wright the Kidney Bean trial for next summer, which is to take place there, I asked whether stock of the true old red Flageolet could be obtained now. I thought it might be had from Messrs. Vilmorin and Co. of Paris. There is an impression abroad that it and Canadian Wonder are the same. If it be so it is odd that such fact was not generally known. In such a trial as is proposed a few of the best old varieties may well be included. In a list published forty years ago the Flageolet is not mentioned. The chief ones were Negro, Mohawk, Fulmers, and a few others. It would not be difficult now no doubt to make up a list of thirty varieties distinct so far as ripe seeds are concerned. I hope we shall see the Flageolet at Chiswick. After writing the above, I looked into M. Vilmorin's "Vegetable Garden," where I find he enumerates some fifty varieties of dwarf Beans, many of them unknown here, and several of which are termed Haricot Flageolet. The Chevrier Flageolet is specially praised for its exceeding greenness, extending partially to the seeds. I notice that dwarf Canadian Wonder and the red or scarlet Flageolet are classed as synonymous in

the book. No explanation is given as to the meaning of or reason for such frequent use of the name or term Flageolet. Is it a corruption of the botanical name Phaseolus, or does it convey, so far as the Bean pods are concerned, that they are long and cylindrical? In France dwarf Beans are grown chiefly for their ripe seeds. We prefer the green pods.—A. D.

ROUND ABOUT A GARDEN.

WANDERING through woodland at this season one often comes across a group of trees so gracefully draped and festooned with common Ivy that they make what people call "a perfect picture." Often in summer, too, magical glimpses may be caught, in some jungly dell, of natural arches clustered with wild Rose and Honeysuckle; and I recollect, as a boy, spending part of a half holiday trying to transfer to paper the loveliness of some natural rockwork on Leckhampton Hill, near Cheltenham, which was so garlanded with wild Clematis and tufted with wild flowers as even to compare favourably, to my mind, with the background in the transformation scene of the previous Christmas pantomime, revealing the Fairy Queen in her pink tights and her Enchanted Grot. Often in the Himalayas I wished for a camera to perpetuate the dreams of loveliness woven by flowering creepers round trunks fringed with Fern and Orchid; and only last year in England, passing down a hollow lane, whose high, tangled hedgerows were wreathed from end to end and roofed with fairy tracery in parts by the wide-flung trails of the common wild Hop, I could not help thinking what one might not be justified in spending to transplant, if he could, the whole thing bodily to one's grounds. For several hundred yards the lane wound deeper and deeper into the valley, and at every winding turn a new vista caught the eye, till, at the very bottom where, as in a cellar, it is always cool in summer and warm in winter, you came to the spring that dripped through perennial emerald of clustered Maidenhair.

In grounds which are too extensive for constant horticultural attention in every part you may sometimes happen upon wild nooks of beauty such as these: but to find them you have to wander from the beaten path of trimmed shrubbery and cultivated coppice, and in a small garden, if there happens to be a certain number of trees, they are allowed to remain a certain number of trees, without any attempt being made to add to their beauty. The gardener merely sweeps away all the leaves that fall from them in autumn, and all through the winter the owner sees their bare trunks and leafless branches. Beneath them the grass grows thinly over the clammy brown earth, and for two-thirds of the year "under the trees" is a place to be avoided. It is lovely in spring, of course, when the leaves have burst their buds, and its shade is grateful during hot days of summer, while, as the year wanes, it may afford a limited display of "autumn tints;" but, taking one thing with another, the average householder's view is that as much ground as is occupied by "the trees" is so much ground lost to "the garden."

The exact contrary should, of course, be the case. Any tenant of a bare piece of ground can with a five years' lease convert it into a fine flower-bed garden, but he cannot grow trees in the time, and unless he is (as so few are nowadays, but as our ancestors always seemed to be) content to lay the foundations on which successors may build an ideal garden, he must make shift with artificial structures for climbing plants if he wishes to produce

any really graceful effects in his garden. And this brings me to certain criticisms which have been passed upon my views of pergolas. That these may be beautiful no one who has seen the pillared wealth of blossom upon one that is well established can deny. That they may be useful we have the evidence of those who have found their shade in sultry weather grateful and comforting. Miss Jekyll, who is a high priestess of the temple round whose lowest step I wander among the weeds, has explained the beauty of the pergola and the art of building and stocking it. But still I would venture a wager, if I saw any chance of profit in the transaction, that the gardening books of the future will speak of the pergola as "a horticultural artifice which had considerable vogue at the beginning of the twentieth century, but which, owing to the truer conception of art in the twenty-first century"—you all know how instructive books talk in the introductory chapter?—"has fallen into disuse," or words to that effect.

But which of us is going to live until the twenty-first century? So let no one who loves to see the massed wealth of blossom which well-grown creepers display be deterred from building a pergola for them to creep upon. It will be something very different from his original design before the critics of the twenty-first century arise to point out its artificiality. Still, my opinion holds that in England, where we need fear no snakes or scorpions in the grass, the natural shade of trees in a garden renders the pergola superfluous, and that climbing plants are more beautiful when they climb as Nature taught them upon rocks or trees than upon any manifestly artificial structure. As a covered way leading from a house-door to some other frequented point of a garden a pergola may be so useful and ornamental as to be one of the *best* features of the place; but where, as is now happening in scores of gardens, an elaborate pergola is constructed as one of the *chief* features of the place, breaking up the central vista with its obstructive arches, you cannot help regretting it. When a pergola is stuck out in the middle of a garden as if it was a sort of artistic flower-bed, you go in at one end and come out at the other, like the white ants in India, who construct tunnels for the after pleasure of creeping through them.

Returning, however, to the clump of bare trees, from which we digressed to the pergola, why does it so seldom occur to the owner or occupier of the ground, of which part is filled with the "garden" and part with trees, that the part which is filled with trees ought to be the best part of the garden? That the grass will not grow properly under the trees is true, and that the trees, having had no competitors for many years besides the inch-deep grass, have run their roots so near the surface that nothing else will grow well there—at first—is also true. But it is altogether a mistake to suppose that—except under Beech trees or conifers, which are tyrants in the way that they suppress lesser life beneath their branches—the shaded ground beneath trees is not the very best place for a multitude of the garden's gems. Go into any wood, except a Pine wood or a Beech wood, and its most striking feature is the density and luxuriance of the under growth and the wealth of wild flowers. Each wild tree is a fostering nurse to hundreds of more tender plants, yet in our gardens we are content to leave the trees as bare trees and nothing more. They might as well stand in a pasture where grazing cattle nip off everything green which rises above the level of the grass.

E. K. R.

NOTES ON HARDY PLANTS

GERBERA JAMESONI.

MR. MULES enquires "Can anyone grow it finely outside in this climate? If so, how?" The only answer to the first question is an emphatic "Yes," and it might be added that it is the only way to have it at its best. The second question may be answered in a few words. Plant at the foot of a south wall of a plant house which has hot-water pipes behind it. During summer give it the fullest exposure, and in winter fix a small light over the plant to keep off excessive wet. Do not close it in, but shake a little Bracken or similar material over the plant when the weather is cold. In this way I have had flowers from April to well into September, and a development which could never be obtained by pot culture. A plant I have under this treatment must be nearly if not quite fourteen years old, but this age is too great, and that individual will never again perhaps be so fine as it has been.

R. I. LYNCH.
Botanic Gardens, Cambridge.

DIERAMA (SPARAXIS) PULCHERRIMUM.

THE variety *pendula* is a pale rosy purple form, and does not differ very much from the type, though often called a distinct species. Its leaves are more rigid, the spikes shorter, and the pedicels a little longer than in typical *pulcherrimum*, whilst the flowers are more closely arranged on the pedicels, the weight of which gives the inflorescence a more pendulous habit than that of the type. The *Dieramas* were referred to last week.

FLOWER GARDEN.

GARDEN PUZZLES.

DURING the Middle Ages," says Max Müller, in his "Last Essays, Second Series," "exactly the same idea which now goes by the name of Agnosticism was well known as *Docta Ignorantia*—i.e., the ignorance founded on the knowledge of our ignorance, or of our impotence to grasp anything but what is phenomenal." If our gardeners could know the value of this *docta ignorantia* (instructed ignorance), if they could learn that every yard of their gardens is full of puzzles, the solution of which they can only guess at, and that only in a few cases, they would have made a first and most important step towards becoming *docti* and even *doctores*. Every yard of the garden has its own special puzzle or puzzles, and I think it may interest the readers of *The Pilot* if I walk through my garden and pick out a few such, not with the expectation of being able to explain them, but with the hope of showing how much the study of such things will add to the interest of every garden. A very few will be sufficient to show what I mean.

One of the first plants I come to is a large mass of *Physostegia virginiana*, a very old plant in English gardens which came to us, as its name implies, from the Southern United States. It grows about 4 feet high, a rigid herbaceous plant, with a closely-packed bunch of flowers at the top. The flowers are arranged in four rows, each row facing one point of the compass, so that the whole

set are in the form of a cross, and the calyx of each flower works on a sort of hinge. But any of the rows, or all the rows, can be moved by the finger to face any other than the natural way, and when so moved they remain as placed. This arrangement is technically described as "flowers cataleptic"—i.e., the flowers can be placed in any position and there remain. I do not know whether they can be so moved by the wind or by any other external force, but I believe there is no other plant in the world that has its flowers so arranged; and the question at once arises, what can be the use of this arrangement in the life-history of the plant? When Darwin wrote his excellent work on the movements of plants, he made no mention of this one. I wrote to him and described it, and at once received an answer, written with his habitual unassuming modesty, that "the case is quite new to me and seems inexplicable"; and he hoped to examine it further. But that was in the autumn of 1881, and he died in the spring of 1882, before he could have had the opportunity of studying it. I was also able to put the question to Professor Asa Gray, and as the plant is American, he of course knew it, but he could give

no explanation; he suggested that it was a survival of something that was once useful to the plant, but could go no further.

Close to the *Physostegia* I have a young plant of *Cydonia sianaensis*. It is a recent introduction from North China, and is closely allied to our old favourite the *Pyrus japonica*. It is remarkable for its large fruit, which, however, I have not seen, though I hope to do so yet, for the fruit has been described to me by some as being the size of a cricket-ball, by others as the size of a football. This by itself would be sufficient to make the plant attractive, but it has one peculiarity which makes it to me much more so. Looked at casually, there seems nothing very particular to notice in the leaves, but looked at more closely it is seen that the petioles and the margins of every leaf are thickly set with stalked glands, very much resembling in miniature the glands on the Sundews. Why should this particular *Cydonia* be so provided differently to all other Quinces? I can but guess that in its native country, either from the climate or some other cause, the leaves require an additional breathing apparatus to what is sufficient for its relations in other countries, but this is no more than a guess.

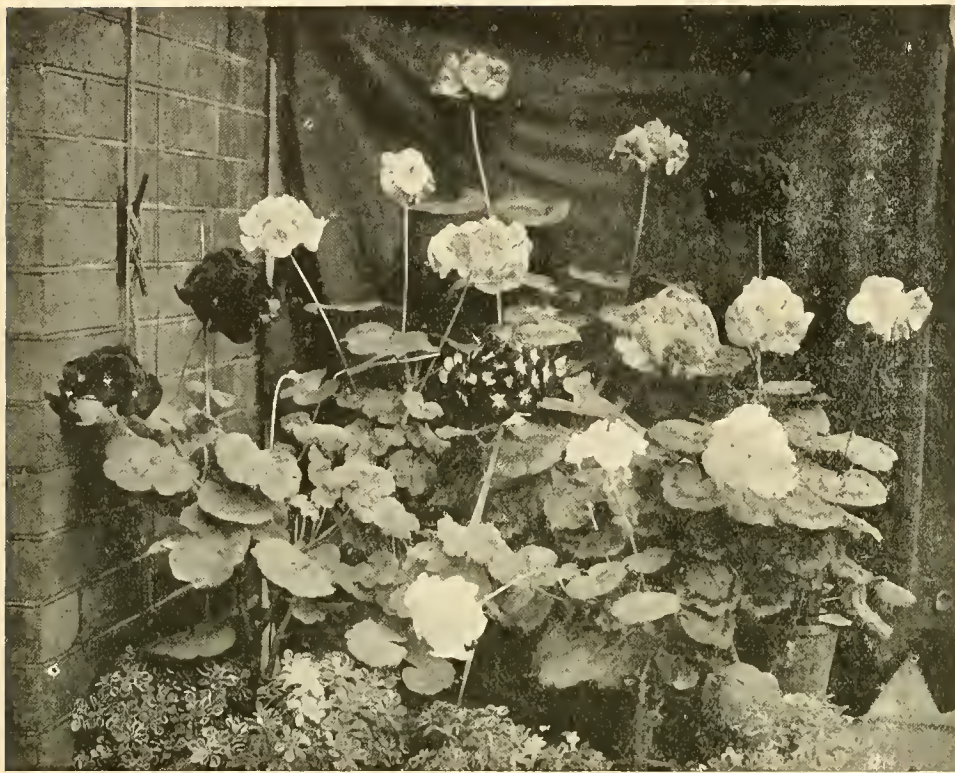
The *Acenas* are plants that always interest me. They form a small family of pretty creeping plants chiefly found in the southern temperate and antarctic regions, especially in New Zealand. They all form burrs that cling to anything, the clinging character arising from spines on the calyx. One would have imagined that, so long as they could cling, one form of spine would do as well as another, but it would not; and so each species is furnished with its own particular form. In one species it is almost invisible, in another it is a simple, straight, sharp spine, in another a spine with a single barb, in another a spine with a double barb. One can only suppose that in each case a different enemy has to be guarded against; and that a defence which would be sufficient in one place against the special enemy of that place would be insufficient against the enemies to be found in another place. But the *Acenas* belong to the *Rosaceae*, which include such large families as the *Roses*, *Brambles*, *Potentillas*, &c., and the same difficulty about the spines meets us in other members of the tribe, especially the *Roses*.



DIERAMA (SPARAXIS) PULCHERRIMA PENDULA AT MOUNT USHER.

Every Rose is more or less protected with thorns and prickles, and each species is almost as much distinguished by its thorns, their shape, and number, as by its flowers, and leaves, and fruit. And speaking of *Roses* and the family of *Rosaceae*, I cannot pass by one very special puzzle. It is a distinctive mark of the whole tribe to have flowers with five petals, whether they are *Roses* or *Brambles* or any other genus. But there is one very curious exception in the *R. sericea* of the Himalayas, which has only four petals. Very rarely a flower may be seen with the normal five petals; but the rest have four petals only, and I believe no vestige of a fifth can be found. This peculiarity can scarcely be put down to anything in the climate or situation because there are many other *Roses* in the Himalayas, all five-petalled. And, speaking of the *Brambles*, I have recently noted a feature in one of the species which can scarcely, perhaps, be called a puzzle, but which I think worth noticing. The dainty little *Rubus japonicus tricolor* dies down in the autumn, but in March it sends up branches of young shoots which are of a deep blood-red colour. As these grow on, the leaves

Additional text from the image, appearing to be a continuation of the article or a separate note, discussing the characteristics of the *Rubus japonicus tricolor* and its young shoots.



A GROUP OF MR. GABRIEL'S ZONAL PELARGONIUMS (WINTER).

become a pale green mottled with pink and white, and then in the autumn the fading leaves put on the same deep red colour that they had in the spring.

I observe the same thing in a shrub of quite a different family, the *Eunonymus alatus* from Japan and other parts of Asia. In the autumn the leaves become of a most lovely rose colour, making the bush at that time one of the richest in autumnal tints; and now I notice that the young shoots are thickly studded with leaf buds of exactly the same beautiful rose tints. This is probably the case with many other plants, but I had not noticed it, and I think it worth noticing, for it seems to me to link together in a very pretty way the two ends of the plant's life; the first childhood of the plants leading to vigorous life, with the second childhood leading to senile decay, just as Wordsworth wished his "days to be joined each to each in natural piety."

One more puzzle, and I have done; for I only wish to point out from a few well-known plants the puzzles which may be found in infinite variety in every plant that grows. The Fuchsias form a family of shrubby plants, which I very much admire, and grow many of them, as being most useful for flowering in the autumn. They are, nearly all of them, from South America and the Andes, and none have been found in Europe, Asia, Africa, or Australia. But two species are found in New Zealand, and it is in these two species that the puzzle lies. It is a distinct genuine mark of all the South American and Andean species that the leaves are opposite, but in the two New Zealand species the leaves are alternate. Now why should these two New Zealanders insist on being unlike all their relations? What advantage comes to them from it, or what is there in their surroundings or climate that makes the difference essential to their well-being? I cannot say, but it was long ago noticed that the products of Australasia had a habit of being alike, yet markedly unlike, their relations elsewhere; so that an early writer described it as a country where "the barometer rises before bad weather and falls before good; where the swans are black and the eagles

are white; where an animal between the squirrel and the deer (the kangaroo) hops on its tail; where the mole lays eggs and has a duck's bill; where the (apparent) Pears are made of wood with the stalk at the broader end; and where the Cherry grows with the stone on the outside." I must leave the New Zealand Fuchsias in this strange company without attempting to account for their peculiarities.

It was not my intention to explain, or try to explain, any of the puzzles which I have noted in this paper, but simply to show that the garden is full of them, and that a gardener who thinks he knows all about his plants is very much mistaken, and that the better state, and the state more likely to lead to a fuller knowledge of plant life is the state of *docta ignorantia*, the knowledge that you are ignorant. Guesses at the answer to the puzzles are good, provided they do not claim to be proofs; they may be the first steps to proofs, but they very often are the first steps to a long series of errors for—

"Men may construe things after their fashion,
Clean from the purpose of the things themselves."

Many and sweet are the uses of a garden. It is at different times a delight, an interest, a friend and a companion, always changing yet always the same. But it is also a teacher, and a teacher of the most winning kind, for it makes no fuss or noise in its teaching, and compels no one to learn but those who are willing. To them it gives every help; book after book it opens for them, which they may read or not. It opens the book of the Primrose, and to the many it is nothing more than a yellow Primrose, but a Darwin passes by, and he reads the book through and through, and he reads between the lines and learns from it some of the mysteries of the cross-fertilisation of plants. I can lay claim to nothing like that, but I have learned much from my gentle teacher, and the best lesson I have learned is the lesson of my own ignorance; and I take to myself the lesson which was long ago sent to Esdras—"Thine own things and such as are grown up with thee thou canst not know; and the more thou searchest, the more thou shalt marvel."

U. N. ELLACOMBE, in *The Pilot*.

TROPEOLUM SPECIOSUM.

"STROUGHTON HOE" asks for details regarding the culture of the Flame Nasturtium. The best plan is to procure tubers which are long and thin and much like the roots of the great Bindweed in the spring, and lay these in cocoanut fibre in a shallow box. Then sprinkle the fibre with a fine rose water-can and stand the box under glass. The tubers will soon show growth, and as soon as this is apparent the box should be placed in a shady position in the open. Sites should now be prepared for the reception of the tubers, holes 18 inches deep and 2 feet in diameter being made and filled with leaf-mould and peat mixed with road grit. These holes should be situated where little or no sun falls upon them, as in the south, strong sunlight falling upon the lower portions of the stem and the soil covering the roots of this *Tropaeolum* generally proves harmful, though in Scotland it grows like a weed in any position. The upper portions of the growth enjoy the fullest sunlight, and the best examples to be met with in the southern counties are usually those which have been planted beneath evergreens, such as Yews or Rhododendrons, which, while keeping the roots and lower portions constantly shaded, allow the sunshine to have full play on the shoots which emerge through their foliage and are glorious in their vermilion colouring through the summer. When the tubers have made from 4 inches to 6 inches of growth they should be carefully removed from the box, together with the fibre adhering to their roots, and planted in the prepared sites. The soil should never be allowed to become dry, and should have copious supplies of water, which soon percolate through the porous compost. *Tropaeolum speciosum* is also readily raised from seed.

S. W. FITZHERBERT.

THE INDOOR GARDEN.

ZONAL PELARGONIUMS IN WINTER.

HEREWITH enclose some photographs of my zonal Pelargoniums which perhaps might be of some use to you. I think it may also interest you to know the way in which I treat the plants. Good strong cuttings are taken in the month of February and potted in the ordinary way in small pots and kept on the shelf in the greenhouse until they are struck, being careful to keep them on the dry side. When struck they are potted separately into 3-inch pots and put back on the shelf and left there till the pots are well filled with roots. They are then potted into 5-inch pots and kept in the greenhouse till the beginning of August, when they are set out on an ash-bed in the garden in a good sunny position, the flowers of course being kept pinched off the whole summer. Then at the beginning of September they are put back into the house where they are to bloom and occasionally fed with weak manure. They will then commence to throw up fine trusses and continue to give a magnificent display of bloom throughout the winter till the cutting time comes again. I consider the secret of success in growing these plants is to be very careful in watering and to keep the atmosphere as dry as possible. I had the photographs of the single heads taken exactly life-size, and if you measure them you will notice that several of the pips are just on 3 inches across.

C. B. GABRIEL.

Easdale, Horsell, Woking, Surrey.

[We thank Mr. Gabriel heartily for sending photographs of flowers so bright and useful in winter as these, and those present at one of the recent meetings of the Royal Horticultural Society will remember with pleasure the brilliant and varied colouring of the flowers in the November light of the Drill Hall. Many readers would, we feel sure, be glad to have the names of the varieties grown by Mr. Gabriel, and the colours of the flowers.—Ed.]

BRUNFELSIA CALYCINA.

We received some time ago a photograph from Mr. J. Tutchter, of the Botanic Gardens, Hong

Kong, under the name of *B. ramosissima*, and, according to some authorities, this should be the name for the so-called species of *Brunfelsia* or *Franciscea* cultivated in gardens as *calycina*, *confertiflora*, *pauciflora*, *lindeniana*, *macrantha*, &c. These may be distinct enough for garden purposes to require distinctive names, but botanists call them all forms of one species, and that one, according to the most recent decision at Kew, is *B. calycina*, the type of which is shown in the *Botanical Magazine*, 4583 (1851). So far the names. With regard to the horticultural merit of the genus one may say that it is considerably greater than is now recognised. There are several beautiful bushes of the form called *macrantha* in the Mexican house at Kew. They are planted in the borders, and receive no more attention than a common Laurel in the open air, yet they grow and flower most profusely every spring. The leaves are not unlike those of the Pontic *Daphne*, whilst the flowers in shape, size, and colour are similar to those of *Achimenes longiflora*; in other words, they are nearly 2 inches across and of a rich purple-blue colour. It is evident from the photograph that in Hong Kong this *Brunfelsia* is a shapely free-flowering shrub. Twenty or thirty years ago big specimens of *Brunfelsia*, or *Franciscea* as they were then called, were familiar objects at our horticultural exhibitions. They are worth a place among present-day popular plants for the warm greenhouse, where they are happiest when treated as above described, that is, planted in a border of loamy soil and kept in bounds by a little timely pinching and pruning.

TREES AND SHRUBS.

LIBOCEDRUS BIDWILLII.]

IN a note on *Libocedrus macrolepis* in THE GARDEN of August 16 last, "H. P." says "the only thoroughly hardy member of the genus is *L. decurrens*," and he mentions *L. doniana* from the North Island of New Zealand as being too tender for outdoor cultivation, but he makes no reference to the other New Zealand species, *L. Bidwillii*, from which I infer it is not well known if it has been introduced into England. This surprises me, as it is very well worth growing, and should prove quite hardy in at least the south of England. In this neighbourhood it formed the greater part of the "bush," now alas! almost entirely destroyed, on the upper slopes of Mount Carzill, a hill which rises to a height of nearly 2,300 feet to the north of the town. It is a much hardier tree than *L. doniana*, and, in the situation referred to it flourishes, notwithstanding its complete exposure to not infrequent snowstorms brought direct from the South Pole by "southerly busters" during the winter. Though naturally the trees did not descend below 1,000 feet from the summit, if, indeed, they came so low, they proved easy of cultivation at lower levels and of more rapid growth than most of the New Zealand forest trees, though that is not saying much, as the growth of most of our conifers is extremely slow. One which I have in my garden, and brought when about 6 inches high from the hills over twenty-five years ago, is a handsome columnar-shaped tree some 15 feet or so in height. It was planted in a poor piece of ground that had never been dug, otherwise its growth would probably have been more rapid. It never attains a very large size, though it yields a durable timber, which was formerly valued for fencing, and at one time was used for making

Venetian blinds in lieu of the Californian redwood, which it resembles in colour. Its distinct habit should render it a desirable acquisition in any collection of coniferae.

Dunedin, New Zealand. A. BATHGATT.

TRANSPLANTING LARGE TREES AND SHRUBS.

MANY landscape gardeners and landowners when laying out new gardens or parks plant the largest sized trees and shrubs they can obtain from the nurserymen, with the idea of minimising, as far as possible, the appearance of "newness" which such places must necessarily have when first planted. Needless to say, those who follow this rule have to pay for it—often in more ways than one—and in many cases much time and money would be saved and far more gratifying results obtained by planting younger, free-growing, though smaller plants. The one great objection to planting



ZONAL PELARGONIUM BARBARA HOPE. (Natural size of flower, 3 inches across.)

"big stuff" is the difficulty of getting it with large balls of earth attached to its roots, and, unless large trees and shrubs have such, they had better be left severely alone, especially if they have to travel any distance before being planted. On the other hand, when trees and shrubs can be removed and planted with the necessary sized balls of earth around their roots, the result is such as to justify the extra expense, for new plantations can be made to appear many years older than they really are without the risk of losing a single shrub. As one can hardly expect to get plants of this description from nurserymen, the practice of planting large trees and shrubs can only be carried out on an estate or in a park where plantations and shrubberies may be thinned out by transplanting from one part to another, and during the winter months there is no work in connexion with the garden more interesting and fascinating than that of transplanting large trees or shrubs.

It sometimes happens, in carrying out an improvement on an estate or in a park that some good trees or shrubs have either to be removed or sacrificed. Of course, if they are young they can easily be transplanted, but if they are over twenty years of age the difficulties are very much increased, as a tree of this age necessarily requires a large ball of earth around its roots if it is to be successfully removed. To undertake the removal of such trees it is almost essential to have a tree-lifting machine of some description, otherwise the risks are very great.

There is nothing more destructive to young and beautiful trees than a rapidly growing town, where whole plantations are ruthlessly destroyed to make room for roads and the various necessities of a town. The authorities in towns of this description might do worse than follow the example of the Cardiff Parks Committee, who four years ago—taking into consideration the number of estates that were being laid out for building purposes and the consequent destruction of numerous young trees—decided to construct a tree-lifting machine of a very simple character, with which they could remove and save trees that would otherwise have been destroyed by the builders. Such a machine capable of lifting ten tons was made by our own smith at a cost of very little over £30. It simply consists of a framework of steel girders and bars bolted together and fixed on iron wheels, with a compound iron pulley suspended at each of its four corners, each capable of raising three tons. It is by means of these pulleys that a large tree with a ball of earth attached to its roots is raised out of the ground and placed on the machine. Every bar and girder can easily be taken apart, and the front and back wheels are detached from the frame by simply removing a couple of bolts, thus making it an easy matter to place the machine around the tree that has to be transplanted.

Several trees ranging from twenty to sixty years of age have been removed from different parts of the town each winter since we have had the machine, but I cannot say that the removals have in all cases been nearly as successful as I should have liked, for, unfortunately, a series of droughts has been experienced in this district for the last few years, and these have not given the trees anything like fair play. The trees found to suffer least are those between twenty and thirty years old, and I consider it is hardly worth the risk to transplant a tree much over thirty-five years of age. W. W. PETTIGREW.

(To be continued.)

THE ROCK GARDEN.

ROCK GARDEN-MAKING.

V.—MORE ROCK BUILDING LESSONS FROM NATURE.

PART III. of these essays, in THE GARDEN of November 29, pages 378 and 379, illustrated the exceedingly bold character of granite or other rocks belonging to the igneous class. The illustration there given in connexion with rock garden geology depicts a scene which illustrates the way in which Nature has piled up bold masses of granite rocks. The picture admirably explains the geological principles on which these rocks were formed by Nature, but these rocks are on such a scale that in making a rock garden in our gardens it would be impossible to reproduce anything a

hundredth part the size of those depicted. Though conveying a lesson, therefore, with regard to the natural disposition of igneous rocks that illustration could never be taken as an actual pattern in rock building.

In the last chapter (Part IV., see THE GARDEN, December 27) I explained one method of building rocks with stones of the igneous class by giving four illustrations from photographs of such work taken at different stages, but all during the same week. It stands to reason that such work depicted immediately after planting cannot show that wild natural charm which another season's growth would have imparted to it. Even the illustration representing the completed

work may be said, therefore, to be, to some extent, still incomplete. But since the art of rock building cannot possibly have a better exponent than Nature herself, I have thought it best to give still another example from the works of Nature in the shape of the accompanying illustration. This, like the illustration on page 378, was prepared from a photograph taken among the granite rocks of St. Michael's Mount, Cornwall. But while the previous picture (page 378) gives the idea of majestic grandeur utterly beyond our reach as far as rock garden-making is concerned, the present illustration shows how among the same rock formation scenes of charming simplicity may occur, such as

would not only be fascinating and picturesque in the extreme, but which—owing to their simplicity—might easily be imitated or reproduced in gardens, not in every detail, to be sure, but in principle.

When making a rock garden the rocks must not be continuous, but should be irregularly disposed with pieces of green sward or other forms of vegetation intervening between the groups of rock or between singly scattered boulders.

Artificial rock gardens generally err through being too pretentious, too massive, or too continuous. Instead of putting all the stones at our disposal, when constructing rock gardens, into one continuous mass, we should, as Nature teaches us, divide and sub-divide them. This will not only enable us to spread them over a much larger area, thus making the rock garden look larger than it really is, but it will give additional charm to our work from the fact that the result will be more in accordance with Nature, and hence more picturesque.

In the picture here given it will be noted that large boulders of rock form the background. In an artificially constructed rock garden such large boulders weighing many tons are seldom available; but we may build—and build successfully—what would appear as large boulders by skilfully combining many small stones in such a way as to look as though they really formed a huge single block. To accomplish this successfully the stones must be fairly large, and as varied as possible with respect to shape, whilst as regards colour they should be as nearly as possible of the same hue.

If in joining such stones it is absolutely necessary to use cement, this must be done in such a way that

no trace of cement can ever be discerned after the work is completed. I find as a rule that—except for the interior of caves or similar places—cement may be almost dispensed with.

If the rocks were built on a solid foundation, and if, therefore, there is no danger of a settlement which may cause the joints to crack, it might sometimes be advisable, in order to make apparently large blocks of rock, to fill some of the joints with cement coloured to match the stone, but in the great majority of cases small stones and ordinary soil will answer the purpose far better, and if small Sedums, Saxifrages, Thymes, Sempervivums, &c., are put in simultaneously with such



A NATURAL ROCK GARDEN WHICH MIGHT BE IMITATED IN OUR GARDENS. NOTE THE CROPPING UP OF THE STONES THROUGH A MASS OF GREENERY.

small stones and soil they will soon grow and obliterate every trace of a joint between the stones much more effectually than cement or mortar of any kind.

In looking again at the illustration it will be noticed how exquisitely the stones were grouped by Nature. In the background the rocks boldly assert themselves. In the centre they form irregular clusters more or less hidden by an intervening carpet of flowers and greenery, while in the foreground they are still more scattered, peeping above the surface only here and there, but indicating or suggesting masses of hidden rock beneath the surface. It is precisely this principle of "suggestion" rather than "obtrusion" which in the making of rock gardens is not practised so much or so advantageously as it might be. Our rock gardens are not sufficiently broken up or varied, and are therefore often not sufficiently natural to ensure that certain indescribable charm which fascinates us when admiring the rocks of Nature. The plants shown in the picture are mostly *Statice*, *Silene*, and *Armeria*.

Elmside, Exeter.

F. W. MEYER.

(To be continued.)

SOME LITTLE-KNOWN HOLLIES.

As a supplement to the admirable article on the common Holly and its varieties, a few words concerning some of the lesser known but desirable species may be of interest. There are several New World species, including the deciduous kinds formerly known as *Prinos*, but in this country at least their ornamental qualities are not great, and

the American representative of the common Holly, known as *Ilex opaca*, is greatly inferior to its European relative. Eastern Asia, however, contributes several species, some of which are very desirable. One of the best is *I. cornuta*, a native of China, which has been grown in this country for over half a century, but even now it is rarely met with. This naturally forms a dense rounded bush, whose limit appears to be about 6 feet in height and as much through. The leaves of this form a particularly striking feature, being about the size of those of the common Holly, and, like it, harsh in texture. They are, however, of a light shining green, while the arrangement of the spines is

noticeable. They are large, and three of them are disposed at the end of the leaf, the centre one being turned down, thus giving to the apex of the leaf a singular horned appearance, hence the name. A larger and a smaller spine occur on either side of the leaf in close proximity to each other. It is a plant of rather slow growth, but in gardens of limited extent this is by no means a disadvantage.

Ilex crenata.—An extremely pretty little Japanese species that forms a dense bush, clothed with dark green lance-shaped leaves, at most an inch long and frequently much less. The branches are rather short and particularly rigid; indeed, it is of such a sturdy growth as to suggest a good hedge plant if it were taller, for here the height of 4 feet is rarely

exceeded, though Professor Sargent tells us that in Japan it sometimes reaches a height of 20 feet, and then forms a Box-like tree. There are two well-marked varieties—*Fortunei*, with leaves much rounder than those of the type; and *variegata*, in which they are irregularly mottled with rich golden-yellow, which is in strong contrast to the dark green of the rest of the leaf. Unlike all other members of the genus, this little Holly strikes readily from cuttings, but despite this it is not a favourite with nurserymen, probably owing to its slow growth.

I. latifolia.—This is widely removed with regard to size from the preceding, as the leaves are the largest of any of the Hollies, being sometimes 8 inches or 9 inches long. They are bluntish ovate in shape, serrated, and of a deep shining green on the upper surface. At a little distance where the serratures are not visible this, from a foliage point of view, bears a considerable resemblance to the evergreen *Magnolia grandiflora*. *I. latifolia* attains a height of 20 feet to 30 feet (in Japan twice that size is reached). Its foliage is sometimes seared by sharp frosts, but at least in the south of England it may, generally speaking, be regarded as hardy. It is frequently met with as *I. laurifolia*.

I. integra.—Another Japanese species, which in general appearance bears a considerable resemblance to a spineless form of the common Holly; indeed, it is sometimes met with as *Ilex Aquifolium* Bessoni.

I. dipyrrena.—A very ornamental species from the Himalayas, which is, unfortunately, rather tender, except in the southern part of the country. It is of upright, tree-like growth, reaching a

height of a dozen feet or more, while the leaves are very handsome. They are about 4 inches long, ovate-lanceolate in shape, sharp pointed, and with very prominent serratures. The veining on the upper side of the deep green leaves is very noticeable.

I. rotunda.—In Japan this species is said to attain tree-like dimensions, 30 feet to 40 feet in height, but the specimens I have hitherto met with in this country are comparatively small. The leaves are roundish ovate, entire, and of a deep shining green.

Of the strictly tender species the finest is *I. insignis*, a native of the Himalayas, and the most interesting from an economical point of view *I. conocarpa*, as from the leaves of this the Paraguay Tea is prepared.

Without claiming for any of the above that they are superior or even equal to our own native Holly, they are all beautiful, and well worth the attention of planters. T.

COLOURED PLATE.

PLATE 1261.

TEA ROSE LADY ROBERTS

FEW Roses of recent years have created greater stir than Lady Roberts, which has been frequently exhibited by the raiser, Mr. Frank Cant, Braiswick Nursery, Colchester. It is almost needless further to refer to it, as it has been described on many occasions, and its beautifully shaped, warm apricot-coloured flowers have attracted much attention at all the shows where the variety has been exhibited this year. That it is a good Rose for autumn is proved by the bunch shown by Mr. F. Cant at an October meeting of the Royal Horticultural Society in the Drill Hall. It is a delightful Rose, beautiful in colour, sweetly scented, and the growth is strong and free. A Rose for all gardens.

ROSE GARDEN.

A PLEA FOR HYBRID PERPETUAL ROSES.

IT seems almost incredible that this beautiful group should need anyone to plead for it. But so it is. The tendency of the present day is to plant Roses for their effect in the mass, and for this purpose few of the Hybrid Perpetuals are suitable. But sooner or later I am afraid there will come a revulsion of feeling against this fashion. Many would-be planters, seeing for the first time fine bunches of the decorative Roses, are, I fear, often disappointed with the somewhat insignificant blooms when seen upon a solitary plant, and to plant in large masses is not always possible. Much as I cherish the Teas and Hybrid Teas, I cannot ignore the great value of the true Hybrid Perpetuals. It may be that as a class they are wrongly named, that many of them should be grouped with the Hybrid Chinese (another misnomer), and that many are dull and uninteresting, yet from the 2,841 varieties M. Leon Simon and M. Pierre Cochet enumerate in their "Nomenclature de tous les

Noms de Roses," published in 1899, I think I could select sufficient variety to make any garden beautiful and fragrant with Roses were all the Teas and Hybrid Teas entirely banished. Nothing is further from my intentions than to attempt to depreciate in the least the merits of these latter groups. They have become deservedly popular, and their exquisite colours are indispensable; but where is there a flower among them to compare to a perfect specimen of Mrs. John Laing, A. K. Williams, Marie Baumann, or a Charles Lefebvre, that has such gorgeous colour and delicious fragrance?

Admitting that the Hybrid Perpetuals as a class do not flower well in autumn, can we afford to dispense with their summer glory? I say decidedly "No." As well might we banish the Rhododendron, the Syringa, the Philadelphus, or any other hardy shrub, because they only flower for a brief season.

If anything has tended to render the Hybrid Perpetual unpopular it has been the formal method of exhibiting the flower at the great Rose shows. Let the more natural style obtain, such as the fine vases of Jeannie Dickson and Captain Hayward at the last Temple show, then will the Hybrid Perpetual be in the ascendant. Still further would I urge upon schedule makers to encourage the natural style of exhibiting this group, I mean with all the lovely buds attached as cut from the bush.

shown; not, of course, huddled together in a market bunch, but arranged with good effect, for this, I think, is quite possible. Never mind about size. We can well dispense with that. Let us have perfection of form, brightness of colour, and a natural arrangement.

There is a common saying that "Old friends are best." Are we wise in discarding so many of the Hybrid Perpetuals as seems compulsory to keep pace with the great influx of Hybrid Teas? I can recall when a boy passing many times by the house of John Hopper, and I well remember with what awe I gazed upon the dwelling, knowing it to be the domicile of one who has been rendered almost immortal by the old favourite Rose. And to-day what have we more beautiful than a really well-grown specimen of this beautiful flower?

I was recently looking through Mr. William Paul's "Rose Annual for 1860-61" (and, by the way, one could wish such an interesting annual were published now), and I found there tabulated names of certain Hybrid Perpetuals that were most popular at the exhibitions of that year: such varieties as General Jacqueminot, Lord Raglan, Mme. Vidot, Mme. Knorr, Mme. de Cambaceres, Jules Margottin, La Reine, and Comtesse de Chabrittant were the favourites.

But to-day how many of them are grown? Yet I question if we can produce a more perfectly formed Rose than the last-named, or one more brilliant and better generally than the first. Julie Louvars is a variety if shown now as a novelty would probably be awarded a gold medal, a somewhat empty honour, considering so many good Roses have not received this award.

I have never been pessimistic regarding the Hybrid Perpetual race. I know it has been said that these Roses are played out. But what about Frau Karl Druschki or Ben Cant, two recent varieties of merit? It is not the group that is played out, but rather that hybridists have neglected it. They have nearly all been working in one direction, for Hybrid Teas, and I think honour is due to the few who have diverged from the beaten track. If Victor Hugo and Suzanne Marie Rodocanachi can give us a Ben Cant surely we may reasonably expect some great results in the near future from similar happy unions.

It is, and perhaps always will be, a moot point as to which are Hybrid Perpetuals and which Hybrid Teas. A cross between Merveille de Lyon and Caroline Testout, resulting in Frau Karl Druschki, is termed a Hybrid Perpetual, yet a cross between Lady Mary Fitzwilliam and Eugene Furst, which resulted in Marquise Litta, is termed a Hybrid Tea. I certainly think this latter should go with the Hybrid Perpetuals. When we remember the parentage of Caroline Testout (Mme. de Tartus x Lady Mary Fitzwilliam) it seems clear that this possesses more of the Tea blood, and consequently is correctly grouped with the Hybrid Teas. I merely mention these instances as showing how much we need a new classification. I would suggest that the matter be carefully considered, placing all Non-Perpetuals as "summer flowering Hybrids," and those that

are really Perpetual, grouping these as "Perpetual flowering Hybrids," sub-dividing the latter into two groups of "decorative" and "non-decorative."

It is a mistake to attempt to obtain large bushes. My advice is to



HYBRID PERPETUAL ROSE BARONESS ROTHSCHILD.

If an artist be asked to paint or draw even a Hybrid Perpetual he would not depict the flower in the severe unnatural style of the exhibitor, but would represent its buds in all stages of development, and so in my opinion this group should be

PRUNE HARD.

I do not mean to say shorten the new wood unreasonably, but cut away all wood over three years old, and reduce the annual well ripened, non-pithy wood according to vigour; those shoots most vigorous retain 12 inches to 18 inches in length, and those of moderate growth prune back to within 3 inches to 6 inches of their base or of last season's pruning. One is often asked what should be done with long pithy-looking growths that spring up late in the season. I say allow them to grow, for they are assisting in the formation of roots, but in spring cut severely back. Remove all worn-out wood, and free the centres of small shoots. Three or four, or less, well hardened shoots are better than a dozen unripened or thin twiggy growths. Plant closely, then this severe pruning leaves no great gaps, and one is rewarded with handsome blossoms equalling show blooms. The uses to which the Hybrid Perpetuals may be put are manifold. They make splendid wall Roses of moderate height, and might be planted with advantage to hide the bare stems of a towering Gloire de Dijon. For

FENCES

they are excellent. Then what grand free-headed standards many of them make. There are no anxious moments when we are visited with a winter as is the case when Teas predominate. I would recommend the more moderate growing sorts as low standards, then their somewhat stumpy appearance is not accentuated. As

PILLAR ROSES,

rising 4 feet to 6 feet in height, the Hybrid Perpetual race gives us many suitable varieties. Who can refrain from admiring a well-flowered pillar of old Jules Margottin, with its exquisite buds and fragrant blossoms? I do not know whether our great Rose amateur Dean Hole has had cause to modify what he wrote concerning this Rose in his excellent and humorous book, when he said, "I would rather that a pyramid of its sweet bright flowers bloomed above my grave than have the fairest monument which art could raise."

HEDGES

formed of strong-growing Hybrid Perpetuals are also a pleasing feature of the garden. For this purpose Mme. G. Luizet, Clio, Heinrich Schultheis, Ulrich Brunner, Crimson Queen, Mrs. John Laing, and Ella Gordon are really first-rate. In their case it is advisable, in order to encourage young shoots, to cut back to the ground one or two growths each season. Then as

POT PLANTS

for the unheated greenhouse these Roses are indispensable. Here we can produce their stately blossoms to the highest perfection, and although they have not the graceful habit of growth of the Teas, yet they make amends for this by their ample foliage and brilliantly fragrant flowers. For all who possess a deep, somewhat heavy soil, I would commend the Seedling Briar as the best stock for this group. The advantages will be manifest in the autumn by a more abundant blossoming if suitable varieties are employed. The Manetti and Briar cutting stocks are best for shallow soils, always providing that the point of union is placed 2 inches below the surface. Most of the Hybrid Perpetual Roses

ROOT READILY FROM CUTTINGS.

The irregular production of new growths from such plants is a characteristic trait of much value, which should not be lost sight of, as by this we are enabled to have their flowers for a much longer season. As to

VARIETIES,

exhibitors will find the catalogue of the National Rose Society a good guide, but as these remarks are addressed to non-exhibitors I venture to submit a selection of fifty sorts which I can thoroughly recommend as being the pick of the collection, combining most of the good points of the group:—Alfred Colomb, A. K. Williams, Beauty of Waltham, Ben Cant, Captain Hayward, Charles Lefebvre, Clio, Comte de Raimbaud, Crown Prince,

Dr. Andry, Duchess of Bedford, Duke of Albany, Duke of Connaught, Duke of Edinburgh, Dupuy Jamain, Ella Gordon, Etienne Levet, Eugene Fürst, Fisher Holmes, Frau Karl Druschki, General Jacqueminot, Gloire de Margottin, Heinrich Schultheis, Helen Keller, Jeannie Dickson, Lord Macaulay, Louis van Houtte, Mme. Eugene Verdier, Mme. G. Luizet, Mme. Victor Verdier, Mlle. Eugénie Verdier, Marchioness of Lorne, Marie Baumann, Marquise de Castellane, Merveille de Lyon, Mrs. Cocker, Mrs. George Dickson, Mrs. John Laing, Mrs. R. G. Sharman Crawford, Paul Neyron, Pride of Waltham, Prince Arthur, Prince C. de Rohan, Sénateur Vaisse, Suzanne M. Rodocanachi, Ulrich Brunner Fils, Victor Hugo, and Victor Verdier.

PHILOMEL.

RECENT PLANT PORTRAITS.

The first part of the *Revue Horticole* for November contains a portrait of two varieties of climbing Clerodendron which require the temperature of a warm house for their successful culture. They are C. Balfourii, with bright scarlet flowers, each of which is surrounded by a pure white involucre or enlarged calyx, which forms a most charming contrast with the flower, and C. splendens, with numerous flowers of a dull shade of scarlet.

The second part of the same publication for November figures *Clematis tangutica*, a variety with yellow flowers shaded at the bases of the petals with light brown, a form of C. orientalis. The first part of the same publication for December has a portrait of *Daphne Verloti*, a pretty small-flowered variety with rosy purple flowers. The second part of the *Revue Horticole* for December figures *Rhododendron hybridum* Mme. Jules Porges, which is an apparently very handsome and free blooming variety.

The November number of the *Revue d'Horticulture Belge* figures *Begonia double var. Marmorata*, one of the tuberous-rooted section, with large and handsome flowers of a pure white ground, heavily and evenly marbled, and edged with bright orange-red, raised by M. C. Vermeire, and *Dahlia decoratif Les Alliés*, a handsome and curious fully double flower, reddish purple, heavily striped with white in the centre, and a deep rose colour on the outside half of the flower. The December number of the same publication figures on a double plate a large yellow incurved Japanese Chrysanthemum, named *M. Lequernay*, raised by M. Nonin of Chatillon, near Paris.

W. E. GUMBLETON.

CORRESPONDENCE.

(The Editor is not responsible for the opinions expressed by correspondents.)

THE HORTICULTURAL HALL.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Some of your correspondents, in view of the generally-felt dislike to the published plans, ask why the design was not offered for public competition. Possibly they may not be aware of the difficulties that arise when this is done; difficulties that would probably be quite beyond the control of the present committee. It requires a committee of unusual strength to face the hydra-headed complications that arise from a competition.

ONLOOKER.

WHERE BRACKEN GROWS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—On page 410 of THE GARDEN last year I see that "Bracken is an unfailing indication of a poor, dry, sandy soil." Will you allow me to question this statement so far as the West Highlands are concerned? We grow Bracken in Argyllshire which is not to be beaten anywhere, and often

runs to 8 feet in height. The great question which is troubling sheep farmers is how to keep the plants down; get rid of them you cannot. But invariably wherever you find the finest Bracken, there also you will find the best soil. The poor, sandy, dry soil produces nothing worth talking about. I have personally grubbed up a good many hundredweights of Bracken roots in the last twelve months when making a new garden, and can say, with Ingoldshy, "Believe one who's tried." True, Roses do not thrive very well, although I can grow Maréchal Niel and get good flowers, but that is more due to the fierce winter gales than to the want of soil. I have had a Gloire de Dijon on the house in bloom from April to January.

AN OLD OXONIAN.

[The assertion that the presence of Bracken is an unfailing indication of a poor, dry, sandy soil must certainly be based on merely local experience, since, like most other Ferns, it grows all the stronger for liberal treatment, and, in point of fact, is found to attain its finest growth in loamy soils enriched with leaf-mould or mingled with peat, such as we find in forests and woodlands generally. That it also grows in poor soils is true, but there it is usually more or less stunted, and never under such circumstances attains such luxuriance of growth as elsewhere. Our correspondent "An Old Oxonian" is therefore fully justified in challenging the above assertion, and with regard to the remark anent the difficulty of extirpating Bracken we may say that the best way to effect this is, instead of attempting to grub it up, to carefully cut down all the fronds twice or thrice successively when they are a foot or so high. If the fronds are persistently suppressed the roots grow weaker and weaker, and eventually perish entirely, but the operation must be thorough. In this way a garden would undoubtedly be cleared entirely in the second season, if not in the first. Grubbing is the more likely to be as fruitless as troublesome, as the Bracken rhizomes plunge very deeply and travel very far. Newman, indeed, records a depth of no less than 15 feet as having been ascertained, hence it is obvious that the mode above suggested is at once easier and more likely to be effectual.—ED.]

THE FRUIT GARDEN.

SOME GOOD MELONS.

I N those gardens where Melons are grown (and who is the gardener that does not cultivate these delicious summer fruits?) there is often much time spent in endeavouring to make a selection of useful and satisfactory varieties. With the Melon it is most essential to choose one's varieties with care, for there is perhaps no fruit more disappointing when it is of poor flavour, and few more delicious when the best varieties are grown. There are many who prefer varieties of their own raising, and there is much to be said for the practice of growing only those which are known to be good. At the same time, if one never experiments with other sorts one does not know what may be missed; chances may be lost of greatly improving those varieties the conservative gardener before thought to be impossible of improvement. To those interested in Melon growing, and who, while having great faith in their own powers, are sufficiently liberal minded to try the productions of other raisers, the following notes are offered in the hope that they may serve as a reliable guide amongst the almost innumerable Melons now in cultivation. The varieties are divided into three classes, namely, those with green, scarlet, or white flesh; the following may be relied upon for growing in a house, pit, or cold frame:—

GREEN-FLESHED VARIETIES.

Royal Jubilee.—Handsome large fruit of good flavour and fine depth of flesh.

Windsor Castle.—A large oval-shaped fruit, finely netted, and of rich and delicious flavour.

High Cross Hybrid.—An excellent old green-fleshed variety.

Eastnor Castle.—Still one of the best. Flesh deep green of great depth and delicious flavour.

Gilbert's Victory of Bath.—An old variety of sterling merit.

Middlesex Hero.—A fruit of medium size and of the highest quality and flavour.

Dickson's Exquisite.—This is well named, medium to small in size, free cropper, and certainly one of the best-flavoured Melons known.

Earl's Favourite.—A very promising new variety of exquisite flavour.

The flavour of the green-fleshed Melon I consider richer and more luscious than either the scarlet or white-fleshed varieties, but not so sweet and refreshing as the white, neither is the flesh so firm and satisfying as is the flesh of scarlet varieties. In one respect the green-fleshed Melon suffers from serious disadvantage as compared

one of the sweetest and best, of medium size, prolific, and will keep in good condition for a long time after it is ripe.

British Queen.—This also has a faint tint of green in the flesh. It is one of the handsomest and best. First-class certificate Royal Horticultural Society.

Royal Sovereign (award of merit Royal Horticultural Society).—This is a very handsome Melon of delicious flavour, large size, a heavy cropper, fine for exhibition in collections or for market purposes.

SCARLET-FLESHED VARIETIES.

Blenheim Orange.—Still one of the very best in all respects.

Beauty of Syon.—A variety of medium size, pleasing appearance, and exquisite flavour.

Frogmore Scarlet.—A handsome Melon of oval shape, very deep solid flesh, of rich and exquisite flavour.

Ganton Scarlet.—A new variety of promise.

Scarlet Premier.—A well known general favourite. It is no doubt amongst the best.

Reel's Scarlet Flesh.—An old variety of medium size, and of great excellence.

A. P. II.

THE BARBAROSSA GRAPE.

We have received from Miss Sharp, Riding Mill, Northumberland, a photograph of the large bunched Grape Barbarossa. The bunch shown was exhibited by Miss Muschamp at the Corbridge flower show. It weighed between 7lb. and 8lb., and measured from the top to bottom 18 inches, and the width was 13 inches. There were nine bunches on the vine.

EARLY PEACHES.

IN this house it will be necessary to attend soon to disbudding. Remove a few of the worst placed buds at a time, such as those on the top side of shoots and those that spring from the underside, leaving those that are best placed sideways for future thinning. Always reserve the bud nearest the base of the shoot and the terminal one, as well as those buds where the young fruits are forming. Avoid very hot pipes at night and the consequent arid atmosphere so certain to encourage insect pests. Syringe and damp down walls and floors in proportion to the amount of heat in pipes.

Force chiefly by daylight, and allow the temperature gradually to subside at night so as to give the natural refreshing rest, equally as necessary to vegetation as to humanity. Keep a sharp look out for the first curled leaf, and if the little fruits are not fully and safely set, dust the affected and curled leaves with tobacco powder at once, on the principle that "a stitch in time," &c., and thus hold the fly in check until quite safe to evaporate with XL All, which is an inestimable boon to gardeners. This safe and reliable modern invention is a great advance on the antiquated fumigating with tobacco paper, an operation which has made the writer ill on many memorable occasions.

Madresfield Court.

W. CRUMP.

HARDY FRUITS IN SEASON.

APPLE THE FORGE.

A SMALL consignment of this Apple reached me the other day from a village in the south-east corner of Surrey, and the accompanying remarks may be of interest: "In a season like the present," writes my correspondent, "when Apples are decidedly scarce, the above fully justified the good character it has received as a great and consistent cropper." It is by no means a first-class Apple in quality, although not to be despised when others are not obtainable; the flesh is white, pleasant, and very digestible, and for cooking it is excellent. It is not often found out of Surrey and Sussex, and is most common in the tract of country lying between the north and south downs; standing on Leith Hill on a clear day one can take in nearly the whole of the Forge country. It is not often to be found in fruit catalogues, but I think that Messrs. Cheal of Crawley would most probably include it in their list.

E. BURELL.

ORCHIDS.

CATTLEYA GOLDEN DAWN.

A BEAUTIFUL new hybrid between *Cattleya luteola* var. *Holfordii* and *Cattleya anrea*, which has recently flowered in the collection of Mr. R. H. Measures, The Woodlands, Streatham, is the above-named. It is a flower of perfect shape and charming combination of colour. The sepals and petals are soft primrose-yellow, the sepals stained with a suspicion of red ochre. The petals deepen centrally and especially towards the tips to rich butter yellow. The lip is exquisitely traced and veined, the whole being covered with a delicate network of veins in varying shades of yellow, the interspaces filled with soft magenta-crimson shaded with tawny orange on the front lobe, the edges of which are softened to creamy white, touched and suffused with light magenta. From beneath the column towards the front edge of the lip run three parallel lines of tawny yellow, at the apex of which is a small suffused blotch of magenta. At first sight the flowers of this hybrid strongly resemble those of a deeply coloured *Cattleya Rex*, but the lip is more ornate, owing to the distinctive veining and colouring imparted by the *aurora* parent. In the same collection is a plant of

CATTLEYA LABIATA VERA

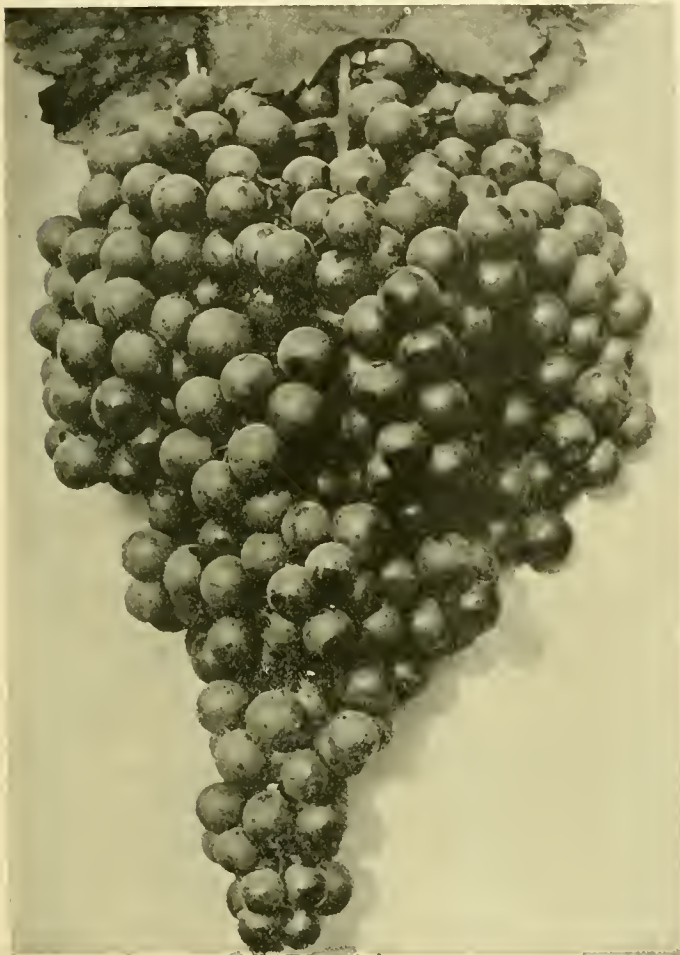
with a remarkable dimorphic inflorescence. The stout spike bears two well-shaped substantial flowers, each normal with regard to size and structure, but quite distinct from each other in colour. The left-hand flower is altogether the darker of the two, not only on the sepals and petals, but particularly so on the lip, the front portion of which is entirely of a rich soft crimson, subdued in the throat. The second flower is much lighter, though similar in size. The lip presents the strongest contrast. It is altogether lighter than that of the other flower, the colour being confined to a comparatively small central rayed blotch of crimson with a very broad margin of light magenta. The behaviour of the plant will be watched with much interest next year, as on the last flowering occasion no appreciable difference was noticed in the flowers, while this season they are absolutely distinct. A fine form of

LÆLIA PULCHERRIMA,

a hybrid between *Lælia boothiana* and *Lælia purpurata* was also noticed. The flowers are large, shapely, and of a pleasing deep rose hue, the lip being darker than the sepals and petals, and bearing still deeper veins. A noticeable feature at The Woodlands now is a house of

CYPRIPEDIUM INSIGNE

in full bloom. It contains between 4,000 and 5,000 plants planted out in limestone pockets. Two new varieties may be recorded—Mabel, a true



BUNCH OF BARBAROSSA GRAPE.
(Weight between 7lb. and 8lb.)

with the white or scarlet, that is, in its much less attractive appearance, the skin being generally of a dull green colour, contrasting with the beautiful golden appearance of the white-fleshed varieties particularly.

WHITE-FLESHED VARIETIES.

Frogmore Orange.—This is one of the earliest as it is one of the most handsome, a free cropper, and of delicious flavour.

Hero of Lockinge.—Still one of the most popular and best, and deservedly so.

The Countess.—One of the best.

Davenham Early.—As an early variety this is not so well known as it deserves to be. It is a small Melon, of exquisite flavour, and matures quickly.

The Lady.—This has a tinge of green and pink in the flesh, but still may be legitimately classed among the white-fleshed sorts. In flavour it is

montanum form, a large finely-shaped flower, the dorsal sepal bearing numerous spots, much as in the old *C. insigne* Sylhetense, but the apical half of the dorsal is white, and the spotting is bolder and more distinct, deeper in colour, and highly polished. A milk-white margin makes the spotting more intense. Edgar Cohen is both attractive and peculiar in its markings, the dorsal sepal having the basal and central portions suffused with a deep olive-bronze shade arranged in feather-like flakes. The upper portion is clear white, with a few lilac rounded spots.

*A third variety, *Magnificum*, well deserves the name. It is one of the finest of all. The dorsal sepal has large blackish chocolate spots on a pea-green ground, the white apical area being very solid and pure.

ARGUTUS.

BOOKS.

The Birds in our Wood.*—Though books on country life have been plentiful of late, we think the bird life of woodland and country side has not been overdone, and therefore we welcome heartily this elegant volume. The more familiar birds are illustrated in colours, and the descriptions are readable and instructive. It is a bright gift book, and one to read many times with profit, a book to present to a boy or girl, who should glean much information from the chatty descriptions. Here is a quotation from the notes about "The Tomtit": "The tomtit is the veriest sancebox of a bird. Several of the titmice are perky in their looks and voices, and the way they move about, but none so full of sauce as he. I used sometimes to spread traps for birds, a brick trap or a corn-sieve from the stable. In winter I caught tomtits, as well as great tits and coal tits. The tomtits did not seem so scared when I put my hand in the trap to take them out as they did angry. They would scold and peck. Once I caught a tomtit and took him up stairs and let him loose in an empty room. He was in a fine fluster, and sat on the floor ruffled and panting. I had some Peas in my pocket, of the sort you use for a Pea-shooter. I took one of them out and tossed it to the tit. It rolled along the floor and stopped near him; he forgot his anger and fear and pecked that Pea once or twice to see if it were good to eat. Is there any other English bird that would do a thing of that sort? If so, I should like to meet him. The tomtit belongs to a family of acrobats. All the tits can haog from the branches of a tree head downwards, and swing themselves from twig to twig without ever losing their balance. But the tomtit seems to me the best acrobat, though the bottletit is good, and so are two with black heads, called the coal and marsh tits. He is a great searcher for seeds. The little ripe seeds of the garden Poppy, which I like to rattle about in the dried Poppy head, are one sort the tomtit cares for. It is a dainty sight to watch several of these sharp little fellows sitting on the Poppy heads in the garden at the end of the summer, and raining down blows with their bills. After a while they manage to make a hole in the hard, dry, Poppy head, and then they soon pick out every seed. If you do not want too many Poppies in the garden next year you should be careful not to disturb the tits when they are eating."

Greenwich Park.†—The author tells us in the preface that "this book is the outcome of a paper read before the Blackheath Natural History Society" in 1901, and that "the publication has been delayed by the discovery of Roman remains in the park, a complete account of which it was considered desirable to include in the work." The history of the park is of more than local interest. A petition was made to Parliament in the reign of Henry VI. "to grant to Humphrey, Duke of Gloucester, and Eleanor, his wife, a license to enclose 200 acres of their land, pasture, wood, heath, vurses, and gorse thereof, to make a park in Greenwich." The park was enclosed with a wooden fence by this same Duke of Gloucester in 1433, and by a wall by King James at a cost of

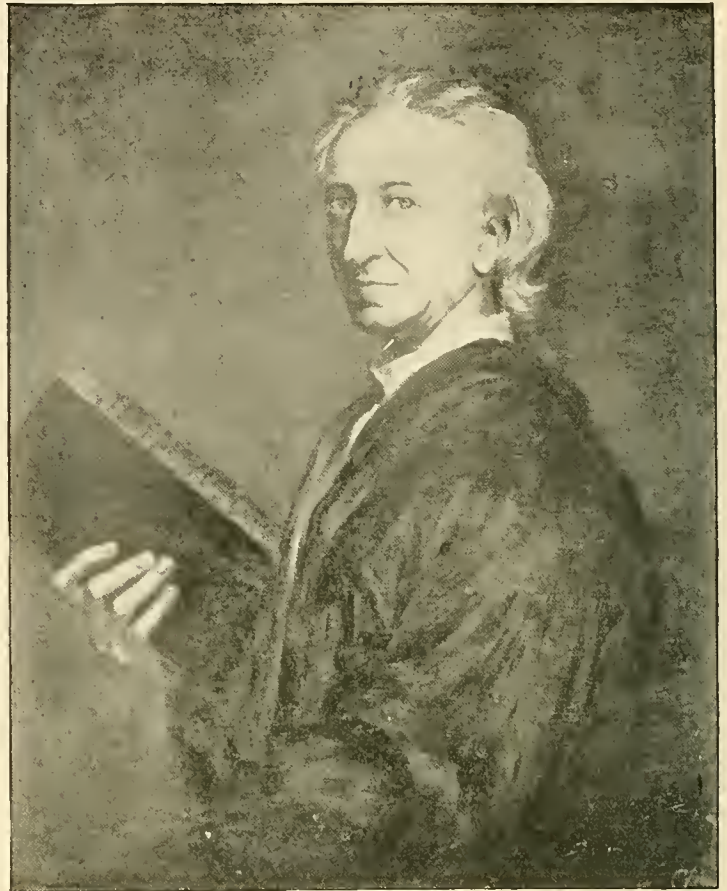
£2,001 15s. 11½d.; this wall was begun in 1617 and finished in 1625. Mr. Webster has told very pleasantly the history of this breezy park by the Thames side, of the fairs held on its grassy slopes in the olden days, of the trees and shrubs, fanna and flora, fungi, and Roman remains. Mr. Webster mentions John Evelyn "as a frequent visitor, and gave advice to the King in reference to the tree planting in the park," but the author should have added that an equally illustrious visitor, Samuel Pepys, was interested in the planting at Greenwich, for an entry in his diary, April 11, 1662, records the following incident: "Sir William and I walked into the Parke, where the King hath planted trees and made steps in the hill up to the castle, which is very magnificent." The chapter on "Trees and Shrubs" is one of the most important in the book, and the writer is more at home with this subject than in the more historical descriptions. On page 54 it is mentioned that "one of the largest Thorns in this country is growing in the grounds of the Ranger's lodge, a little distance from the Blackheath entrance. It is fully 50 feet high, and over 7 feet in girth of stem."

Gardens Old and New: The Country House and its Garden Environment (Vol. II.)‡—The reception of the first volume of this sumptuous work was so gratifying that the publishers were well advised to bring out as quickly as possible a second volume, embracing a further list of the most beautiful and interesting gardens of the British Isles. This second volume is even more welcome than the first, and the gardens described and illustrated include such famous places as Aldenham House, Balcarres, Castle Ashby, Chiswick House, Compton Wynyates, Cranborne Manor, Drumlanrig Castle, Eaton Hall, Frogmore and Windsor, Haddon Hall, Hampton Court (both in Middlesex and Leominster), Harewood House, Holland House, Longleat, Munstead Wood, Pain's Hill, Parham Park, Penshurst, St. Fagan's, Shrublands Park, and Stoke Edith, over seventy in all, and chosen with rare discrimination, as the brief list we have mentioned shows. The introduction is an interesting contribution to the gardening literature of to-day, and descriptive of the many superb photographic reproductions which adorn every page. The illustrations are not merely a pleasure to the eye, but of great historic interest, showing the various phases through which the English garden has passed during successive ages to the garden of the present day, represented by such pleasant places as Munstead Wood and The Orchards, Surrey. The photographs have been taken by that master of his art, Mr. Latham, and we must

* "The Birds in our Wood." By George Dewar. Published by Messrs. Laurence and Butler, 16, Henrietta Street, Covent Garden, London. Price 7s. 6d.

† "Greenwich Park." By A. D. Webster, Superintendent of Greenwich Park. Published by Henry Richardson, Greenwich, and Simpkin, Marshall and Co., London.

‡ "Gardens Old and New: The Country House and its Garden Environment." (Vol. II.) Published at the offices of *Country Life*, 20, Tavistock Street, Covent Garden; and by George Newnes, 7 to 12, Southampton Street, Strand. Price two guineas.



JOHN EVELYN.

(From "Greenwich Park.")

congratulate the printers heartily for reproducing so splendidly the subjects taken with such skill and knowledge of what makes an interesting, instructive, and beautiful picture. It is not possible for all who love gardening to create such glorious domains as are here represented, but the pictures have a great teaching value and should do much to foster a love for a beautiful and satisfying recreation. The volume is edited by John Leyland, to whom the task seems to have proved pleasantly inspiring if we may judge from the enthusiasm and knowledge we can trace in the lengthy introduction. We shall look forward to the third volume of what is likely to prove the greatest illustrated garden book of this generation.

THE KITCHEN GARDEN.

MUSHROOM GROWING IN GARDEN, FIELD, AND COTTAGE PLOT.

(Continued from Vol. LXII., page 431.)

GATHERING THE MUSHROOMS.

A GOOD deal of the success and duration of the crop depends upon the careful way in which this work is done. The Mushroom should be gathered when it is about three parts grown, usually about 3 inches across. If allowed to become larger than this the quality deteriorates, and useless exhaustion is caused to the bed. At the stalk of the developed Mushroom will be found clustering together a group of three or four tiny Mushrooms more attached to the stem than to the bed. These will never attain to any further size or usefulness, and therefore if in collecting the Mushrooms the stalk be cut with a knife, as is the common practice, what remains of

the stalk in the bed perishes, as well as those tiny embryo Mushrooms, causing more or less decay and sourness. This is inimical to success. It will be gathered from this that I do not advise cutting Mushrooms with a knife. On the contrary, they should be taken hold of by the hand and given a gentle twist, when the Mushroom, the stalk, and all the spent part will come away together, leaving the bed sweet, clean, and in the most favourable condition for encouraging the growth of the succeeding young ones. At this time of the year (October) little or no fire-heat will be required, therefore the house will not dry very quickly; but the bed on the surface must never be allowed to get parched, and if bearing very heavily an application of warm water will be necessary at least once a week and sometimes twice. The paths and walls of the house should be moistened over at least twice a day, but not saturated too heavily. The first crop will remain in profitable bearing from a month to six weeks, and after this is exhausted the bed should be brushed over, clearing away any loose bits of soil there may be on the surface, and given a good soaking of water at a temperature of 85°, to which a little common salt has been added—a small wineglassful to three gallons of water. Shortly after this a second crop should result—not so heavy as the first—it will not last in bearing so long, but will give, however, a satisfactory return. When this is over, as it will be in about three weeks, the bed is then exhausted, and must be cleared out, making room for a succession of beds to be formed one after the other according to the quantity of manure available. The last bed should be formed in the house about the first week in May. After this date the crop is not a profitable one in houses such as we have been considering, on account of the hot weather. After this date until April comes round again they will succeed much better in open sheds or even in the open air. Before considering this shed or open air system of culture I ought to mention a word about

TEMPERATURE AND VENTILATION.

Much depends on the size of the house and the number of pipes it is desirable to fix in order to obtain the maximum of heat in severe weather. As strong fire-heat is at all times injurious, two rows of 4-inch pipes fixed on each side of the pathway, not too near the beds, will be ample. Should the weather prove very cold in the depth of winter, rather let the temperature fall to 53° or 56° than force the fire unduly with the object of keeping the house up to a normal temperature of 60°. The roof must be sealed on the inside with lath and plaster, with ventilators in the apex at distances of 12 feet apart. Little or no ventilation is ever required, and the ventilators are more for the purpose of letting out steam than for the admittance of air.

REASON OF FAILURE.

Failure, from whatever cause it may arise, will not be discovered till the bed has been made and the time has arrived for a crop of Mushrooms. If a crop does not appear, say two months after spawning, the best plan will be to dig a hole in the bed to see whether it is wet or dry or whether the spawn has spread or not. If it is dry and the spawn has partly spread the bed will be all right, and after a good soaking of warm water at a tem-

perature previously recommended a good crop may confidently be expected. On the other hand, should the manure be wet and no spawn appear, then the grower had better make up his mind to turn out the bed at once, as it is useless to expect a crop under these conditions. The cause of the failure in the latter case would doubtless be the too wet and overheated (at one time) condition of the manure, leaving it as it were dead and without any recuperative power. At another time the spawn may be at fault or the quality of the manure; its having been collected from drugged horses may be the cause. However, these failures are the exception and not the rule, and should be no discouragement to the greatly-increased growth of this crop as a commercial undertaking, especially in the suburbs of cities where manure is plentiful and cheap, as it is one of the most remunerative crops of the garden. O. T.

(To be continued.)

GARDENING OF THE WEEK.

KITCHEN GARDEN.

PROGRESS in horticulture has been rapid during the last two decades, and in no department has it been more marked than in the production of high-class vegetables. The requirements of employers are greater in this branch than was formerly the case, therefore to obtain the best results possible the gardener has to give a large share of his attention to it, and to keep the work well in hand the whole year through. Arrears in this department, especially early in the year, are difficult to make up unless abundance of labour is obtainable, owing to the multiplicity of operations requiring attention as the season advances. The locality and the nature of the soil have to be considered before digging or trenching is carried out; in many gardens much of this will already be done. As regards

WET CLAYEY SOILS

I am in favour of trenching 2 feet or 3 feet deep, and it may be done at a later date than is necessary or desirable where the soil is light. In the former case the soil has a better chance of becoming pulverised by turning it up rough when drying

winds are prevalent, whilst light soils may be treated with at any time as opportunity offers. Gardens infested with wire-worm should have a slight dressing of gas lime, and this should be spread on the plot and left for two or three weeks before digging it in, in order to allow the strong gases to pass away and to pulverise the lumps. One of the most important operations is to plan methodically where each crop is to be grown for the season, for it goes without saying that a system of judicious rotation has a deal to do with success in vegetable culture. During spells of

FROSTY WEATHER

advantage should be taken to wheel manure or other matter on to the borders and quarters in readiness for digging and trenching when the weather is suitable. It is, of course, advisable to plan where the various crops are to be grown as early as possible before much manure is wheeled on, for whilst one crop will need a good dressing of farmyard manure, another will require none for this season, or possibly a dressing of charred refuse will be better for certain crops instead of manure.

THE SEED ORDER

should also receive early attention if not already posted. A good deal of forethought is necessary in compiling it, for no gardener is desirous of having to send for seeds frequently, and as seedsmen usually execute orders strictly in rotation, and several kinds will be required for sowing in the present month, it will be obvious it should be posted early. The seed drawers should be cleansed in readiness to receive the new seeds, and any old seeds left over destroyed, or in the case of certain kinds they may be retained for later sowing in the garden after testing their germinating properties in heat.

SEAKALE AND ASPARAGUS FORCING

requires no great amount of skill or elaborate structures to keep up a constant supply. Means should be taken to maintain this by introducing a sufficient number of crowns or roots at regular intervals according to the demand. Rhubarb also may be lifted at fortnightly intervals and placed in the Mushroom house or other structure from which full light is excluded. H. T. MARTIN.
Stoneleigh Abbey Gardens, Kenilworth.

THE FLOWER GARDEN.

FUTURE IMPROVEMENTS.

WITH a view to these the beginning of the year should be made an occasion for a thorough survey



THE COMMON MUSHROOM.

of the flower garden. The past will have taught us many lessons, and probably some of the changes effected will have to be amended. Every year adds some store to our knowledge, and it is possible that through experience gained many things we accomplished during the past year must be done in a different way. Make a note of all the alterations it is desirable to effect; consider what shrubs, trees, or plants should be destroyed to make room for better things to be planted out later on and which you have probably taken a note of during the past year. Do not attempt to remove any plant from one part of the garden to another until the weather is favourable.

NEW FLOWER BEDS.

Where space will admit new flower beds should be prepared for spring planting, and care taken that the bed or beds are dug the proper depth. In the process of digging the soil should be well pulverised. If the ground is prepared in this way several months before planting it will be in much better condition for assisting plant growth.

SOIL.

Should the soil be of a loamy nature it will not be necessary to add anything in the way of manure. On the other hand, should it be tenacious and wet, road grit or finely sifted mortar rubbish or burned soil mixed in with the soil is beneficial. Light, hot, sandy soil calls for contrary treatment, and good holding loam will greatly improve it. Depth of soil is of great importance in the culture of the majority of plants. If shallow and the subsoil is hard the flowers will be comparatively poor and short-lived, especially in dry seasons and localities.

ROSES.

The late autumn and severe weather we had last month greatly retarded planting. Should the weather permit all arrears should be pushed forward with as little delay as possible. All newly-planted Roses should be mulched with half-rotten manure, standards be neatly staked, and all the tender and delicate Teas protected from frost. The common Brackens, when it can be procured, is the best material for this purpose. Never be too lavish with any covering. More Roses are destroyed from being covered too much than too little. Always remember that frost follows damp, so that whatever material is used it should be placed so as to allow a free current of air to pass through.

THE SNOWDROP (*GALANTHUS NIVALIS*).

Every spring we make a note of this favourite, and intend to plant it in the autumn in every available spot. When October arrives (the proper time for planting) pressure of other work prevents our carrying out this promise. Snowdrops need not be removed every year, but once in three years. They should be taken up, the ground manured, and the bulbs planted again. They are so hardy that they can be transplanted with success any time before the flowers are fully expanded.

T. B. FIELD.

Ashwellthorpe Hall Gardens, Norwich.

FRUIT GARDEN.

VINES.

If late black Grapes are still hanging on the Vines lose no time in cutting and bottling them, as nothing can be gained by allowing them to remain. It is now well known that late hanging is quite as detrimental to the Vines as early forcing. Choose a mild day for cutting, sever the wood just above the pruning bud, leave it the full length beyond the bunch, insert in bottles of clean soft water, and ventilate the Grape room for a few days with gentle fire-heat to dry up moisture which may have escaped during the process of bottling. If the Grape room is properly constructed, and not apt to be affected by sudden fluctuations of external temperature, a mean of 45° or a few degrees lower in severe weather will be quite sufficient for all the black kinds, while Muscats will retain their colour for a greater length of time in a temperature of 50°.

When the Grapes are cut, and pruning, cleansing, and top-dressing finished, throw the houses open to the full extent of the ventilators unless the weather is very severe. In cleansing do not strip the bark from the Vines as is so often recommended, for this unnatural removal of Nature's protection is positively injurious. It not only tends to prevent the natural swelling of the stems, but makes them hide-bound. Take every advantage of making untenable the winter quarters of every species of obnoxious insects and their eggs. We are not believers in those tar or other thick-smearing mixtures plastered on the Vine, which seal up the pores of the wood, but work on the system of "Prevention being better than cure," and give all our Vines a good washing with that good and safe old insecticide, Gishurst Compound, 6oz. to the gallon, using an old stubby paint brush. If junior hands are employed at this work we add a little soot and sulphur to the liquid compound, simply as a colouring, to enable us to detect any carelessness or scamping of the work, as the success of the operation depends upon the thorough way in which it is done, as it is intended to loosen the eggs with a hard brush from their adhesive attachment and the fatal insecticide to accomplish their destruction, whether it be red spider, mealy bug, brown scale, or thrip. It is really well to give this harmless washing, whether the Vines have been previously infested or not, because these injurious insects are often introduced into the Vineries by the doubtful compromising proceeding of sheltering quantities of pot plants. Examine inside borders, and if the surface roots have become very dry give a moderate supply of water before the top-dressing is placed over them. Remove the shutters from outside borders, top-dress with good loam and crushed bones, and protect from frost with fresh stable litter. Cut back young Vines which have not hitherto borne a crop of fruit, and allow the points to droop to the level of the pipes, or tie them to the wires in a horizontal position near the front ventilators where they can have a free circulation of air. Also cut down pot Vines intended for growing into fruit canes. Dress the cuts and keep the Vines in a dry cool house until the time arrives for starting.

Select thoroughly ripened eyes, insert in small pots firmly filled with sandy soil, and keep them in a cool pit for three weeks before plunging in bottom heat. If any of the houses require internal painting immediately after the Vines are cleansed and tied down is the best time to get in the workmen. Add a little turpentine to the paint and wash the walls with a mixture of quick lime and sulphur. Early houses from which ripe Grapes are expected in May will soon be fit for the general disbudding, a process which must be regulated by the vigour of the Vines and the position of the spurs. If widely placed two shoots may be left on each spur, the terminal shoot to give the bunch, and the lower one to give the pruning bud next year. As this will be the weaker of the two it may be allowed to supply the greater part of the lateral foliage for covering the trellis. Gradually increase the temperature to 58° to 60° on mild nights when the bunches become conspicuous, but avoid set figures when the weather is unfavourable. Syringe regularly with water a few degrees higher than the mean temperature of the house.

Madresfield Court.

W. CRUMP.

INDOOR GARDEN.

CONSERVATORY AND SHOW HOUSES.

DURING this period the greatest care should be exercised in warming and ventilating these structures, always avoiding damp stagnant atmospheric conditions by applying a little fire-heat when dull or cold weather prevails, and by giving a little air as early in the morning as the weather will admit. Avoid cold currents of air, and be careful to remove all decaying foliage and flowers. A good display can now be made where batches of Begonia (Gloire de Lorraine and its sports are grown and the hybrid forms recently introduced by Messrs. Veitch. These will be followed by B. socotrana

and B. Gloire de Sceaux. These two species will require a temperature of 55° to 60° during the day. Give them a gentle syringing in the early part of the day until the blooms begin to open.

OTHER WORK.

Dutch bulbs that have filled their pots with roots, and when the young growth has been exposed to the light in cool frames, may now be introduced into a gentle heat. Malmeson Carnations now require very careful watering, and be on the constant look out for the dreaded fungus. Every particle of leaf affected should be cut away as soon as the pest is discovered and at once consigned to the furnace. Young plants recently potted into 6-inch pots should be raised on a temporary stage to within 18 inches of the glass, and treated to an abundance of air whenever the outside temperature is over 32°, at the same time having the hot water pipes slightly warmed to keep the air moving. Later batches not yet advanced beyond 3-inch pots, and provided the pots are fairly full of roots, will take a little more water than those in the 6-inch pots, but should not at any time become what is termed wet.

All late blooming Achimenes and Gesneras should by this time be sufficiently ripened to allow all growth to be cut away and the corms stored for the winter. Ericas now require careful watering, and should never be allowed to become too dry. Give plenty of air except when sharp frost prevails. Should mildew attack them resort must at once be had to flowers of sulphur; this to be applied by a proper duster, laying the plants on their sides during the application to avoid the sulphur resting on the surface of the soil. Avoid fire-heat whenever the temperature of the house or pit can be maintained at 35°.

Wendover.

J. JAKUES.

ORCHIDS.

INSECT PESTS.

ORCHIDS, like other plants, suffer in various ways from numerous insects if proper precaution is not taken to exterminate these. The cockroach, green fly, thrip, red spider, mealy bug, various kinds of scale, woodlice, and the *Cattleya* fly injure our plants in different ways. They must therefore be well watched and destroyed. The cultivator cannot be too particular about this, for if they are allowed to remain they greatly mar the beauty of the plants, and the flowers too frequently suffer in consequence.

THE COCKROACH

is one of the greatest pests, and does much injury in a short time. The food they like best is the young and tender roots and flower-stems. The buds and flowers, too, are freely eaten by cockroaches, which must be searched for at night, as then they leave their hiding places in search of food and are more easily caught. There are many beetle powders and phosphoric mixtures that quickly destroy them if put on pieces of tile or slate and laid in different parts of the houses in the evening, the same being collected in the morning and the operation repeated. We use nothing here but phosphor paste, a little being placed on small pieces of Cabbage leaves and laid on the stages among the plants about twice a week, then removed for a week. This is done every other week until they are destroyed.

GREEN FLY (*APHIS*) AND THRIP.

Since the introduction of Richards' XL All Vaporiser these pests give little trouble, though the latter are more troublesome to eradicate than the former. They get far down into the centre of the young growths and axils of the leaves, where no fumes can touch them. Plants so affected with thrip should be dipped in soft soapy water or insecticide, or the same can be worked down into the centre of the young growths and axils of the leaves with a brush. This will generally kill them; if not, it will remove them from their quarters to where fumigating will have the desired effect.

SCALE AND MEALY BUG.

The various kinds of scale that infest our plants—the *Cattleyas* in particular—are all more or less



NEW SINGLE CHRYSANTHEMUM MRS. H. HERBERT.

hurtful, and there is no better way of eradicating these pests than by persistent cleansing with soft soapy water or some insecticide. The small white scale is the most difficult to remove. A little soft soap should be mixed with water and rubbed over the bulbs and rhizomes affected, allowing this to remain on for a day. Then wash off and thoroughly clean the plants. The mealy bug seldom gains a foothold where cleanliness is persisted in. If plants by any means become infested with it, constant watching and frequent cleaning with some good insecticide is undoubtedly the best remedy.

RED SPIDER.

The under surfaces of the leaves are the first to become infested with this, and generally of plants that have positions in the driest and most arid parts of the hot houses, those that are exposed to the greatest amount of sunlight, the Dendrobiums for example. These plants should therefore be observed, and the under sides of their leaves sprayed upon as often as possible without injuring them. Keep the atmosphere in the houses as moist as is consistent with the occupants, and examine the plants at short intervals; any that show the slightest trace of red spider should be well sponged with soft soapy water or some insecticide.

WOODLICE.

These, like the cockroach, are very fond of the young tips of the roots; they feed upon them and in this way do much injury. They should be trapped by cutting some Potatoes in half, scooping out the interior, and placing them on the pots, baskets, and staging. Look over them every night and morning. Small flower pots with some dry moss at the bottom also form capital traps for them; these should be laid on their sides in different parts of the house, frequently examined, and the intruders destroyed.

THE CATTLEYA FLY.

This has done much injury in many collections. Among the Cattleyas and Lælias its work is easily detected, for the young growths begin to swell far above their usual size, and become club-shaped as they grow. This swollen portion contains maggots which feed upon the inner portions of the young

growths. The larv when they are matured change into flies, and become distributed about the house. They begin by piercing the young growths, lay their eggs, which soon change into maggots, pass through their several stages, and in due time become flies, and thus increase and multiply and soon cripple the plants if not destroyed. The remedy adopted to destroy these pests at one time was to cut off the young growths as soon as the unusual swelling is perceived, but at the present time every cultivator does not agree with this practice, though if we had say one or two plants with the same number of growths affected, and we were sure these were the only ones, and no living flies in the house, then this cutting away would be advisable.

These flies, like many other winged insects, are quickly killed by fumigation, and this I consider by far the best plan to adopt, though this will mean a few shillings more outlay in the first place, but is much cheaper in the end. As soon as the unwelcome visitor has arrived fumigate the house with Richards' XL All Vaporiser twice a week, and continue the practice until they are entirely destroyed. Four years ago most of the Cattleyas and Lælias in one house here were affected with the Cattleya fly in a manner I think seldom seen. Nearly every young growth had been cut off, and many of the last made bulbs also. We left the plants entirely alone, commenced to fumigate the house twice a week with Richards' XL, and continued the practice for about five months, and not a vestige of fly has ever been seen since. Every plant purchased and received, newly imported or established, should be thoroughly cleaned before being placed with other Orchids.

F. W. THURGOOD.

Rosslyn Gardens, Stamford Hill, London, N.

CHRYSANTHEMUMS.

SEASONABLE WORK.

SELECTING AND PREPARING THE CUTTINGS.

SUCCESS or otherwise of the cultivator next autumn will much depend on the foundations laid at this season, a fact which cannot be too prominently brought before the notice of the beginner, and, indeed, impressed on the minds of all who wish to excel in bringing to perfection this popular autumn flower. More depends on this apparently small matter than many suppose. This applies to the whole of the large-flowered section, which are required to produce fine massive blooms. No time should now be lost in beginning. Everything should be got ready and every detail studied before starting.

SOIL.

This should be prepared and well mixed a few days before it is used. A fairly light gritty compost is best for a start, such as the water can pass freely through, nothing being better than equal parts of light fibrous loam and well decayed leaf-soil, adding sufficient coarse silver sand to render it porous. Take care not to use it in too moist a condition, which can be easily determined by squeezing it in the hand, and if at all pasty it will certainly require more drying.

There are many methods of striking the cuttings,

many of which are good in their way, but unquestionably the best is to insert them singly in 2½-inch pots, which should be thoroughly clean and dry before using. Even these, small as they are, should be carefully drained, precisely in the same way as the larger ones, only, of course, the material used must be very fine, and over this a small portion of the fibre taken from the loam should be placed to prevent the soil getting mixed with the crocks. As I have often pointed out, it is of the utmost importance that the waterway, especially of the Chrysanthemum, should be kept quite free in all stages of the plant's growth, without which the best results cannot possibly be obtained. The soil should be made moderately firm in the pots and surfaced over with a little fine sand, some of which will find its way to the base of the cuttings when dibbled in. The remainder will be a safeguard against stagnant moisture and also prevent the surface from becoming baked and crusty.

The position where the young plants are to be rooted will much depend on the means available, but if possible choose the stage of one of the houses, such as an early vinery, orchard, or greenhouse, on which should be stood either small frames or hand-lights, wherein place sufficient cocoanut refuse to bring the young growths quite close to the glass. The cuttings can then be attended to during any weather and at any time of the day. Little difficulty should be found in rooting them quickly under such conditions.

Everything being in readiness the cuttings should be carefully taken off, but before doing so fumigate the stock plants to thoroughly free the growths from all insect life. Good stout short-jointed cuttings about 3 inches in length should be chosen, selecting those which come up as root suckers as much as possible, stem growths being more likely to be persistent in making buds. Take off only what can be put in at once, for if allowed to become limp these are never so likely to start away so freely. The work of putting them in is best accomplished in the house in which they are to be propagated. Label each cutting correctly as they are inserted, thoroughly water in, and keep close for a few days. Endeavour to prevent flagging. This can generally be assured by keeping them close and damp over with warm water when necessary, taking care that too much is not given. Give air as required little by little as the cuttings begin to root, after which the lights may be taken off entirely for a few days before removing to the shelves in a more airy position.

There are now a host of varieties, especially in the Japanese section, and it is quite bewildering to the beginner to know which to grow, but if wanted for exhibition one cannot do better than make a selection by taking the names of the kinds which were most generally shown last season and have been reported in the horticultural press. The leading exhibitors may safely be relied on to have most of the best. Unfortunately, many of the old varieties, for some unexplained reason, quickly decline, not that the newer varieties are so much better, but they seem to lack constitution. It is a bold assertion to make, but I am convinced that fifteen or twenty years ago some varieties of the Japanese were exhibited quite equal to any we see at the present day.

I shall hope to deal with some of the most promising new varieties which have come under my notice shortly, and I trust will prove beneficial to those who have not had an opportunity of noting them as many of us near London have.

E. BECKETT.

Aldenham House Gardens, Elstree, Herts.

**NEW SINGLE CHRYSANTHEMUM
MRS. H. HERBERT.**

WITHOUT doubt this is the finest single white variety in existence. The blooms, produced in large sprays, are fully 4 inches in diameter, of perfect shape, with stout flat petals of a pure glistening white without a trace of any other colour. As a decorative plant or for cutting purposes it is unequalled. This variety was also

awarded a certificate of merit at the Birmingham Chrysanthemum show in November, when shown by Messrs. Clibran and Son of Altrincham.

KEW NOTES.

INTERESTING PLANTS IN FLOWER.

Palm House.

Monodora grandiflora.

Succulent House.

Aloe ciliaris, *A. penduliflora*, and *Senecio macroglossus*.

T Range.

Barleria flava, *Dædalacanthus macrophyllus*, *D. nervosus*, *Hessia spiralis*, *Jacobinia chryso-stephana*, and *Trevesia sundaica*.

Orchid Houses.

Ærides vanderarum, *Bulbophyllum dayanum*, *Cypripedium* (various species and hybrids), *Dendrobium aureum*, *D. cassiope*, *D. primulinum*, *Epidendrum ciliare*, *E. fragrans*, *E. sub-purum*, *E. tovarense*, *Lælia* (various species), *Masdevallia Chimæra* var. *Ræzlii*, *M. fulvescens*, *M. tovarensis*, *Platychnis cucumerina*, and *Restrepia maculata*.

Greenhouse.

Coleus thyrsoides, *Epacris* (in variety), *Moschosma riparia*, *Reinwardtia trigyna*, *Senecio grandifolius*, *Strobilanthes isophyllus*, and other things.

Arboretum.

Chimonanthus fragrans var. *grandiflorus*, *Clematis calycina*, *Erica mediterranea* var. *hybrida*, *Hamamelis arborea*, *H. mollis*, *Jasminum nudiflorum*, and *Lonicera Standishii*.

NOTES FROM SCOTLAND.

It may interest the writer of the notes on "The Compleat English Gardener" to know that the first edition appeared in 1683, and also that the condition of horticulture at that date and much earlier was by no means in the condition that book would lead one to suppose. In the same year other two books on gardening were published, and they are as remarkable for the good advice they contain as that of Mascall's is for the hash-up of long obsolete ideas that form its greater part. It may be doubted if even the "Davey Gentle" Apple was in existence at that time. The remark that "S. G." appears as a kind of editor is not without interest, as we may conclude these initials represent the Rev. Samuel Gilbert, son-in-law to Rea the florist, whose "Florilege" it is supposed he helped to produce. The "Melancholy Gentleman" is the pleasant old designation applied to *Hesperis tristis*, and all the other plants named are good garden flowers still in cultivation.

WANT OF FRUIT.

One of the remarkable features of the present position of fruit production in the North is the total inability of Scotch growers to supply Scotch consumers. Not so many years ago it was customary to send Grapes to English markets, particularly London and Manchester; but now no Grapes, or practically none, go South. On the other hand, the best shops in

Glasgow, Edinburgh, and Dundee, while relieving Scotch growers of their crops, are obliged to supplement these supplies from England, and the fruit has to be of very high-class quality. In the case of hardy fruits it is perhaps not so noticeable, because Pears and Plums more especially have long been imported across the Border; but with Apples the demand increases yearly, and quantities of good English Apples find their way northwards, and I believe always at paying prices. Strawberries, too, are sent North in very large quantities—trainloads daily in the season—but against these, tons are sent South from Scotland later in the year when English fruit is past.

These facts do not indicate a decreasing supply from home growers, because more fruit is being grown than ever; but they show a greater desire for good fruit among the people of Scotland, and that not only in the cities and towns, for it is extending to country villages as well. While that is so it is on the surface somewhat strange that so few hardy fruits are cultivated in small gardens. Hereabouts quantities of Tomatoes are produced in frames in cottage gardens, but few Apples or other hardy fruits are grown. One reason may be that no one is sure of gathering his crop after growing it, but the only way to suppress this pilfering is for everyone to grow fruits and make them so common that the custom of helping one's self to one's neighbour's goods will fall altogether into disuse. B.

MISCELLANEOUS.

NOTE FROM TORTOLA, WEST INDIES.

Writing in August, 1902, Mr. Fishlock says:—"The Virgin Islands form the most northerly presidency of the Leeward Islands Colony, and they lie between St. Kitts and Porto Rico. They are a number of small islands belonging to Great Britain, Denmark, and the United States. The chief British ones are Tortola (from

Spanish words meaning 'the land of the turtle-dove,' on account of the numbers of that bird which once lived on the island); *Virgen Gorda* ('the fat Virgin,' as it is in Spanish); and *Anegada*, or the 'Drowned Lands,'—this last is extremely flat and surrounded by reefs, making it very dangerous to mariners. In the old days, I believe, wrecking was there made a kind of fine art. As far as I can see, agriculture there is almost hopeless. *Virgen Gorda*, on the other hand, seems more hopeful as a field for the agriculturist, and miner, too, for that matter, as I believe several mineral ores are found there. Many romantic and interesting stories are told about the place, happenings of the old buccaneer days. Copper has been worked there since the early years of the seventeenth century. At present the chief industries of the place are fishing and charcoal-burning. Goats, cows, horses, &c., are also raised for the St. Thomas market. *Tortola*, the chief island of the group, and the seat of Government, is a rugged island about 14 or 15 miles long by some 5 or 6 miles broad, but the breadth is very variable. The hills in places rise to nearly 2,000 feet high, and the roads over them are extremely rugged, in fact only passable to native horses. The natives are fearless riders, and gallop over roads which shock the feelings of an Englishman.

"The chief town is Roadtown, what we in England would call a hamlet, chiefly a collection of ruined houses containing about 400 inhabitants, but showing abundant signs of former greatness. I am told that in the old days Roadtown rivalled St. Thomas itself. The staple industries here are stock-breeding, sugar and rum manufacture, fishing, charcoal-burning, &c. The natives are a very independent class of people, and will only work at comparatively high rates of pay; it is often remarked here that a native with a few acres of land is as independent as a man in England with £250 per annum. There is scarcely any circulation of money among them, and they work in gangs for food and rum."—*Kew Guild Journal*.



A VIEW AT WISLEY (JAPANESE LILIES), THE COTTAGE HOME OF THE LATE MR. G. F. WILSON, TO BE SOLD ON JANUARY 20 NEXT. (See page 3.)



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Calendar 1903.



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Table for the month of JANUARY, including dates, days of the week, and events such as King's Taxes due, Epiphany, and various meetings.

Table for the month of FEBRUARY, including dates, days of the week, and events such as Candlemas, National Amateur Gardeners' Association Meeting, and various meetings.

Table for the month of MARCH, including dates, days of the week, and events such as 1st Sunday in Lent, St. David's Day, and various meetings.

Table for the month of APRIL, including dates, days of the week, and events such as Royal Botanic Society's Spring Show, Meeting Société Française d'Horticulture, and various meetings.

Table for the month of MAY, including dates, days of the week, and events such as St. Philip and St. James, Société Française d'Horticulture Meeting, and various meetings.

Table for the month of JUNE, including dates, days of the week, and events such as Bank Holiday, Rhododendron exhib., Regent's Park, and various meetings.

Table for the month of JULY, including dates, days of the week, and events such as Moon first quarter, Temple Rose Show, and various meetings.

Table for the month of SEPTEMBER, including dates, days of the week, and events such as R.H.S. Meet. (Nat. Dahlia Show), French Republic proclaimed, and various meetings.

Table for the month of NOVEMBER, including dates, days of the week, and events such as 21st Sunday after Trinity, All Saints Day, and various meetings.

Table for the month of AUGUST, including dates, days of the week, and events such as Lammas Day, Soc. Française d'Hort. Meeting, and various meetings.

Table for the month of OCTOBER, including dates, days of the week, and events such as Pheasant Shooting begins, Société Française d'Hort. Meeting, and various meetings.

Table for the month of DECEMBER, including dates, days of the week, and events such as Queen Alexandra's Day, Nat. Cry. Soc. Ex., and various meetings.

THE GARDEN

No. 1625.—VOL. LXIII.]

[JANUARY 10, 1903.

NEW HARDY FLOWERS OF 1902.

(Continued from page 2.)

LILLIUM BROWNII VAR. CHLORAS-TER.—In the size and form of the flowers this fine variety compares well with the typical Brownii. It is, however, quite distinct in colour, and possibly somewhat shorter in the trumpet. The yellowish tone of the inside of the flower and the much-reflexed character of the segments impart to it quite a character of its own. The plant is said to inhabit the mountain glens in sheltered, though not in shady places. A.M., September 23.

Lobelia syphilitica.—Of this useful and hardy species one or two crossbred forms were shown last year. These are Andrew Barlow, with flowers of a red-purple tone, and Purple King, a variety with large and showy rich purple flowers. These gained the A.M. on September 23.

Montbretia Geo. Davison.—This is a tall, strong-growing kind, with self yellow flowers on long spikes. In the larger and more widely open flowers there would appear much of the *Crocsmia* character. It is a showy kind. A.M., August 19.

Paeonia arborea Queen Alexandra.—A very large and handsome glistening white-flowered Paeony, the finest white tree variety known to us. In the slightly cupped or saucer-like form the broadly ovate, much imbricated petals display its fine qualities to advantage. A.M., May 28.

Papaver A. W. Chillery.—Briefly this may be described as a new shade of colour in the Oriental Poppies. These plants, however, are not of so much value for exhibition as for the garden, where the showy or gorgeous flowers are best seen; the colour is salmony pink, with blotches at the base. We would like to see a strain with these conspicuous blotches absent. A.M., May 28.

Primula viscosa Spring Beauty.—This is reputedly a cross between *Primula viscosa* and a garden *Auricula*. Of the immediate crossbred influence there is perhaps little doubt, though at the same time we note much resemblance to the *Auricula* in the flowers. These latter are rather more than an inch across, rich deep purple, with creamy centre. We believe this *Primula* rightly belongs to the group known as *P. intermedia*. It is a beautiful free-flowering and showy plant. A.M., April 8.

Senecio clivorum.—A vigorous species from

Central China, and one of the finds of Mr. Wilson. It is delightful for the wild garden, and is best described as a caulescent perennial or herbaceous plant with roundish peltate leaves, and producing freely on its 4-foot stems orange-coloured flower-heads about 4 inches across. A.M., August 19.

Saxifraga Guildford Seedling.—This is not merely a novelty but a welcome addition to the set to which it belongs, *i.e.*, the mossy section. It is believed to be a chance seedling from *Saxifraga Rhei*, and as no definite information was forthcoming concerning it, and as the introducer, who also was indeed the raiser, if unwittingly, is alas! no longer with us, we feel justified in placing the fact on record. Indeed, when we first saw the plant at Guildford Mr. Selve Leonard requested our opinion, at the same time remarking, "We know nothing about it, except that it occurred here as a chance seedling; in fact, we have nothing like it." The time of flowering, character of the rosettes, and branching of the inflorescence differs in no sense from *S. Rhei*, but in place of the pink spotted flower that of Guildford Seedling is wholly a crimson velvet self colour. This is the shade of plants grown in the open, those exhibited so far having been grown under glass. Though both Mr. Selve Leonard and ourselves regarded the variety as a chance seedling, there is no proof of it in the least, and of course there is just the same probability that it is a sport from *S. Rhei*. *Saxifrage* sports are, however, rare. It will in the near future prove one of the brightest flowers for the rock garden. A.M., May 6.

Thalictrum orientale.—This is perhaps one of the most useful of the Meadow Rue family; it is compact in growth, less than 2 feet high, and with leafage intermediate in size between that of *T. minus* and *T. aquilegifolium*; it has pure white plumes, and not only in the garden but in the cold house this plant should prove of value. A.M., May 28.

The following are also novelties among bulbous plants:—

Gladiolus Coronation.—A large well-formed flower, very striking and beautiful in colour. The ground colour is white suffused with delicate pink in the upper parts, while in the lower petals a huge blotch of crimson velvet nearly covers this portion. A remarkable contrast. A.M., August 19.

G. Empire.—This is a fine break. It contains in all probability both *Gandavensis* and it may be *Lemoinei* blood. In the upper parts the dominating colours are flesh and rose, while a

golden blotch with crimson-purple is seen in the lower half of a very striking flower. A.M., August 19.

Narcissus Peter Barr.—This is a beautiful flower and a great acquisition to the none too plentiful white trumpet Daffodils. The parents are *Monarch* and *Mme. de Graaff*. It is at once the largest and whitest of the white trumpet Daffodils. At present the entire stock is represented by only a few bulbs. F.C.C., April 8.

N. Sir Francis Drake.—Briefly this may be accepted as a large highly refined Emperor, no mean testimony to its fine qualities. A.M., April 8.

(To be continued.)

THE CANDLEBERRY GALE (MYRICA CERIFERA).

THOSE who care for the most delightful kind of aromatic fragrance and have a sandy or peaty soil should grow this North American shrub. No bruised leaf, not even of Myrtle itself, gives off a better scent. It is a pleasure to know of it in various parts of a garden so that a leaf for picking is never very far off.

The Candleberry Gale or Candleberry Myrtle, also called Bayberry, is one of the four shrubs of the genus *Myrica*; three are North American and one European, the Sweet Gale or Bog Myrtle of our own peaty undrained lands. Another of this genus of fragrant bushes is the Fern-leaved Gale or Sweet Fern (*Myrica (Comptonia) asplenifolia*), also a good plant for English gardens where there is peat and moisture.

I had always heard of the sweet-smelling candles made from the Candleberry Gale, and had a great curiosity to know what they were like and how they were made. I took the opportunity in the summer of questioning a charming visitor from the United States, whose description of candles of half-transparent olive-green wax, burning with a sweet smell, added much to my interest. Some months later this was followed by the kind gift of one of the pleasantest books that I have seen for many a long day, and that may be most heartily commended to readers of *THE GARDEN*, namely, Mrs. Alice Morse Earle's "Home Life in Colonial Days" (Macmillan). Herein, to my great delight, was a description of the use of the Bayberries as follows:—

"A natural and apparently inexhaustible material for candles was found in all the colonies in the waxy berries of the Bayberry bush, which grows in large quantities on our coasts. In the year 1748 a Swedish naturalist, Professor Kalm, came to America, and he wrote an account of the Bayberry wax, which I will quote in full:—

"There is a plant here from the berries of

which they make a kind of wax or tallow, and for that reason the Swedes call it the Tallow shrub. The English call the same tree the Candleberry tree or Bayberry bush. It grows abundantly in a wet soil, and seems to thrive particularly well in the neighbourhood of the sea. The berries look as if flour had been strewn on them. They are gathered late in autumn, being ripe about that time, and are thrown into a kettle or potful of boiling water. By this means their fat melts out, floats at the top of the water, and may be skimmed off into a vessel; with the skimming they go on till there is no tallow left. The tallow, as soon as it is congealed, looks like common tallow or wax, but has a dirty green colour. By being melted over and refined it acquires a fine and transparent green colour. This tallow is dearer than common tallow, but cheaper than wax. Candles of this do not easily bend nor melt in summer as common candles do. They burn better and slower, nor do they cause any smoke, but yield rather an agreeable smell when they are extinguished. In Carolina they not only make candles out of the wax of the berries but likewise sealing-wax."

Beverly, the historian of Virginia, wrote of the smell of burning Bayberry tallow:—

"If an accident puts a candle out it yields a pleasant fragrance to all that are in the room, inasmuch that nice people often put them out on purpose to have the incense of the expiring snuff." G. J.

NOTES OF THE WEEK.

FORTHCOMING EVENTS.

January 13—Royal Horticultural Society's committees meet at Drill Hall.

January 14.—East Anglian Horticultural Club Meeting.

January 22.—Gardeners' Royal Benevolent Institution Meeting and Election of Pensioners at Simpson's, Strand.

January 27.—Royal Horticultural Society's Meeting.

February 3.—National Amateur Gardeners' Association Meeting.

February 7.—Société Française d'Horticulture de Londres Meeting.

February 10.—Royal Horticultural Society's Meeting.

February 11.—East Anglian Horticultural Club Meeting.

February 13—Royal Gardeners' Orphan Fund Annual General Meeting, Cannon Street Hotel.

Grouping of trees and shrubs at Kew.—Much has been done at Kew in the judicious grouping of plants, and here is a living place of instruction open to all, where the best of plants may be seen, and, to a considerable degree, the best ways of using them in gardens.—*Trees and Shrubs for English Gardens.*

Poinsettia pulcherrima.—At Finsbury Park a very pretty show of the Poinsettia is to be seen in the conservatory at the present time. Being that way on business recently I walked into the house, and to my surprise saw what I consider a fine show at this dull season of the year. The plants vary in height from 1 foot to 7 feet. Some of the bracts measure fully 14 inches across. The gardener in charge of the house informed me there are over 350 plants. Some of them carry two bracts, making it appear as though there were more. Arranged as they are amongst the Palms and other foliage plants, they have a very pretty effect.—L. RICHARDS.

"The Garden" Almanac for 1903. We have received many letters expressing pleasure that so many fixtures for the present year have been

published. Mr. H. E. Archer, secretary of the Ipswich and East of England Horticultural Society, sends the dates of exhibitions for the present year, which arrived too late for insertion in the Almanac. They are as follows: Summer Show, Wednesday, July 15; Chrysanthemum Show, Tuesday and Wednesday, November 10 and 11.

Rainfall at Hampton Manor, Hampton-in-Arden, during 1902. Days on which rain fell: January 9, 2.09; February 9, 1.62; March 13, 1.38; April 11, 2.86; May 20, 2.11; June 15, 1.99; July 10, 1.58; August 22, 3.62; September 12, 1.62; October 17, 2.22; November 13, 1.98; December 16, 1.97. The highest maximum in the shade was on June 28 and July 14, 85°.—NEIL SINCLAIR.

Chrysanthemum Golden Gem.—This is the best late yellow Chrysanthemum I know, and is a good companion to Lady Canning, but it is much freer flowering. There are many so-called late varieties which often disappoint the grower, in that a large percentage of the growths become blind. Golden Gem is just the reverse, as nearly every shoot terminates with a bunch of bright yellow flowers which develop into a rich bronze with age. They are very effective under artificial light and of value for cutting; the flower stalks are long and slender. We always strike a large batch of this variety in June for flowering in 6-inch pots, and there is no difficulty in having a good supply during January and February.—E. HARRISS, *the Royal Gardens, Frogmore.*

Eranthemum pulchellum.—This old East Indian plant, one of our most useful greenhouse and conservatory plants, is now in full beauty. No blue flower at this season can compare with it. This is really one of the most accommodating of plants, and might be more largely grown to advantage. The culture of old plants is very simple, shaking out and repotting in the spring after flowering. A mixture of two parts loam, one of peat, with a little leaf-mould and sharp sand, will suit them well. As they can be grown in 4½-inch pots, they are useful for vases. The larger plants in 6-inch pots are, however, most productive of bloom. Cuttings of half ripened shoots, under a hand-glass, with bottom heat, root freely.—STEPHEN CASTLE.

The prettiest weed of the garden. The prettiest weed of the garden after all—and the sweetest, if you bruise the leaf of it—is the common Crane's-bill (*Geranium robertianum*). I find in an old family herbal the remark that "very few know it by the name of Crane's-bill, but every one knows a Geranium." That was printed in the days when every Pelargonium was a Geranium. Now and then our Crane's-bill will make some shady garden corner rosy, or it courts full sunshine hanging from the grey limestone of the rockery. The delicate markings of the small flowers seem as it were "put in" with a touch, and so elusive is the colour one knows not if to call it pink or rose-lilac. No highly cultivated florist's flower could be more alluring in its beauty. How many such indeed are cultivated up to so huge a doubleness and machine-made regularity that a point is reached where all true distinction and character are lost. The flower of many a persecuted wild garden weed, in comparison, seems, as one might say, "hand-made"; bears still in the lovely painting and shaping of its corolla the mark of the hand of God.—"E. V. B.," in *Royal Horticultural Society's Journal*.

A new Chinese Mock Orange (Philadelphus Delavayi).—The *Revue Horticole* for the 1st inst. gives a woodcut two-thirds of the natural size, with a full description by L. Henry, of this most interesting new hardy shrub, which is one of the many fine plants sent from China to the Paris Jardin des Plantes (or as it is now called Muséum de l'Histoire Naturelle) by the French missionary Abbé Delavay, whose name it bears. The seed was received in March, 1888, under the name of *Philadelphus coronarius*, but on comparison with the flowers and foliage of that plant it was found to be quite distinct from them, and well deserving of a distinct specific name. About forty plants came up and bloomed

for the first time in 1890. From the downy appearance of the foliage, the late M. Franchet suggested that its name should be *P. coronarius* var. *tomentosus*, but on further and more careful comparison and observation of the seedlings they were found to be altogether distinct from this variety, with purer white flowers and frimbriated and lobed petals instead of entire. Many of them also were found to have purplish stripes and blotches, with a differently formed calyx of a bronzy colour. Some of these seedlings were sent by M. Max Cornu, late director of the Muséum, to M. Lemoine of Nancy, who, after some years of cultivation and observation, has named one of them var. *Melanocalyx*, and who will doubtless soon offer plants in his annual list of new and interesting hardy shrubs. In the same number is also figured and described by M. J. Foussat another interesting new hardy hybrid shrub sent out by M. Lemoine last year, and named *Ecochorda Alberti macrantha*. It is a hybrid (raised by the sender out) between the well-known *E. grandiflora* (known to some as *Spiræa grandiflora* or Pearl bush) and the more recently introduced *E. Alberti*, one of the introductions of the late Dr. E. Regel of St. Petersburg, which I have always considered in every way inferior to *E. grandiflora*, and of little or no merit as an ornamental flowering shrub. The chief merits claimed for the new hybrid, and well shown in the woodcut, are a more erect habit of growth and greatly increased floriferousness; in fact, the bush is shown to be one mass of pure white flowers. I think it should be a great acquisition to our shrubberies, and I hope before long to see it bloom.—W. E. GUMBLETON.

Daphne indica.—Few greenhouse plants can compare with this *Daphne* in the delicious fragrance of its flowers. The grafting mania is doubtless answerable for a good deal of the neglect into which this *Daphne* has fallen, for plants so propagated are seldom if ever satisfactory, while there is a general tendency to grow it in a warmer structure than is necessary. It needs only a cool greenhouse, that is to say, much the same conditions as Azaleas, Camellias, and Rhododendrons delight in. This *Daphne* can be struck from cuttings of the half-ripened shoots put in very sandy peat, and either covered with a bell-glass or placed in a close propagating case. According to the "Kew Hand List," the correct name is *Daphne odora*, but in "The Dictionary of Gardening" the two are kept separate.—H. P.

New clerk to the Gardeners' Company.—At a meeting of the Court of the Gardeners' Company, held recently, at which the Lord Mayor, as Master, presided, Mr. E. A. Ebbelwhite, F.S.A., barrister-at-law, of the Middle Temple, was appointed Clerk to the Guild, in the room of the late Mr. R. Gofton-Salmond. There were ten candidates.

A new late-flowering Chrysanthemum (Mrs. Swinburne).—This is another of Mr. H. Weeks' successes with English-raised seedlings, and promises to be a distinct acquisition to the late-flowering Japanese varieties. The flowers are large and handsome, and have very long petals of medium width, gracefully curling and twisting, and incurving at the tips, building up a flower of elegant form and of splendid depth and substance. It may be described as a beautiful glossy white, and remains long in good condition. I have a bloom before me which has been cut about three weeks, and this surely is a point worthy of notice. The plants were not housed until October last, about which time the crown buds developed, from which the present bloom is a result. This proves its late-flowering characteristic. In the case of blooms required for the November show it would be necessary to stop the plants in the early days of May, securing the first buds subsequently developing. When grown on single stems in 6-inch pots the cuttings should be inserted early in March, the first buds forming in the apex of the shoot in this case being secured. This variety is the result of a cross between the beautiful snowy-white Miss Alice Byron and the late-flowering Mme. Cadbury, two Japanese of high quality. This variety is being sent out from Thrumpton Hall Gardens.—D. B. C.

Rosa wichuriana at Christmas.—The longer one grows this pretty single Rose the more one appreciates it. Its late flowering, though sometimes complained of when other Roses are in flower, is an advantage at other times. It was unusually late during the past year, but it has more than repaid one for the waiting by prolonging its blooms until after Christmas, though we had some sharp frosts at the beginning of December. Its pretty flowers do not seem altogether happy, nor have they so much of the delicious fragrance they generally possess, but they are welcome aids in maintaining the bridge of flowers which in a well-filled garden of hardy plants spans the gulf between autumn and spring.

—S. ARNOTT, *Carsethorn*, by *Dumfries*, N.B.

Brussels Sprout Cambridge Champion.—Though there is a large number of good strains of this useful winter vegetable bearing different names, this variety is by far the best that has come under my notice. It was raised by that enthusiastic Potato cultivator Mr. J. H. Ridgewell of Cambridge, and he must be congratulated on introducing such a fine novelty. Unfortunately, in nearly all strains only a small percentage of plants appear to come true, or at any rate a large number are often worthless as regards producing good firm Sprouts, but this difficulty to a very large extent (owing probably to very careful selection) has been surmounted, as the large majority of stems are laden with medium-sized perfectly firm Sprouts of splendid colour. The plants are of medium height. I am sending a few stems, being a fair sample of this variety.—E. BECKETT, *Aldenham House Gardens*. [An excellent variety, and all that Mr. Beckett has written of it.—Ed.]

The Linnæan Society—Admission of women.

—In consequence of the presentation of a memorial in favour of the admission of women to the Fellowship of the society the council issued a circular in March last inviting an expression of opinion on the part of the whole body of Fellows. The result has been that 301 Fellows have pronounced in favour of the proposal and 126 against it, whilst 313 Fellows gave no reply. The president and council feel that this expression of opinion is such as to justify further action, accordingly the matter will be considered at a special general meeting summoned for the purpose on the 15th inst. The president and council are advised that the existing charter gives no power to the society to admit women as Fellows. It will therefore be necessary to obtain a supplemental charter for this purpose, and a resolution to this effect will be moved at the special general meeting. It is proposed to take advantage of the opportunity thus offered to obtain modifications of the terms of the existing charter with reference to various other points. These are, however, little more than verbal changes, and will be fully explained at the meeting in question.

Yellow Turnips in winter.—Frequently, owing to several causes, the late winter supply of garden Turnips is not so good as could be wished, as some of the white varieties sown too early are coarse and flavourless, and if sown very late are not reliable. I would put in a plea for the yellow-fleshed varieties for winter supplies. Many object to their colour, but the flavour of such sorts as Sutton's Perfection and Dobbie's Golden Ball will be much liked if they are well grown and cooked carefully. The yellow Turnips are much more grown in the northern parts of the country, and I am not surprised, as the roots are much harder, they keep sound much longer, and the latter is a great gain. I have also noticed that the yellow Turnips are much more reliable in heavy soil than some of the white ones. The varieties I have noted are excellent in that way, and also have a dwarf top, thus requiring but a limited space, and for that reason are well adapted for garden culture. The flesh of Yellow Perfection is a paler yellow than the Globe, the roots are flatter, being admirably adapted for shallow soils or stony land, and the flavour is perfect.—G. W.

Mistletoe on the Sugar Maple.—Notes and articles on Mistletoe are plentiful, but

it is seldom one gets anything more interesting both from a historical and practical standpoint than the article on page 407 (December 13). The subject is a fascinating one, and, though so often treated upon, some new point is generally met in each communication. It is fairly plentiful here in the park and pleasure grounds. The trees it chiefly grows on are the Lime and Thorn, but, so far as an individual tree is concerned, a fine specimen of the Sugar Maple (*Acer saccharinum*) has the heaviest burden. There are half a dozen huge bunches at the top of the tree, and a great number of small pieces are springing out of the lower branches. In many cases these come out underneath the branch, and, as careful examination shows no incision on the top side, the theory of propagation by the simple dropping of the seed is untenable. I can only account for the fact that birds perch on the branches with portions of the berries, and in cleaning their beaks rub the seeds into a crevice in the bark on the lower side. There is a plentiful supply of berries this year, which at present are well retained, a remark, by the way, which does not apply to the Holly. Here also berries were plentiful, but during the recent spell of cold weather the pigeons completely cleared them. Birds larger than the mistle thrush do not seem to care about the berries of the Mistletoe. In a season like the present, however, when there is nothing in the shape of Nuts to satisfy the birds, any and all kinds of berries are hardly likely to remain long on tree or bush. E. BURRELL, *Claremont, Esher*.

Gardening in Morocco.—"I have been somewhat long in writing to tell you something of Morocco; but you understand how unsettled one always feels during the first three months amongst a new people and fresh surroundings, and consequently how distasteful is letter-writing. Moreover, it is as well to let first impressions mature before writing. I have been here three months. When I landed in Rabat in January I found the Court there, and had to wait until it moved up here. It took us ten days to come up. The weather was wet, and in consequence the rivers were flooded and the country was soft and swampy. There are no made roads and very few bridges, so that travelling is not lacking in adventure. The country through which we passed is almost entirely devoid of trees, and even here there are none with the exception of Olive and other fruit trees. Fez is, I think, the most picturesque town I have yet seen. It is situated at the mouth of a deep valley, through which flows the river Fez to join the river Sebou a little below the town. High mountains rise on either side, on the lower slopes of which stand Olive groves and orchards of Figs, Peaches, Plums, &c. The town is surrounded by a high wall, part of which is in ruins. As in all Moorish towns, the streets are narrow and dirty. The decoration of some of the mosques is very fine, particularly the mosaics wrought with little glazed tiles on the floors and walls. The climate is most agreeable. Of course it is rather warm just now (last week we had 99° in the shade), but we experience no violent changes. I am engaged in making a flower garden within the palace walls. The greater part is to be laid out in geometrical designs; the surroundings do not allow of much rustic or natural gardening. I have sixty gardeners and as many labourers as I want. The gardeners are men who have been working in the orchards and vegetable gardens around the town. They are not, however, a very intelligent set. Of course, horticulture and agriculture are carried on in the most primitive fashion. The ground is tilled with simple wooden ploughs drawn by oxen, the corn is cut with sickles which leave a foot of straw standing, and everything else is done in the same imperfect manner. It is interesting, however, and gives one an idea of how things were done in the far past. The Moors do not believe in change, and have preserved all the ways and customs of their ancestors."—T. W. BROWN, in *Ker Guild Journal*.

Flavour in dessert Apples.—Recently in an interview with a representative of a daily paper, Mr. Garcia, the well-known Covent Garden salesman, represented that Ribston

Pippin, "a variety which no other Apple has yet superseded, was dying out." Neither statement seems to be quite in accordance with facts. In the first place, Cox's Orange Pippin has been universally pronounced to be the finest flavoured Apple in cultivation, and has certainly softer and more palatable flesh than Ribston Pippin; and in the second place, so far from Ribston Pippin dying out, it is still largely grown in gardens as bush or espalier trees, and when on the Paradise stock is seldom troubled with canker. There can be no doubt that because of its tendency to canker the Ribston as an orchard tree is dying out. It is probable that the strong market bias which exists in favour of the old Pippin is due to its long and intimate connexion with the market just as King of the Pippins is an old favourite, but neither is so good in either quality of flesh or in flavour as is Cox's Orange Pippin. This variety is not a strong grower, and as a rule does well on the Crab stock, making handsome though not large fruitful standard trees. Probably were an equal sample of both Cox's and Ribston offered in the market the high reputation of the former for flavour would cause the higher price to be paid for it. Whilst we have so many handsome and free cropping dessert Apples we yet have but one Cox's. There have been numerous additions made to our list of this desirable section during the past few years, but not one with perhaps a single exception equal to our best dessert variety. That exception is of course Cox's progeny, Charles Ross. Of that handsome Apple, however, opinions as to its flavour must be reserved until it has been more widely grown. Of less recent introduction no doubt the best flavoured as well as most handsome variety is Allington Pippin, which is an Apple that will be found in a few years' time in almost every garden. Both that and Charles Ross should prove valuable allies to Cox's Orange. I have found even the famous Blenheim Pippin to be very moderately flavoured indeed, after partaking of Cox's. It is a popular, but all the same a somewhat overrated, Apple, as also is King of the Pippins, both good croppers and universally grown, yet quite second-rate. Six varieties that seem to be of the best flavour in their season are Kerry Pippin, James Grieve, Allington Pippin, Cox's Orange Pippin, Cockle Pippin, and Sturmer Pippin. A second half dozen may be Worcester Pearmain, Braddie's Nonpareil, King of the Pippins, Blenheim Pippin, Ribston Pippin, and Rosemary Russet. It is quite possible that these selections will be open to argument, but they may be hard to beat all the same.—A. D.

THE ROCK GARDEN.

THE ROCK GARDEN IN DECEMBER.

UNDOUBTEDLY this is the worst month in the whole year with regard to the rock garden. It is true that here and there Christmas Roses may appear, or that in some sheltered districts some belated flowers have managed to escape the frosts and are still lingering. Among shrubby plants *Erica carnea*, *E. codonodes*, *Laurustinus*, and *Arbutus* may even be opening new blossoms; but the fact remains, it is mid-winter, in spite of the mild weather we have lately experienced, and the principal display of beauty in the rock garden at this time of year must depend on the foliage and berries of an ornamental character rather than on flowers. Many such plants were mentioned in my notes on rock gardening in November, and to these I would like to add

Galax aphylla, which at this time of the year is most attractive on account of its leaves, which have turned a brilliant scarlet and are far more showy than the flowers were a few months ago. It succeeds best in moist peaty soil in a half-shady position.

Shortia galacifolia was also not mentioned in my notes for November. It is now very beautiful,

with its leaves veined and mottled with bright red bronze. Its flowers are delightful in early spring, but just now its leaves are quite as welcome, and make the plant doubly valuable on that account. A moist, shady position and peaty soil are best suited to its requirements.

WORK IN THE ROCK GARDEN IN JANUARY.

As the season has been very wet, additional attention will be required to ensure good drainage. In the case of choice alpine such as *Androsace helvetica*, *Petrocallis pyrenaica*, and others which have to be planted sideways, it cannot be too strongly emphasised that the tiny rosettes of such plants during winter must rest on stones and not on soil, where they would speedily decay. The stones absorb the over-abundant moisture, and thus prevent the plants' perishing. Where such plants are not planted into vertical crevices, but on only slightly sloping or even more or less level ground, it would be very advisable to push a few bits of broken sandstone or other porous material under the leaves and leave them there during the winter. The best protection for delicate alpine plants during winter is, of course, snow; but as there is rarely a supply of this material in this country, Fir branches are perhaps the best substitute, as described in my previous notes for November.

Where there is water in the rock garden, say in the shape of a small pond filled with Water Lilies, Arum Lilies, &c., many people go to the trouble of breaking the ice (if there is any) in hopes of thereby benefiting the water plants. I consider this quite unnecessary, as such plants are in a more or less dormant state at this season. Even Arum Lilies, which here in the West generally get cut down by frost below the water level, are none the worse for this, but make fresh shoots and bring forth fresh flowers the following season as if nothing had happened. Very much coddling and covering of rock plants generally is not to be recommended, as frequently mice or other vermin seek shelter under such covering and probably do more damage to the plants than the frost would have done.

Elmside, Exeter.

F. W. MEYER.

TREES AND SHRUBS.

A NOTE ON YEWS.

I HAVE a strong liking for Yews of all varieties, as they are of such an enduring character that, given a good soil to grow in, one can almost do anything with them. I often think what a grand sight future generations will enjoy on seeing some of the stronger growing golden Yews in the form of big trees. One of the most pleasant garden memories I have was of the golden Yews at Elvaston Castle, near Derby. This was in 1876; doubtless they have grown a lot since then. I often think it a pity golden Yews are not more freely used for hedges in suitable positions. On moist holding soils they grow fairly freely and transplant well, especially if mulched afterwards, though my experience goes to prove that Yews generally dislike manure in any form, especially in actual contact with their roots. A mixture of well-rotted grass and leaves is the best mulching for all conifers. I am led to make these remarks from noticing a small colony of the variety above mentioned in the new nursery of Messrs. Backhouse and Son, near York. It has the deepest shade of gold in its foliage of any of the golden Yews I know. Judging by its general appearance, I should say it is closely related to *Taxus adpressa* or *T. brevifolia*, hence is more adapted for the margins of shrubby borders or planting on rockwork, &c. As will be known to many of your readers, *Taxus adpressa* is a green variety, and by no means a strong grower under the most favourable circumstances. There is a very fine specimen in the grounds here, planted, I learn, about 1840, and yet it is not more than 12 feet in

height now, although its branches extend fully that distance from the stem all round.

Grimston, Tadcaster.

H. J. CLAYTON.

TRANSPLANTING LARGE TREES AND SHRUBS.

(Continued from page 7.)

LAST winter we found it necessary to transplant about forty young Elm trees which came in the line of several new roads at present being formed in Cathays Park, and a few details of how the tree-lifting machine is used, I enclose photographs taken of some trees removed in Cathays Park, may be of interest to your readers.

In the first place, the trees we have removed this winter were planted in Cathays Park twenty-seven years ago, and are now about 35 feet to 40 feet high, and are in all respects what may be described as ideal trees for shifting. It certainly would have greatly added to the chances of success had we been able to prepare the roots for removal by digging around them a year ago, but as it was impossible to do this we had just to make the best of it, and I do not think that even under these circumstances we shall have any losses.

When a tree has been selected for transplanting, the first thing is to dig out a circular trench 3 feet wide and about the same distance from the trunk, thus leaving a mass of earth about 7 feet in diameter. The trench is taken to a depth varying from 3 feet to 4 feet, according to the size of the tree about to be removed, and at a few inches from the bottom a hole is tunnelled through the centre of the root mass and a steel bar placed in with its ends projecting out about 5 inches or 6 inches. Underneath these ends, and at right angles to them, two other steel rails are placed, one at each side of the tree. These two rails are gradually worked underneath, and when they have a sufficient "grip" of it two or three strong Oak planks are placed across them, and also gradually worked under the ball of earth. When this has been done the tree is ready for lifting, and the machine is then placed in position. To do this it is necessary to take off the back wheels and bars and slide the rest of the frame across the trench on planks; the girders are again fixed to the wheels, the back bars bolted on, and the machine is ready for its work. The chains of the four pulleys are then lowered and fastened to the ends of each of the two steel rails which are supporting the central rail and the Oak planks—practically a platform upon which the tree is resting. Two or three men work each pulley, and the tree with a large mass of earth attached to it is gradually lifted on to the machine. It should be mentioned that the ball of soil is never loosened at the base before being lifted, as the leverage of the pulleys is quite sufficient to break it away from the bottom of the trench.

When the tree has been safely lifted and made secure, the next operation is to remove the machine from over the large hole that has thus been made. To accomplish this a pair of wooden balks (supported by a number of ordinary 3-inch deals) are laid across the hole in a direct line with the two wheels, and the machine is gradually levered over these by the aid of pinch bars and removed to firm ground. This may seem rather a slow method of locomotion, but it is certainly a very sure one, for so far we have had no accidents when crossing the hole in this way, although mishaps have taken place when horses have been used for the purpose. When the tree is of any great size, and when it has to be taken a distance, three or four powerful horses are required to drag the machine along. The illustrations show a tree which has just been lifted and taken over the hole, and the method of bridging over the latter is clearly shown in all its details. In replanting the tree the same method of bridging over the hole prepared for the reception of the roots is adopted as that just described, and when the tree is in the position desired the balks and planks are removed, the ball of earth lowered into the ground, and the machine taken from around the tree. The platform is taken from under the tree just in the reverse order to that in which it was

put in, first the central steel bar, then the side rails, and lastly the Oak planks. Good soil mixed with manure is then worked in among the roots and firmly trodden in the trench, and if dry the whole is well watered. This—with the exception of staying the tree with strong wire to prevent its being blown over—completes the whole operation, and if successfully carried out the tree will in the course of a few years look as if it had never been growing in any other situation.

It will be seen by the number of men required to work this machine that it is rather an expensive undertaking to remove trees of any great size, but when we take into consideration the number of years saved by being able to plant such trees the gain is well worth the expense.

To remove trees and shrubs which have only been planted about nine or ten years it is not necessary to have a lifting machine at all, for such plants can easily be removed on a bogie, with a ball of earth sufficiently large to ensure success. During the past few years I have found a small bogie 6 inches by 3 inches quite adequate for removing shrubs with soil weighing from 5 cwt. to 15 cwt. The method of using this vehicle for transplanting purposes is very simple. After digging around the shrub, and rolling and securing a piece of cocoanut matting about the ball of earth left with the roots, it is laid over on its side and the bogie worked underneath it. The ball of earth is then lifted on to the centre of the bogie, secured by ropes, dragged out of the hole, and may be taken any distance without fear of shaking soil off the roots. One of the great advantages of using a carriage of this description is that it can be taken across lawns without doing them the slightest harm provided a few planks are placed under the wheels.

W. W. PETTIGREW,

Superintendent, Parks and Open Spaces, Cardiff.

THE FLOWER GARDEN.

NOTES ON HOLLYHOCKS.

HOLLYHOCKS still maintain their place in the autumn garden. Their great variety of tint and the noble way in which they stand guard behind the lower plants in the herbaceous border give them a distinct charm. Added to this is the great advantage of their long period of flowering and the ease with which seedlings are raised; in fact, they seem to propagate themselves so certainly as almost to become perennials.

The dread disease has been absent from all Hollyhocks in this garden for several years, and I hope it is not going to be so prevalent in other districts as has been the case during recent years. The illustration shows one plant only. There are many such at the back of this border, which is partially shaded by Beech trees and backed by a 5-foot hedge of Privet. The plants are allowed to form several spikes instead of leaving merely one great steeple of bloom as is sometimes done. W. JESPER.

Beechwood, Menston-in-Wharfedale.

No plants surpass this in grandeur or are capable of making a more striking effect in the garden when properly treated. For hiding any ugly background, whether of a wall, an uninteresting shrubbery, or what not, for breaking up the monotony of the ordinary mixed border, for forming the centre or crown of a large permanent bed—and everything must be on a fairly large scale to show off the Hollyhock to perfection—for all these purposes the Hollyhock is without a rival, even the Delphinium not fulfilling quite the same purpose by reason of its beauty being over so early in the summer.

The Hollyhock (*Althea rosea*) originally came from China, but has been known in our gardens for at least 300 years. It was not till somewhere near the middle of the last century that florists, professional and others, really took the flower in hand, as it were, with the idea of improving it, when the originally semi-double flower was brought to its present state of perfection. It attained a great vogue thirty or forty years ago, about which time the Hollyhock fungus (*Puccinia malvacearum*) made its appearance with most deadly results, many of the leading growers losing the whole of their fine collections, and some of the finest varieties being lost to cultivation. This

Of course they have all the stateliness of the double varieties as well as their beautifully varied colours, and though of many flowers we feel that the single sorts are most to be desired from a purely natural point of view, yet it is the more general opinion that Hollyhocks are one of the exceptions, in company with Carnations, Balsams, and Stocks. Double Hollyhocks, too, have an advantage over the single varieties, which is often overlooked, namely, that the more perfectly double the flowers are the less the production of seed, and, consequently, the longer the duration of the flowers. It is possible to get quite 3 feet of a stem of double Hollyhock clothed with blossoms in

perfect condition at one time, but with the single varieties the lower blossoms are fading long before this length of expanded flowers is reached.

RAISING FROM SEED.

In starting to grow Hollyhocks it is better not to be tempted into buying plants of named sorts, as these have always been propagated by cuttings, and they may have the seeds of the disease in them already. A much better, and at the same time a more interesting way, is to buy a packet of the best seed from some firm which has a good collection. If it is a reliable firm the seed will have been saved from the finest double flowers only, and a very fair percentage may be expected to come double, in a very great diversity of colours, including some of the most beautiful shades. In this way the beginner will at least start free from disease. If the seed is sown in pans in a frame in March, and the seedlings pricked out as soon as they are big enough to handle comfortably—and this is very soon—into some very good and deeply dug soil, they will

develop amazingly, and by the autumn will have leaves as big as cheese plates. It is from such plants that exhibition blooms are obtained. When pricking out the plants, if it is intended that they shall bloom the first season where they are pricked out, they should be planted a foot apart each way. This is a good plan, as all that are not of the required standard of excellence can be then pulled up as soon as the first bloom opens, without causing any disfigurement to the garden, while the plants left will be only the very best sorts and in the proper state for flowering the next season; a two year old plant is at its best from the purely decorative point of view for the pro-

duction of strong spikes of large flowers. If when pricking out the plants it is intended to put them in their permanent positions in the autumn they may be placed 6 inches apart each way.

Great care is necessary when moving them, as they send out large roots in all directions, which for some distance possess but little fibre, and the consequence is that, however much care is used, the earth will sometimes completely fall away from the roots: this gives a check to the growth of the plant, and in fact weakens it for the coming season.

In planting Hollyhocks in their permanent positions it should be borne in mind that they are most gross feeders. To have them at their best the ground should be trenched 2 feet deep and plenty of well-rotted manure added, and this should be supplemented by a mulching of manure in dry weather, together with copious waterings of liquid manure. The last two things are desirable, but the first two are absolutely essential if fine spikes of bloom are to be secured. They will not do well in a dry soil, as the blooms on the upper parts of the spikes in such conditions simply dry up without opening, while if the soil is a very wet one the plants will probably all decay in the winter. A soil of medium dampness is the best, deeply dug so as to give an ample root run and retain moisture in dry weather.

The propagation of Hollyhocks is an important part of their culture, as when one gets plants of a very fine strain one wants to perpetuate that strain, and, moreover, they cannot be relied upon to do well more than two years, as they are so subject to rotting off in the winter. For this reason the plan recommended above of allowing seedlings to flower in the nursery the first season is a good one, as if they are removed to their permanent quarters in October there will be less risk of losing any by damping off in the winter than if allowed to bloom a second year in the same place. This applies to the choicer sorts, which it is presumed will be the only ones allowed to bloom a second year. The hardy single ones seen in cottage gardens will stand anything and will last for years. Another recommendation in favour of raising some new plants from seed every year is that old plants are more subject to the disease than young ones. In fact, when the fungus has once made its appearance in a garden it would be as well to let no plants bloom a second year, but to treat them as biennials and raise new plants from seed every spring. Of course an exception can always be made in favour of any exceptionally fine specimens. Some people lose more old plants in the winter than they need do because they cut them down too closely after flowering. When they are cut down so close that a cavity remains in the crown of the plants the rain and snow penetrating the cavity is almost sure to bring about their loss. The old flowering stems should be left a foot or two in length till the spring, when they can be removed altogether. Some growers recommend lifting all the plants it is desired to save at the end of October, and lay them in a trench close together in a warm position under a wall or hedge, where, in very severe weather, a little shelter can be given. The ground where they are to be planted in spring should then be well prepared, so that when the plants are put in it in March or April they will flower as well as if they had not been moved.

The method of propagating Hollyhocks is of a somewhat unusual character. A large flower-spike has usually some small side shoots which produce few or no flowers.



SINGLE HOLLYHOCKS AT BEECHWOOD, MENSTON-IN-WHARFEDALE.

disease will be dealt with later. Meanwhile it may be stated that the fungus is much less common now, with the result that the Hollyhock is increasing in popularity and new varieties are again being raised. With due care and the adoption of the methods of cultivation about to be described, the fungus need not have much terror for us, unless it happens that the situation or the soil is particularly favourable to it or we have a succession of seasons that favour its spread. Some recommend growing the single varieties, as they are so much less subject to the disease and do not require the care that is necessary for full success with the best double ones.

Those bearing no flowers may be taken off about the time the plants are coming into bloom and cut up into single joints, a clean cut being made through the stalk just under a leaf, the leaf being left entire. These cuttings should be dibbled in thickly in a frame, in a soil composed of gritty sand, loam, and leaf-mould in equal proportions, sprinkled occasionally with water which has been warmed in the sunshine and kept shaded from the hot sun. The leaf and the piece of ripened stem serve to nourish and develop a bud in the axil of the leaf, while roots will soon form on the large majority of the cuttings if they have been carefully put in. When they become well rooted they should be taken up and put in 3-inch pots and kept in a frame through the winter and planted out in the spring in properly prepared soil where they are to flower. Young plants reared in this way and at this season, which is generally July, make fine plants and give excellent flower-spikes the year following.

Another method of propagation is that of utilising the stems of the old plants after flowering. These may be cut down, beginning at the lower end of the length of stem removed from the old plant; joints may be cut off as described above, all the way up the stem as long as the wood is well ripened, and each joint having a bud will form a plant, the treatment being the same as for the cuttings taken on the other system. Of course these plants are late, and will not make such good flowering ones as are obtained by what may be called the early summer method, and the only advantage of it is that the supply of cuttings which can be obtained in this way is almost unlimited.

Yet another method of propagation is in the early spring. The old plants or stools will have a number of young shoots springing from them at this season, more than should be left to grow into flowering spikes, as no plant should be allowed to have more than four at the outside if fine blooms are wanted. Some of these shoots can be taken off and rooted in heat, when they will form good flowering plants the same season, though they will probably not flower till the old plants have finished, thus making a succession. The Hollyhock season may be much extended by rooting cuttings and transplanting at different times of the year, so that they may be had in bloom from July to October.

The staking of Hollyhocks is absolutely necessary, or a storm of wind and rain will send them all out of the perpendicular and lay many on the ground, after which they will never look so well again. It needs doing with judgment, so that the foliage of the stems hides the stakes as far as possible, and it should not be deferred till the plants are high, as nothing is thus gained, while loss may be the result. Stout stakes 4 feet to 5 feet high are necessary, and while robust stems should have two stakes put to them, or, if the plant has two very strong stems, three stakes should be put to the two, as the weight of the flower-spike is proportionately heavy, and when this is laden with wet and has to withstand a wind as well, a great deal of support is necessary to keep the stem in an upright position. A well-developed blossom, a great rosette, will hold water like a sponge.

As regards the Hollyhock fungus, not very much can be done. When a plant is obviously attacked by it the best way is to destroy it utterly to prevent the contamination spreading to the others, while any plants which show any signs of being attacked should, as a preventive, or possibly as a "stitch in time," be washed

with flowers of sulphur dissolved in soapy water, or rather mixed in soapy water, as the sulphur does not dissolve but has to be kept constantly stirred. This may destroy the fungus in its very early stages, but there is no hope for a plant when the fungus gets well established upon it. Red spider is sometimes a troublesome pest with Hollyhocks when hot dry weather sets in. It attacks the undersides of the leaves, and these should be syringed with a solution of soft soap to which some tobacco liquid has been added.

ALGER PETTS.

WALL GARDENING.

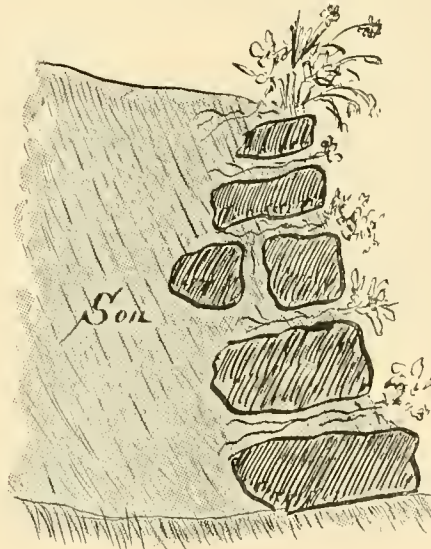
WALL GARDEN MAKING.

III.—DETAILS OF CONSTRUCTION.

IN the previous chapter on "Wall Garden Making" (see THE GARDEN of November 15, page 344) I have in a general way described various walls, without, however, going into details regarding construction. It may be considered a very simple thing to make a wall garden, but as its success must in every case depend on the care exercised during construction, it may be helpful to mention at least the most important practical points.

CONSTRUCTION OF DRY WALLS.

Dry walls (*i.e.*, walls which have their joints filled with soil instead of cement or mortar) are the most important for wall gardening. What pretty effects can be obtained by such structures was illustrated by the picture on page 267 in THE GARDEN of October 18, showing a fringe of beautiful Carnations on the top of the wall. I would now show by means of the accompanying rough sketches how such a wall is made. Sketch No. 1 shows a transverse section of just such a wall as the one above referred to. Roughly speaking, the largest stones are used at the bottom, and



NO. 1.

must rest on a firm foundation. Sometimes it may be advisable to let these bottom stones be partly buried in the ground to guard against the possible danger of a slip. All stones used in the construction of a dry wall are tilted backwards for the double purpose of giving greater strength to the structure, and of

allowing the rain water to soak down to the roots of the plants in the wall.

After the bottom layer of stones has been placed in such a way that these all lay firmly on their flattest surface, soil is put behind them and firmly rammed with a small stick or rammer. If any of the stones do not lay quite firmly, or do not tilt backwards sufficiently, this is remedied by small wedge-shaped ones being driven in firmly with a hammer until it is impossible to shake them without using great force. The bottom layer thus finished, it should be completely covered with good soil to a thickness of 2 inches or 3 inches. This soil is made to answer the purpose of mortar in ordinary walling, and

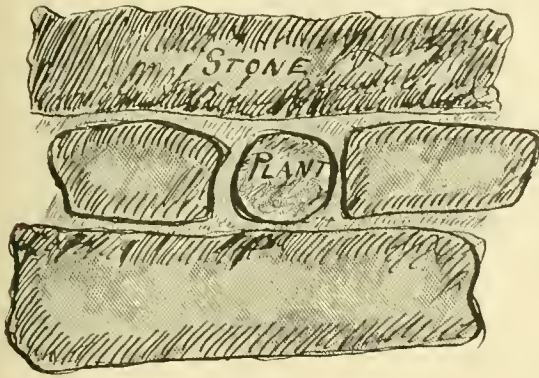


NO. 2.

into it the second layer of stones is deposited. The latter should not project out as far as the bottom layer, but should be set back in such a way as to leave a narrow ledge, which will be greatly to the benefit of the plants. Again soil is filled in and rammed behind the second layer of stones, and is also spread on the top of the same. In this way layer after layer is built up, not necessarily in straight lines, but varied according to the stones at disposal, or according to the plants to be used. In all dry walls stability is of the utmost importance. No matter how firmly the soil was rammed behind and between the stones, directly it has become well soaked with rain it will settle still more, and the stones must be so placed that this settling down does not affect their stability.

Whether the stones are of regular or irregular shape matters but little. Of greater importance is the necessity of varying the joints so that upright ones do not occur one directly above another, but are bridged over and "tied together" by the succeeding layer. Sometimes, too, particularly long stones are put, not lengthways, but crossways, so that when they have been weighted with soil they form a substantial tie between the outer surface of the wall and the bank of soil.

If the retaining wall was built at the bottom of a sloping piece of ground there would sometimes be a danger of an excessive quantity of water accumulating behind the stones before they had quite settled down. In such a case it not infrequently happens that the water-soaked soil behind the stones forces the whole wall outward and the structure tumbles down. To prevent such a calamity it would be well, where this danger exists, to insert



NO. 4.

into the wall a few drain pipes at intervals, say, a couple of yards apart. This would effectually prevent the accumulation of anything like a large quantity of water behind the stones.

Illustration No. 1 gives an idea of the arrangement of an ordinary retaining wall. It shows in sections how the stones tip back and how each layer of stones is set back a little further than the preceding one to allow for the better development of the plants. The sketch also shows (though, for the sake of clearness, in a somewhat exaggerated form) the soil between and behind the stones.

Illustration No. 2 hardly needs explanation. The sketch represents a dry wall with two faces for planting. The spaces behind and between the stones are filled with soil in precisely the same manner as explained by sketch No. 1, the only difference in construction being that both sides of the wall must be built up simultaneously. The higher the wall the broader, of course, must be its base. Walls like the one sketched in section No. 2 may be made very ornamental indeed, as they offer the additional advantage of different aspects, and consequently a greater variety of plants.

While on the subject of the actual construction of dry walls, I would again suggest that there should be no elaborate attempt at irregularity in building the walls. Let the wall be built without any pretensions, plain and simple, and not have the appearance of very inferior rockwork. A wall is the work of man; rockwork should look like the work of Nature, and therefore the wider the difference between the two the better.

PLANTING OPERATIONS DURING THE BUILDING OF A DRY WALL.

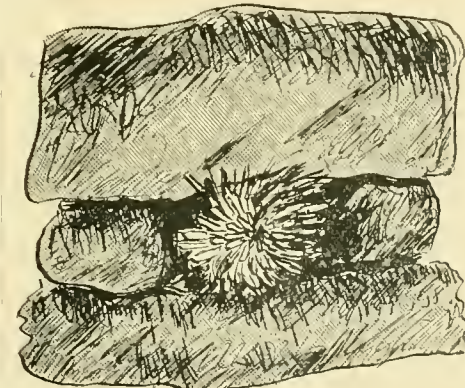
To the planting of dry walls I hope to devote a separate chapter or two, but while on the subject of actual wall building I should like to point out the enormous advantages gained by planting such a dry wall, not after it has been completed, but while building is in progress. This might, of course, not always be practical, especially if the idea of making a wall garden was an afterthought, and had its origin in the desire to turn an already existing wall to good account. But in the case of new work, where the wall is specially built for wall gardening, there would be no excuse for letting such an excellent opportunity for most effective planting pass by unheeded. I do not think I am exaggerating when I maintain that planting operations while the wall is being built are ten times easier, and more effective and satisfactory in every way, than planting a wall already finished. The reason is obvious. After a layer of soil has been spread on the top of the bottom layer of wall stones, quite a number

of plants may be spread out over this soil. After the roots are properly spread and extended they are slightly covered with a little more soil. This is gently depressed. A few tiny bits of stone are placed right and left of the roots (to prevent their being crushed by weight), the next layer of stones is placed in position and the planting is finished. If carried out during autumn it will in most cases be unnecessary to do any watering, as the late autumn and winter rains are almost sure to supply all that is needed in this direction. It must be admitted that nothing could be simpler than this method of planting. Besides being most easy to accomplish, it has the enormous advantage over planting after completion of the walls, that from the start the roots of the plants are introduced into the medium specially prepared for them, and it would be difficult, indeed almost impossible, to get them into a similar position after the wall is finished. In some cases the pressure of the stones above will reduce the space filled with soil and plants to a very narrow crevice, but this does not matter, since it is the very state of things that many mountain plants would revel in—for instance, Androsace, Aubrietia, Arabis, &c.

If plants in pots are used for planting, and there is some danger that if planted in the manner above described their roots would be unduly crushed, we have another way of ensuring their comfort, which I have tried to explain by the sketches 3, 4, and 5. Sketch No. 3 is supposed to represent an alpine plant (say, *Saxifraga longifolia*) with its pot removed and the roots

loosened ready for planting. In sketch No. 4 this same plant is represented as a circle in the centre of the diagram. This diagram, or, rather, longitudinal section, shows how by means of small stones placed on each side of the plant the pressure of the large stone above is made quite harmless. Sketch No. 5 shows the same plant as it would appear when seen on the surface of the wall. Now, it will be seen at a glance that the soil around such a plant can at no time be filled in and rammed so easily and so effectively as during the building of the wall.

Suggestions for the arranging and grouping of plants will follow in a later essay.



NO. 5.

THE WALL GARDEN IN WINTER.

WALL GARDENS, like rock gardens, have but little to make them attractive during the dullest months of the year beside plants which have handsome foliage or berries. These were mentioned in my notes on wall gardening in November, and need therefore not be repeated here, especially as there is practically nothing to add. Work in the wall garden at this season is very light. Plants or portions of plants showing signs of decay should be removed and the places they occupied might be raked out with a piece of wood or a chisel, but it would not be advisable to refill such crevices now while there is a constant danger from frost forcing the soil out and disturbing things generally.

The action of the frost might, however, be a help in the case of masonry walls which are to be adorned later on with plants between the joints of the stones. The frost has a tendency to crumble the mortar, especially in the case of work done only recently, and this would make it all the easier to rake the mortar out of such joints in the wall as would be sown or planted later in the season.

Elmside, Exeter.

F. W. MEYER.

THE INDOOR GARDEN.

STOVE PLANTS.

ALTHOUGH hot-house plants will never be so popular as are hardy plants, herbaceous perennials particularly, they will probably never be altogether neglected either, for they are so indispensable in many ways, even to those who have no real liking for them, while to the enthusiast they strongly appeal by reason of their brilliantly coloured flowers and foliage, fleeting in some cases though the former may be, their interesting variety of form and habit of growth, and even the difficulties of culture that some of them present. For the decoration of the dinner table and the adornment of the dwelling-house, many of them, especially those with highly-coloured and beautifully marked foliage, are invaluable.

It should not be difficult for anyone having the necessary hot-house at disposal to work up an enthusiasm for these plants, for some are unequalled for delicacy of form and markings and refined colouring. What, for instance, is more handsome than the velvety leaves of *Anthurium crystallinum*, many of the *Alocasias*, some of the *Dracaenas*, the foliage of the *Fittonias*, *Caladiums*, or more richly coloured than that of the *Crotons*. Again, what is brighter than the bracts of the *Poinsettia*, so valuable during the dark days of early winter; and the brilliant *Bignonias*, *Dipladenias*, gorgeous *Allamandas*, *Eranthemums*, *Bougainvilleas*, and a host of others that could be mentioned. I am afraid there is not the same interest evinced in the culture of stove plants as was the case some years ago. The best prizes at the leading exhibitions are always divided between a very few and invariably the same competitors. They are rarely commented upon in the gardening papers as compared with the amount of space taken up by notes upon other plants, and the literature of stove plants is sadly out of date. Some of our nurserymen who still extensively cultivate stove plants do good work by endeavouring to keep them to the front by exhibiting groups of them at the leading London and provincial shows.

There is but little doubt, I think, that stove foliage and flowering plants will in due time again become popular. They are creating a deal of interest among horticulturists, and I think those concerned with their culture should do all they can to stimulate a more general liking for them. Many of our most beautiful Ferns come under the category of stove plants, and they are certainly attracting attention now, so that it is to be hoped with their revival a fuller appreciation of stove plants in general will follow. Needless to say the house devoted to the culture of stove plants must be efficiently heated. The chief need of this is during winter, when it is necessary to prevent the

temperature falling below a certain point. In summer it is not difficult to maintain the proper heat in a stove house; little firing is required. In fact in a moderate winter hard firing is not necessary, because, of course, the temperature of the stove is then proportionately lower than was the case in summer, the plants are partially resting, and therefore must be kept as quiet as possible.

During the summer months the night temperature should be kept as nearly as possible at 73°, never below 70° or above 75°. In winter it need not be more than 63°, that is, in moderately cold weather, but even when the thermometer outside falls very low one should always endeavour to keep the temperature of the stove at not less than 60°. As the warmer weather of spring and early summer approaches the temperature should be gradually increased from 63° until the maximum of 73° is reached. In the same way, when autumn approaches, the temperature, from 73°, should gradually decline, until in midwinter it has reached the minimum of 63°. In genial weather, such as that of late spring or early summer, the thermometer may be allowed to reach 85° before air is admitted, and more air must be given as the sun gains power. In the height of summer the temperature of the stove will often become very high, reaching 100° or more, but with plenty of moisture in the atmosphere and proper ventilation no harm will result. A. P. H.

AN ARTIST'S NOTE-BOOK.

TAGETES PATULA NANA.

MANY are the varieties of the French Marigold, some of the best being aurea (orange-yellow), aurea nana, pulchra nana, ranunculoides (brown), nana (which is illustrated), pygmæa, and the still stronger form pygmæa lutea, which, as the name suggests, has yellow flowers. No other annuals are brighter in town gardens late in the year than the Orange and French Marigolds. Out of the many varieties, *T. patula nana* is one of the brightest. It is a very simple matter to raise seedlings in gentle warmth early in the year.

NOTES ON HARDY PLANTS

THE DIERAMAS.

ONE is pleased to see Mr. Mallett's appreciative and useful notice of the Dieramas in *THE GARDEN* of December 27 (page 440). It will draw attention to comparatively little-known but very attractive plants. While a number of botanists only recognise one species—*pulcherrimum*—as Mr. Mallett says, there are some of high authority who consider that *D. pendulum* is distinct, and when one finds Mr. J. G. Baker's authority thrown into the scale in favour of maintaining the species *pulcherrimum* and *pendulum* there is certainly good cause for others being a little inclined to support that view. Yet one's knowledge of the two in gardens makes one doubtful if it will be possible to retain the specific distinction. If there is to be only one, then *pendulum* must have the priority I believe.

From what I have seen of these Dieramas I am doubtful of the desirability of multiplying varietal names. Not only do imported corms differ considerably in the character of the flowers they give and in their general habit, but seedlings raised from home-grown plants vary widely in many respects. The most remarkable instance of this I have yet met with was in the lovely garden of

Messrs. Walpole at Mount Usher, County Wicklow, where there are many plants of Dierama raised from seed and largely self sown. From among these it would have been possible to select a number of forms as deserving of names as *atropurpureum*, and noticeable from the variety of shades, of size and form of flowers; they also differed greatly in their more or less pendulous habit. Regarding cultivation, I fear I cannot quite agree with what Mr. Mallett says, as from my experience in growing the Dieramas and from what I have seen of them in one part and another I believe that they are better when among stones or, at least, with fair-sized stones above their corms. Some years ago I discussed these plants with Mr. T. Smith, of Newry, who was of this opinion also, and at Mount Usher the greater number of the Dieramas were



THE DWARF FRENCH MARIGOLD (*TAGETES PATULA NANA*).
(From a drawing by H. G. Moon.)

in the Japanese garden, where they grew well among the stones. The best, however, were by the margin of a little rockwork pool, where they were even more vigorous than in a drier position.

This is quite opposed to one's preconceived ideas as to the proper place for cultivating the Dieramas, as the Vartry Glen, where Mount Usher lies, is not a dry place; but it is in accordance with my own experience, which is that the Dieramas appreciate rather more moisture than growers are in the habit of giving them. The tunics of the corms can certainly resist a good deal of drought, but that they like it is entirely a different matter. They will also stand a fair amount of frost. S. ARNOTT.

HELLEBORUS FETIDUS AND CAPER-SPURGE.

THE following interesting reference to these plants occurs in the paper on "Weeds," by "E. V. B." (the Hon. Mrs. Boyle), published in the *Journal of the Royal Horticultural Society*:—

"Another favourite is a handsome weed that stays with us in beauty from about the first week of December until put an end to by the hot suns of summer. Gardening and botanical authorities have named it for me *Helleborus fœtidus*. Yet except for a kind of pungent odour in the leaf when crushed, I can discover nothing to warrant the unpleasant name. Had I had the luck to be its godmother it should have been named something that meant green-flowered, or charming, or 'the plant with sad-coloured leaf.' As usual, it is next to impossible clearly to make it out in the gardening books, at least in those I have been able

to consult. Mostly these descriptions seem to read as though the authors had never beheld the plants they describe; and when there are illustrations the case is worse; they seem to be coloured to look pretty and—ex-

cept when photographed—are unnaturally twisted about so as to fit the page.

"*Helleborus fœtidus*, if thus it must be, seems to have been with us always, more or less. At least I cannot remember when it was not there. It grows only in one special bit of the garden, within the shady angle of an old brick wall. I do not know of the narrow boundary being ever overstepped in the course of these many years past, save once only when one individual seedling contrived to transfer itself from the shady to the sunny side of the old wall. Here it rejoices in the hot sun, with equal zest as formerly in the cool shade. Hellebore seems to be not particular about either aspect or soil, thriving, as it does with us, both in deep garden mould and in gravel. Last December the abundant blossoms of our Hellebore weed were conspicuously attractive, and thus they remained unchanged until the first days of April. Even then the light green panicle cymes, in such good contrast with the dark foliage, retain their beauty, while the flower quietly seeds itself away. Long before the Hellebore has failed, *Euphorbia* (*E. Lathyrus*, or *Caper Spurge*) begins to dot the borders here and there with the columnar grace of his tall stem. *Euphorbia* never comes in such numbers as to require much clearing away. It may not be a feeling of

admission that rivets attention to this curious weed; it is more perhaps the strange symmetry of the set of its leaves. An equal measure of parts is no unusual characteristic among plants, yet *Euphorbia* displays this exact symmetry in rather an uncommon degree. The leaves are said to point north, south, east, and west; and I believe it to be true—at least it is thus with the *Euphorbias* in my garden. They may make a mistake sometimes, but as a rule they know the points of the compass.

"What mysterious magnetism is it that moves these strange leaves? What secret stirring of the slow white sap?

"A fine plant of *Euphorbia* rises against one of our walls, and has attained already (May 13) a

height of 3½ feet, with an exceedingly massive stem. Downwards from the budding summit, where are seven buds instead of the usual four, the colour of the stem is all pure lilac bloom fading palely into green. The leaves—blunted at the end, and each one's centre broadly veined in dull white—show a kind of careless vigour. This great Euphorbia king seems scarcely to know what to do with his own immense vitality; and before long the firm smooth pillar will be spoilt by the branching out—Brussels Sprout-wise—of little sprigs all the way down. The bud bears in some degree the semblance of a serpent's head, and so the plant has been called 'Medusa' or 'Medusa's Head.' And also it is said that a dead plant will come to life again and bloom if placed in warm water. I have not tested the truth of this."

DAHLIA IMPERIALIS AND PRITCHARDIA FILIFERA.

It is much to be regretted that the magnificent Tree Dahlia, or *Dahlia imperialis*, flowers so late in the year that the daylight in England is not sufficient for its perfect development. Were it otherwise, no garden of any importance would be without it may be safely asserted, and I think the photograph here reproduced from one taken last November in the stately grounds of Mrs. Evans' fine Italian villa at Nice bears out this statement.

In combination with fine marble steps and

STILLROOMS AND GARDENS.

"Of Herbs and other country messes
Which the neat-handed Phillis dresses."

In these days of hurry and bustle the art of making simples and medicaments is almost forgotten. We buy our pot-pourri and our Lavender by weight, while Elderberry wine and jams made of Hips and Haws are nearly unknown.

I cannot remember the stillrooms of a bygone age, but I have vivid memories of an ideal storeroom in an old Kentish manor house, which was as much of a storing place for treasures of the garden as a repository for kitchen necessaries. This storeroom was a spacious one, and the pride of its owner; deep bay windows overlooked a bowling-green flanked by Cedar trees and a big Mulberry, propped up with stone slabs, for it had stood the winter storms of many centuries, since the days when Queen Elizabeth and Lord Leicester are said to have rested beneath. On the broad window-sills of the storeroom stood big beanpots full of Wallflowers from the terrace borders, or Bachelor's Buttons from the riverside. The windows were latticed with Wistaria that in early summer thrust impertinent purple blossoms into the room, and whose fragrance mingled with the faint sweet smell of herbs and spices within. Wide shelves ran round the room ranged with tall brown jars containing Raisins, Currants, Sugar, dried sticks of Cinnamon, and green Angelica. These were the delight of childish visitors to the storeroom, and baby fingers committed daring robberies.

I have a keen recollection of one corner of the room devoted to jams made of fruit from the kitchen garden; every sort was there, green Gooseberry, Kentish Cherry, Quince, and Crab Apple from the gnarled and bent old trees where the Mistletoe grew at the corner by the potting-shed.

Sometimes for a treat we were allowed to choose a pot for nursery tea, and found it hard to decide between the rival charms of Strawberry and Green-gage, or a "super" of golden Honey made by the bees, whose

doings in their row of hives caused us such interest. One morning bright eyes were seen peeping from an old egg box filled with shavings, and a nest of baby mice was found cosily ensconced, born in the midst of plenty.

I can smell now across the gulf of years the Lavender, Sage, and Thyme, picked from the herb garden and hanging in bundles from the wainscotted wall. A storeroom such as this was a constant source of interest to childish minds, lucky children who are brought up in the country, with country pleasures, and the joys of an "own garden." In early autumn Acorns were carefully collected and put into slender glasses, while ardent hopes were cherished of planting tiny trees in our little gardens, where they should some day grow into giant Oaks.

ADONIS AMURENSIS.

Now that we have entered upon the New Year those with whom early flowers are particular favourites will be looking forward to enjoying their treasures. The very fact that these flowers have few competitors in the garden when they bloom makes us appreciate their blossoms all the more. The Adonises are always welcome, and a bed of *A. vernalis*, the commonest of all, is a fine sight in its time, though hardly ever met with in any quantity except in a few hardy plant nurseries. Many of the devotees of hardy flowers prefer *A. pyrenaica*, but it comes at a time when we have a greater abundance of flowers to choose from, and is thus not in a way so valuable perhaps, beautiful as it undoubtedly is.

One of the most recently introduced of the family is *A. amurensis*, from the Amoor River district, and one which is said to have been a long time in cultivation in Far Eastern gardens. As we know it here it has pretty yellow flowers, but we are led to believe that there are also flowers with colours of various shades, passing, indeed, into scarlet. The curious thing is that these appear not yet to have been introduced into this country, while the yellow one has been here for a few years. As compared with *A. vernalis*, *A. amurensis* owes its attractions mainly to its earliness, for it will flower with us in February or March—a time when we are not overburdened with such things of beauty as this. It is slightly dwarfer in habit, and is, taking it as a whole, fairly distinct in its appearance.

The members of the genus *Adonis* are not among the flowers which require much coddling, and we can hardly expect a plant from the Amoor to be too fastidious in our gardens, though it may sometimes object to the wet winters we often experience. I find that the chief obstacles to its welfare are the slugs, which delight in cropping it, just as they do with its congeners. As an unailing preventive there is nothing to equal a zinc ring, notched at the top so as to give Mr. Slug a most uncomfortable time should he endeavour to scale the hateful barrier. The best position for *A. amurensis* is a south exposure at the base of a rocky or near the front of a border of good soil. A sandy loam is about the best for it, and, like many other plants, it likes an occasional top-dressing with soil. The *Adonis* family is an excellent one to grow in the cold house, as in this the flowers are protected from weather trials, and they can be studied with greater comfort than outdoors.

S. ARNOTT.



DAHLIA IMPERIALIS AND PRITCHARDIA FILIFERA IN A RIVIERA GARDEN.

balustrades, the bold trunk and broad fans of *Pritchardia filifera* make an ideal frame for the Lily-like beauty of the *Dahlia*, and produce an effect that can hardly be surpassed even in the tropics. To those who are obliged for health's sake to absent themselves from England, such beauties are indeed a solace and delight; and to the energetic tourist of modern days an excuse for a run into sunny lands in the months of November and December.

Pritchardia filifera withstands up to 10° of frost without flinching, so it would be worth planting in the south-west of England, where occasional protection could be given, but in a young state it hardly gives any idea of its real beauty when fully grown; hence its absence from English gardens.

E. H. WOODALL.

Alas! the Acorns nearly always came to grief, and often the mice ate them. Another joy was the keeping of bulbs in coloured glasses covered with charcoal and placing them in a darker corner of the storeroom, while we impatiently waited through the winter months until the shabby-looking bulbs put forth springing shoots of green. At last, one happy spring day, the green pyramids burst out into blossom, deep blue as a summer sky, pearly white, or glowing crimson.

How well I remember in hot July weather trays of Rose leaves drying on the window-sills to make pot-pourri. We used to help collect the Roses for it, and occasional sprays of White Star Jasmine and Verbena. The pot-pourri was eventually put into big oriental bowls, or blue china jars, and the Rose leaves smell as sweet as ever to-day, though it is not ten years but twenty since they were gathered.

In the still October weather, when the days of summer joys in the garden were numbered and leaves had turned a golden-brown, came the business of picking the Quinces and Medlars that grew on low hanging branches, within the reach of children mounted on a short ladder. The yellowy brown Quinces were carried triumphantly indoors, there to be converted into moulds of jelly and stored away on the storeroom shelves, while the Medlars slowly ripened, or rather rotted in straw on the ground. There was yet another autumn treat, which was to watch the beating of the Walnut trees, and to eagerly dive among the thickly fallen leaves for the Walnuts, some still encased in their juicy green husks, and some almost ripe in the polished brown shells.

I cannot end these memories of the dear old storeroom, which was so closely connected with a garden we less beloved, without mention of a Nutmeg tree, an unusual occupant of an English garden. No one knew how it came to be there, and the Nutmegs never ripened properly, but the tree was pretty enough, with its blood-red leaves and tiny scarlet nuts, Filbert-shaped, that smelt so strongly of spice that they almost drowned the scent of the other plants in the flower-bed. DOROTHY DEAN.

CORRESPONDENCE.

(The Editor is not responsible for the opinions expressed by correspondents.)

STILL (?) OCTOBER.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—How pleasant it would be if we could borrow each other's eyes for a time; we should see new worlds—occasionally much better ones. Was it not Turner who answered a lady, who complained that she could never see a landscape as he painted it, "No, madam; don't you wish you could?"

Thus the phases of the varied year appeal to all of us in different ways. October's tempests are by some of us less heeded than its subtler beauties. My critic "S. W. F." has, perhaps, quoted me from memory, for his inverted commas enclose a sentence I did not write—"The charm of the tenth month is its stillness." I did not claim that. It would be exaggeration. After referring to the storms that sometimes rend October I continue a little further on: "But the rarer and more excellent charm of the tenth month is its stillness." This is what I said and what I think.



THE HOME OF ALPINE IRIS (I. VIRESCENS), VALAIS, SWITZERLAND.

As a Nature lover (which my critic is) he will, I am sure, admit the wonderful quietude that does at times pervade that changeful, flower-fading, leaf-painting month which provoked his "wry smile" as he contemplated the wreckage in his October garden.

Even here in breezy Norfolk, with salt winds blowing straight from the North Sea, the lovely stillness that belongs to late autumn and early winter has been a boon the year has not withheld. Some weeks ago, at a spot where four roads meet and the winds are generally rough, was witnessed a scene of deepest—almost of spiritual—calm. A farmstead in a group of trees, with sunset fires behind them, the whole scene mirrored in a pool between it and the road; not a breath upon the surface of the water, the reflection far more life-like than the reality. Even the smoke of the "keeping-room" chimney, as it puffed vigorously downwards, looked less like dreamland than its counterpart above. It was the one and only thing that was not motionless, and it seemed a wonder that it should not cause a ripple. Many times we had passed this way in summer, but never to see such utter peace and stillness as in this later month which heralds winter.

It is such scenes as this—who has not met with them?—that do most powerfully impress and colour our associations; they are, to our minds, among the best and most precious gifts of the shortened days, when "moths go, mists come, and frosts remain." F. A. B.

ROSE SHOWS OF THE FUTURE.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I was very glad to notice in your report of the meeting of the National Rose Society that mention was made of the necessity for making the Temple show more attractive to the public than it is at present. It seems to me to be quite time the committee made an alteration in the staging of the exhibits. At the Temple show last year the only crowded tent was that where the trade exhibits and garden Roses were shown. The big tent, with its rows of "little graves," looked most desolate, and after four o'clock all interest in the exhibition seemed to me to have departed. The committee will, I hope, seriously take that fact to heart, and

give over the centre of the tents, not occupied with exhibits of garden varieties, to the trade for "display exhibits," say, for a medal, and have the show boxes arranged around the sides of the tents only. The trade growers would only be glad of a chance of putting up an exhibit of Roses, both growing and cut. At the Royal Horticultural Society's show, where the Roses are one of the chief attractions, the public see them growing and flowering, and if they can be exhibited in pots from under glass in May, why not from out of doors in July? How much Dorothy Perkins was admired when exhibited as a pot plant. The public get tired of seeing the same Roses in boxes time after time. They like variety as well as quality. Roses like Mme. Eugène Régal, Enchantress, Mme. Abel Chatenay, Camille de Rohan, and other beautiful varieties are never seen, yet they are admired at the Royal Horticultural Society's exhibition. People like to see baskets of Roses of medium size, those they can recognise by their own specimens growing at home, whether show varieties or not, as well as the beautiful "Paony flower" exhibition ones. It is to the public the society has to look to for its future. It must reciprocate. C. J. P.

AUTUMN RASPBERRIES.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—It may interest you to hear that our autumn Raspberry crop, noted in a late issue of THE GARDEN, continued to ripen up to November 29, and in that month the yield was 1 lb. of fruit to each 9 feet, run of row. This was, of course, in addition to the crop in October, which was heavier, and to those gathered during the latter part of September.

Shipley Hall Gardens.

J. C. TALLACK.

NEW HYBRID ALPINE IRIS.

I SEND you photographs of my new early flowering Hybrid Irises. One variety, Bouquet, is pure white with slight grey tinge on the falls. This photograph was taken in February last from plants potted up in late autumn and placed in a greenhouse, where they made a gay

show, that was in advance of Daffodils and the majority of spring flowers under glass. The blooms last fully a week in perfection at this early period of the year, and where a few varieties are grown a succession of flowers is readily kept up for fully two months. They are quite easily grown and multiply quickly, so that a sufficient number of them for pulling up each season may soon be obtained. Plants which bloomed indoors in January and February were planted out in the open again in March and April, and by September new rhizomes had grown up to a flowering size. These can be picked out, as they always show a tuft or two of side leaves as well as the main central one. When this only is seen the plant should remain for another season's growth. They are not particular as to soil, but prefer a strong loamy one perhaps, fairly well drained, and for situation as much free air and sunshine as possible.

Photographs were obtained of single rhizomes which have five, and one or two of them six flower stems, each of which gave two flowers, so that the number of blooms actually produced by a comparatively small number of rhizomes was considerable, and when the great range and variety of colour—from purest of whites through light greys, blues, purples, clarets to red, rich yellow, bronze, pale and lemon yellow up to cream and ivory tints—is considered it must be admitted that the show they make is delightful. As with their shades so with their shapes, for the Iris flower has to be studied with the same discrimination and the same appreciation of the nice points of distinction that are given to the Rose so readily.

Finally the hardiness of these little mountain plants is a great point in their favour. No frost seems to hurt them, they will take to places where few other plants would thrive, say, in thin soil on windy borders, provided they have a fair amount of sunshine and no overshadowing from plants, trees, or weeds; then from year to year as spring comes they increase and bring out their wealth of colour.

Rohais, Guernsey.

W. I. CAPARNE.

THE FRUIT GARDEN.

STRAWBERRY CULTURE FOR MARKET.

EARLY Strawberries will almost always command a fair price, and when grown successfully prove a profitable crop. They are often grown on shelves in houses with other subjects. I have seen some good crops grown on shelves in vinerias, also in Tomato houses, but they require careful treatment, and when houses can be devoted entirely to their culture the ventilation and temperature can be much better regulated. The houses may be of any size, but should be well heated and have good ventilating arrangements. The stages should be as near the glass as convenience will allow.

It is of the first importance to have strong well matured plants to start with and to select good varieties. At the present time Royal Sovereign is a general favourite with market growers, but for very early work the old Keen's Seedling is sometimes grown. Vicomtesse Héricart de Thury is also a good early variety. Sir Joseph Paxton and President may also be recommended. The earliest runners possible should be secured. They may be rooted in 3-inch pots before taking them off the parent plants, or taken up after they have rooted in the ground. As soon as sufficiently established in the small pots they should be potted into their fruiting pots; these may be 6-inch or

7-inch ones. The compost should be prepared some time before it is required for use, good loam or stable manure, and before adding to the loam some soot should be well mixed with the manure; this will destroy worms or other insects. Some crushed bones or Thomson's manure may also be added.

If the soil is in good condition it will be impossible to pot the plants too firmly. The crown of the plants should be kept well down, but not buried. After potting they may be placed out in the open fully exposed to the sun. Some arrangement should be made to prevent worms penetrating the pots. Where the ground has been well prepared and has a good covering of ashes worms will not be troublesome. Regular attention to watering, and later on applications of liquid manure and soot, may be used freely for a time, but after they have completed their growth this should be withheld and water given sparingly; by keeping them dry they ripen off and mature their crowns better, and before we get heavy rains in the autumn the pots may be laid on their side. Store in cold pits before winter.

When starting them give a temperature of about 50° Fahr. with plenty of light and air, and with sun the temperature may go much higher, but too much heat, especially in dull weather, must be avoided. The most critical time is when the flowers begin to open. The house should be kept rather dry and air given freely, but do not let them become dry at the roots. After a good set of fruit is secured the later flowers may be taken off. Manure may be used until the fruits begin to colour. In growing for market a regular succession should be kept up rather than to have a large quantity in at one time. The very early crop generally commands the highest prices, but sometimes the later ones may prove equally as profitable.

In gathering and packing the less the fruits are handled the better. The best samples should be packed in single layers in punnets or shallow boxes with a leaf between each fruit. There are various methods of packing, the most recent improvement being the small square baskets, which may be packed together in boxes. With all fruit a little extra care in packing will be well repaid, but with none is it more essential than with Strawberries, and mixed samples never sell so well as those divided into two or three sizes. Strawberries should be fully ripe when gathered.

A. HEMSLEY.

THE RENEWAL OF OLD FRUIT TREES.

When reading a short paper before the Royal Horticultural Society last year I was challenged to give a few hints as to the renovation of old fruit

trees, which I will now endeavour to do. It frequently occurs that a halo of sentiment hangs around and envelops the old fruit trees of our gardens, dating perhaps from the days of youth, when it was a real pleasure to pick and eat a fruit (when the gardener was away), and to feel that by that unrighteous act one had added a mite to one's horticultural knowledge; for, as a member of the family, we felt we had rights in the fruits of the orchard and gardens which were not always recognised by the reigning chief. And as we grew up and came home—possibly to take the place of beloved parents—a certain fondness for the well-known old trees appealed to our minds, and we could not entirely yield to the gardener's suggestion that "them old trees wasn't no sort of use, and had better be made into faggots," and some fresh ones be purchased to put in their place. So it



NEW INTERMEDIATE IRIS (VARIETY IVORINE). SLIGHTLY REDUCED.

came to pass that, after a quiet talk, we assented to half measures and gave the old trees another trial, either by grafting some new varieties upon them, or by cutting away the old mossy and gnarled spurry boughs, and assisting them by a liberal stimulant at the roots, and so started them into new growth.

Now it is possible in many cases thus to renew aged trees; Pears are particularly amenable to treatment, Apples partly so; but worn-out Plums, Peaches, and, in fact, all stone fruits (except Cherries in orchards) are better destroyed at once, and replaced by new trees of the best varieties, using a liberal supply of fresh turfy loam to start them in. Under such treatment they will soon respond to the trouble bestowed on them and quickly fill up the vacancies.

Stone fruits will not endure that severe pruning which is necessary to renovation, being liable to "gum" on the strong shoots produced, or to "collar" at the junction of the new growth with the old stem, and thus blow out under the strain of heavy winds, or choke with gum and become useless. Cherries in orchards, however, never get beyond treatment, and to renovate them the trees should be gone over as soon as the crop is gathered, all the dead wood removed, and the boughs which are injured by breakage, or "splits," from contact with ladders, &c., at gathering time, or from the strain of an abnormal crop, be cut away. Then, if in pasture land, the long strands of grass, thistles, and weeds should be mown, and with the cuttings and prunings removed from the orchard and burnt. Sprinkle salt at 2wt. to the acre over the ground, and when a new growth of grass has set in turn in some ewe sheep and feed them with Oil-cake, Chaff, Oats, Peas, or Barley once a day; move the feeding troughs every other day to fresh positions, until the new grass is fed down as close as a Turkey carpet, and continue this treatment through the winter, giving more or less food to the sheep, according to the weather, naturally most in cold times. The manure of the sheep will gradually improve the grass sward and cause the Cherry rootlets to rise in March to the surface for the nourishment to be found there. An earlier crop of foliage will thus ensue, which will protect the young fruit from those severe frosts which often occur in May, and even in June. The fruit will be nourished by every shower that falls, and after it is gathered new growth will be stimulated and a store of vigour imparted to the trees for the following year's crop.

On light soils the land in Cherry orchards may be again dressed with salt or kainit, and on heavier soils a dressing of twenty bushels of soot or 5wt. of basic slag to the acre in February will be of infinite value to the trees as well as to the grass. The same system will also renew or invigorate Plum, Apple, and Pear orchards, but the boughs should be very severely thinned, the useless spurs removed, and the centre of the heads of the trees be kept clear and regulated.

In renewing old Pear trees trained on walls one system is to cut out every other lateral tier 6 inches from the main stem and start the shoots behind the cut to form new tiers. Afterwards, the remaining worm-out tiers can be served in the same way, and thus the tree will in time be entirely renewed with young wood. In cases where the variety is only second rate (as so many of the Pear trees are that were planted some fifty years back) the lateral shoots can be grafted 1 foot from the main stem, and in two years' time will begin to give a small crop. Supposing a tree of eight tiers of branches, as many different varieties of recognised merit can be grafted in, or the tree may be used for the testing of new varieties, and in this manner a crop can be relied on in three or even two years, the root vigour of these old trees being very powerful. If needed some stimulant, mulching lightly, forked in may be used to assist the new growth. Another plan which I have seen successfully carried out is to remove all the branches and main stem down to the lowest tier, and by this radical operation the formation of strong new shoots will be stimulated from this lowest tier, which can be encouraged to grow in an upright form at such regular distances as are desired.

In this way a crop is readily secured the second year, and it is a very good plan for varieties which, like Jargonelle when old, often fruit on the ends of the branches only, and for other varieties which form a mass of fruitless spurs.

As regards overgrown pyramids and bushes both of Pears and Apples in gardens, I should advise that all of poor or doubtful quality be at once dug up and destroyed, while those which are of good recognised varieties should be allowed to grow in a free and natural way, merely thinning out the superfluous inside shoots; they will thus soon produce freely on the branches of two or three years' growth.

In cases where Pears are on the Quince stock, and Apples on the Paradise, they are more easily dealt with, as the roots are closer to the stem;

and if a trench be made round each tree, the coarse roots removed, and the trench filled with fresh soil, the new rootlets formed will be so abundant that the tree can readily be lifted and removed the following October, and be either placed in a new position, according to size and vigour, or be regulated in their former positions and refreshed with new soil to work in. We prefer, however, to make an entirely new plantation with the old trees elsewhere, and to substitute (after a year's fallow or inter-crop) a fresh lot of trees altogether to fill up the ground thus left empty. This gives a chance of renewing the old stale soil, and also of introducing new or desired varieties.

Where, however, the garden is limited, only half of the old trees should be operated on in one season in order to lessen the chance of an entire failure in the supply; but the old removed trees will after a season's growth more than reward the operator for any trouble he has taken with them. So far as cordons on walls are concerned, we should prefer to replant entirely, remarking the borders at the same time, as new trees can be purchased in a forward state at a cheap rate, as severe measures frequently prove unsuccessful.

With old Peaches, Nectarines, and Apricots it is far best to destroy them outright and start with young trees. In all good gardens a reserve of young free trees is maintained, so that a gap can be filled at once by a vigorous, healthy subject of three to five years' growth, which itself is all the better for the check it receives in removal. In the Society's Journal, vol. xxv., page 363, a wonderful drawing is given of a large trained Pear tree which was so successfully renovated by rooting the lower branches that the main and original stem could be dispensed with. In other words, the tree first had one, then three sources of root nutrition, and finally two.

In all cases new soil should be introduced to the roots. Good sound turfy loam is better than heavily manured soil, and if stimulant be necessary it is best supplied as a top-dressing. There is yet another way of dealing with old overgrown pyramid trees. After two years of free growth, as before named, the resulting shoots can be tied into a frame and made to assume a set form; thus treated they fruit freely, and the branches being secured the fruit is not bruised by the winds. It should be mentioned that where large trees are headed back the new shoots are very strong, and must be duly nailed in or otherwise secured; and if a second lateral growth should be formed from the lower eyes it should be pinched at the third leaf to encourage fruit buds to form.

Very old Figs often get bare below and far too crowded at the top of the wall. These should have the large coarse boughs cut away at the base and the best of the resulting new shoots be nailed to the wall. It is a great mistake to let Figs carry too much wood, and they more often suffer from over-manuring than the reverse. In fact, where they root into the vegetable borders it is as well to make a trench 2 feet wide and 3 feet deep and fill this with broken bricks, porous stone, loam, and old mortar rubbish. The roots revel in this material, and the trees lay up good, hard, sound, fruitful wood.

Though the Grape scarcely comes under notice in this paper, old Vines can be safely cut back where the precaution of leading up one or two long rods from the base of the cane has been previously taken. But it must be borne in mind in such cases that the borders often get into a bad state or that the roots go searching for nourishment in positions too far from the surface, so that the wisest economy may be to make entirely new borders and start with fresh Vines. In a small garden half the viney should be taken in hand at a time, but where several vineries are in use one house can be renewed in a season.

All small fruits, such as Gooseberries, Currants, and Raspberries, so soon bear fruit that old unsightly bushes are best destroyed to make room for new ones. It may be as well to say that Strawberries are of but little use after three years, and new beds should be made annually, so as to keep up a regular series.

Where old trees are to be grafted, the stems should be prepared in February, and the new grafts be inserted by the end of March. As the shoots swell very rapidly, the junctions of scion and stock must be carefully watched, or the tying material may cut into the new growth, causing it to be a harbour for insects and making it liable to snap off, and so losing a season. The scions should be cut in February and be laid in the ground half their length deep in a shady place until wanted for use.—G. BUNYARD, in *Journal of the Royal Horticultural Society*.

THE KITCHEN GARDEN.

THE CROPS DURING 1902.

WITH HINTS ON THE BEST VARIETIES FOR THIS YEAR.

GENERALLY speaking the past season cannot be regarded as satisfactory so far as the production of first-class vegetables is concerned, especially on heavy retentive land and in cold low-lying districts. This to a great extent can be accounted for by the ungenial weather experienced in spring and the absence of sunshine during the greater part of the summer. At the same time the rainfall has by no means been excessive, for until the present date we have only had about 20 inches, and as we were about 3 inches below the average in 1901 we may expect a good fall yet.

POTATOES.—Unfortunately, in many places the crop has been almost a failure, and even where this is not so the quality is anything but first-class. I have seen large fields in good Potato-growing districts absolutely not worth lifting in some cases, owing to an attack of the commonly-known disease, but in many instances for quite another reason which I can in no way explain; neither have I been able to get from anyone else a satisfactory explanation. Instead of the shoots coming through the ground and growing strongly they came up miserably weak and absolutely refused to grow. I have observed this under all sorts of conditions, both in open fields, enclosed gardens, and even in frames. In our own case I am prepared to prove that the tubers were properly stored and started, and when planted appeared to be all one could desire, the tubers being firm and the shoots sturdy and healthy. Some kinds did well, while others, planted and treated precisely in the same way, position, and date, were worthless. On examination of the old sets at lifting time these were practically as sound as when planted. It would be interesting to hear, through the medium of THE GARDEN, other experiences and what this is attributed to. Among the varieties which have succeeded in this locality are Windsor Castle, unsurpassed for quality, but should be planted and lifted early; Syon House, also good; Up-to-Date, quite one of the very best still for field culture; Carltonian, a new variety, which was tried and received an award of merit at Chiswick in 1891, is of great promise, being very handsome in appearance, a good cropper of fine quality, and apparently not subject to disease. I believe this variety has a great future before it. For frame culture Sharpe's Victor is still one of the best; so also is Carter's New Ashleaf, quite distinct and a great cropper. It may be interesting here to note that the collection of Potatoes staged by Messrs. Dobbie and Co. of Rothesay in October at the Drill Hall was probably the finest lot ever seen, and was worthily awarded the Royal Horticultural Society's gold medal. I understood these were produced from the open field and not specially treated, so that I trust other growers in the Scotch districts may be equally fortunate.

PEAS.—On the whole this may be regarded as one of the best seasons on record, in spite of the fact that the early sowings were particularly late in bearing; but the mid-season and late kinds I have never seen better, if as good. Owing to the mild autumn little trouble was experienced in

finding good dishes of fresh green Peas up till the middle of November. At the fine Brighton Chrysanthemum Show, held on November 11 and 12, at which vegetables were well and largely shown, nearly every collection contained a dish of really first-class Peas, quite equal to what one sees in August. Varieties worth noting for pot and frame culture were Carter's Forcing, very fine; Early Morn is also good for growing under glass, but requires more room. This is also one of the best early kinds for outside cultivation, being very prolific and of fine flavour, a much improved form of Gradus, and probably a selection from this well-known kind. Daisy is hard to beat as a dwarf variety, and, strange to say, it was recognised as one of the best among the extensive trials made at Chiswick during the past season. Though this has been in commerce several years I have always regarded it as one of the best Peas sent out by Messrs. Carter and Co., a firm which has done much to improve this important vegetable. It has an excellent constitution, a point which should always be taken into consideration in Pea culture, is hardy, very prolific, and of the best quality. For second

others for forcing and outside culture. Ne Plus Ultra is also good, but the pods are much smaller and the yield not so great as the first-named. I grew seven varieties of Runners, all of which did well, the best being Sutton's Prizewinner, Carter's Jubilee, and Neal's Ne Plus Ultra, all good either for exhibition or for home supplies. Few vegetables appreciate good culture more than these.

CAULIFLOWERS.—It has been an ideal season for these; I never remember a better. We have had an unbroken supply from the first week in May till now, and I hope to keep it up till well into the New Year. We commenced with Veitch's Early Forcing and Carter's First Crop in 8-inch pots. Both did remarkably well, and, following these, Sutton's Magnum Bonum in pits, then Walcheren (a fine old variety) and Webb's Peerless on a south border, following with autumn-sown Autumn Giant. This variety is a true gardener's friend, and Messrs. Veitch and Sons are to be congratulated on introducing such a general favourite. By making frequent sowings little trouble will be found in maintaining a continuous succession from early July till the end of the year. The latest sowings should be lifted with good balls of earth

seasons. I hear from many sources that the large bulbs, owing to imperfect ripening, are keeping very badly, and the home-grown seed in many places is a complete failure. Ailsa Craig still holds its own, also Cranston's Excelsior, both fine for exhibition. Ne Plus Ultra, a cross between Ailsa Craig and Carter's Record, is larger, and keeps well, but lacks that fine quality seen in the two first-named.

CARROTS.—The stump-rooted early varieties proved to be excellent, but this cannot be said of the intermediate and long kinds in most places. These were badly attacked with wireworm, the colour poor, and the keeping qualities very unsatisfactory. During the whole season I scarcely saw a typical dish. For early forcing I have found nothing to equal Carter's Long Forcing, which makes but little top, quickly matures, and is of excellent quality. Veitch's Model and Sutton's Favourite are both excellent to succeed this, and fine for exhibition at the early shows. Webb's Prizewinner proved to be the best of the intermediate type. With us it is deep in colour, and the shape all that one can desire. The new variety (Carter's Blood Red) is probably the finest coloured variety in existence, but, unfortunately, its constitution is not of the best. This, however, should prove the forerunner of something worth having. In any case this variety should be included in all collections where good Carrots are valued.

CELERY.—The early sowings of this very important crop failed in many places. I have known instances where the entire plantings ran to seed, and in others a very large percentage bolted also. This cannot be attributed to sowing the seed too early, the same dates being relied on as in former years; the cause no doubt could be assigned to the check it received after planting. Fortunately the later sowings have proved to be good, making quick and excellent growth, which is most essential for crisp, well-flavoured Celery. Veitch's Early Rose and Sutton's Early Gem are excellent early varieties, and a good selection of Standard Bearer cannot be beaten as a red variety, either for exhibition or home use. Webb's Solid White is very good indeed, being very taking when well grown and blanched and the quality of the best. Late Celery, owing to the late growth it has made, will require protection should severe weather set in.

BETROOT has been a good crop, especially where not sown too early. I have met with nothing new which is in any way an improvement on the standard kinds. The globe varieties are excellent for frame culture.

PARSNIPS made a luxuriant growth and promised well, but lifted badly, especially on heavy sand. Like Carrots, these have been much below the average, having cankered badly, and specimen roots were rare. Carter's Maltese and Sutton's Tender and True were the best with us.

CABBAGE have been good all through. Coleworts I never saw better. Ellam's Dwarf Early is unsurpassed for all seasons or for any purpose.

LEKES have been fairly good, but late. The culture of these in the southern districts is yearly becoming better known, and few vegetables are more admired at our exhibitions when well shown. The Lyon and Webb's New Champion should not be missed by any exhibitor.

TOMATOES have proved a failure in the open many districts, but have done well under glass. There are now a host of varieties, differing only in name. Polegate and Perfection are among the best for any purpose, both of which are splendid in shape and of very fine quality.

TURNIPS.—I never remember a better season for these, the appearance of the bulbs and the cooking qualities having been all one could wish. The late September sowings will prove invaluable for spring use. No one should fail to grow Carter's Early Forcing in cold frames for its earliness. I regard this as one of the finest varieties ever



THE FAMOUS NEW PEA EDWIN BECKETT. (The photograph was taken in Aldenham Gardens, Elstree, late last June.)

earlies, Duke of Albany and Alderman are both excellent, did well, and are universally well known. The variety I raised and named after myself fully came up to my expectations, and I trust it will do as well with others as it does here. No doubt it will be within the reach of all during the coming season. Sutton's Prizewinner is also good, and deserves a place in every garden. The Gladstone has done remarkably well during the past season. It is a great bearer, of fine appearance, but somewhat overrated, in my opinion, as to quality. Veitch's Autocrat has not yet been superseded as a late kind. It is by far the most reliable variety I know, and succeeds well in nearly all districts. Webb's Masterpiece somewhat in the same way is also excellent, and did wonderfully well with us, the pods being slightly larger than Autocrat.

BROAD BEANS did well, and gave good supplies for a long season. Leviathan, Aquadulce, and the new Broad Green Windsor should all be grown.

FRENCH AND RUNNER BEANS.—I made a very extensive trial of these, and, though like Peas, were late coming into bearing, they gave excellent returns till quite late in the autumn. Canadian Wonder still keeps up its reputation as a French Bean, and when well grown is far ahead of all

and placed in cold frames on the approach of frost, when these will produce small pearly white heads, so well suited for the dining-room table.

BROCCOLI have done well, and if means have been taken to protect them good results should follow; in most localities it is necessary to layer these early in November, especially in 1902, as the growth is strong and sappy and not at all matured, and, should a severe winter be in store for us, these are sure to suffer seriously. Sutton's Michaelmas White and Veitch's Self-Protecting are both good early varieties, the first-named much resembling a Cauliflower. A true stock of the old Snow's is invaluable, also Leamington; and for latest supplies Veitch's Model and Sutton's Late Queen are hard to beat.

ONIONS.—Autumn-sown kinds did wonderfully well, seldom better, Carter's White Emperor being the best early white variety. Sutton's White Leviathan is also good, being larger, but later. A good strain of Red Tripoli is worth having, and is one of the best keepers. Spring-sown kinds have been far below the average in many places, a large percentage having run to seed, owing, no doubt, to the check received after planting, and the bulbs generally lacked size and that fine finish which has been so noticeable during the past three or four

introduced. If sown early in March it will be fit for use the first week in May, and the great advantage it possesses over all other early sorts that I am acquainted with is that it is not only of the finest quality but remains in good condition for a considerable time. Sutton's Snowball, Webb's Prizetaker, and Veitch's Red Globe should all be grown. The latter is especially valuable in hot, dry seasons when good Turnips are scarce.

VEGETABLE MARROWS.—I never remember these so poor as they were during the past season. Except early sowings grown in frames, these revel in a hot, dry season such as we experienced during 1900 and 1901. A splendid addition to these is Sutton's Perfection. I do not hesitate to say that this is the most perfect Vegetable Marrow for any purpose now in cultivation, and no vegetable grower should fail to procure this novelty.

EXHIBITING VEGETABLES.

I have been pleased to note a very marked improvement in the preparation and staging of our various kinds of vegetables at the principal exhibitions during the past year, but there is still a good deal to be learned. A well-arranged collection of vegetables is always admired. I am far from advocating the principle of arranging vegetables in designs and devices as is sometimes done. This is childish and absurd, and serves no useful purpose. I trust the proposed vegetable exhibition to be held next autumn by the Royal Horticultural Society will do much to set up a standard (which is badly needed) as to what should constitute high-class vegetables and the mode of arrangement.

In conclusion, I must congratulate both Messrs. Fyfe and Gibson on the two splendid exhibits they made at different dates in the Drill Hall, when each received the coveted award—a gold medal.

E. BECKETT.

Aldenham House Gardens, Elstree, Herts.

BOOKS.

Wild Fruits of the Country Side.*

This is a work of much charm, delightfully got up, well printed, and with thirty-six good coloured illustrations of fruits and foliage familiar to way-side and woodland. Such books add greatly to our knowledge of the trees and shrubs of the country side, and open the eyes of those who observe not the beauty of fruit and leaf, of berry and twig, when mellow autumn is clad in its ripest and richest colours. Tree and lowly hedgerow plant, Carrot and Parsnip have each a place in the book, and the text is as ample as almost all can desire, though the author would have rendered more helpful assistance by conveying more practical information as to the needs of the various subjects dealt with so pleasantly, but probably that would be considered outside the scope of the book. Here is the description of the Cuckoo-Pint (*Arum maculatum*), which will show the character of Mr. Hulme's text: "Our fourteenth illustration depicts the brilliant berries of the Cuckoo-Pint or wild Arum (the *Arum maculatum*). This plant, common enough almost everywhere in damp and shady hedgerows or under the shade of the trees in the copse, is curious in the way it presents itself to us under such an entirely different guise at different times of the year. In the spring we see its quaint inflorescence rising from the midst of its mass of foliage, then that all passes out of sight and is forgotten, and presently, when the autumn days come, we see the scarlet spikes, such as we have figured, rising amidst the low vegetation in their naked simplicity, the leaves, like the flowers, having disappeared months ago. The leaves are bright and shining, as though highly glazed or varnished, and are of arrow-head shape. They are of a deep green colour, blotched over with purple spots of various sizes. They are so acrid that they inflame and irritate the skin, and may even raise blisters. Bulliard, in his "Histoire des Plantes

Venemeuses," instances the case of three children who ate some of these berries. They were seized with horrible convulsions, their throats becoming so swollen that they were unable to swallow anything; two of them quickly died, while the third was saved with great difficulty. . . ." All the descriptions are somewhat minute and recall those of the same author in "Familiar Wild Flowers." We must mention also that the plates are by Mr. Hulme. The book is altogether excellent, and should command a large sale. It forms a volume in the Woburn Library of Natural History, edited by the Duke of Bedford, K.G.

GARDENING OF THE WEEK.

INDOOR GARDEN.

ANTHURIUMS of the andreaeanum and ferriense types that have not yet been repotted should be now taken in hand. Shake away carefully all the old soil and remove decayed roots with a knife. Plants that have become leggy should be cut down close to the surface of the soil, preserving all the aerial roots produced from the stems or rhizomes of the plants. As this section is almost epiphytal the compost most suitable is two parts good fibrous peat, with all the finer particles shaken out, one part light fibrous loam, the remaining portion to consist of rough hard charcoal, clean oyster shells broken up, and coarse silver sand. Fill the pots to one-third of their depth with large clean potsherds, which cover with a portion of the compost, then arrange the plant so that the crown of the stem or rhizome is slightly above the rim of the pot. Work the soil among the roots as firmly as possible, keeping them well up in the compost, and finish by having the surface slightly mounded above the rim of the pot. Those leggy plants cut off at the surface of the soil will require smaller pots in consequence of having fewer roots. When potted place the plants in a temperature ranging from 58° to 62° by night with a rise of 5° by day. Syringe the stems of the plants and amongst the pots twice daily, and keep the house moist, admitting air only by the bottom ventilators under the stages.

HIPPEASTRUMS.

A portion of the stock of these bulbs should now be started for early blooming. Select such bulbs as do not require repotting. Clean over the bulbs, removing all loose and dry scales and insects should there be any. Loosen the surface of the soil with a pointed stick and remove it, being careful not to injure the roots, and top-dress with three parts of good loam, some dry cow manure rubbed through a fine sieve one part, with a good admixture of charcoal, finely broken crocks, and silver sand; it should be rammed firmly. Place the bulbs in a temperature of 54° to 58° and in a bottom heat of 5° above that of the atmosphere. One soaking with tepid water will suffice until the flower-stems are 2 inches to 3 inches high and in advance of the foliage. Afterwards water with care, remembering that these bulbs require only a very moderate amount of moisture beyond what they get by the daily morning syringing.

GLORIOSA SUPERBA.

Place a few tubers of this stove climber in a bottom heat of 65°, giving sufficient water to moisten the soil about them with a view to producing a few early blooms, and where the atmosphere will register a temperature of 65° to 68°. Where house-decoration is required put in cuttings of *Pilea microphylla*, *Panicum*, the green and variegated forms; *Selaginella paniculata* in large 3-inch pots, twelve or more cuttings in each. Also break up old plants of *Isolepis gracilis*, *Carex elegantissima*, *Cyperus alternifolius*, and *C. a. variegatus*. These, broken up into small parts and potted in any light rich sandy soil and placed in a temperature of 60° with a close moist atmosphere, will quickly root and make good plants

for covering the surface soil of Palms and other plants which may have to be placed in corridors or rooms.

Wendover.

J. JACQUES.

FLOWER GARDEN.

WORK in the flower garden must now be regulated by the weather, but every opportunity should be taken advantage of and work pushed on with all possible speed. Bulbs not yet planted should have immediate attention. Any surplus stock of Hyacinths, Tulips, Crocus, &c., in fact, any of our early spring-flowering bulbs, may be used for planting under trees or on any barren spot in the vicinity of the flower garden. Now that work is not quite so pressing, time may be found to dig holes about a foot square, fill in with any good rich soil, and plant the bulbs forthwith. Many of the spots that admit of very little sunlight later on through the density of foliage may be made to look bright in the spring time. And, to my mind, nothing looks prettier than these bright-looking flowers showing their heads above the surrounding undergrowth of wild vegetation.

IRIS SUSIANA (THE MOURNING IRIS).

These planted early in autumn will now be pushing their leaves through the soil. A sharp look-out should be kept for slugs and snails. These, together with damp and moisture, are the most inveterate enemies of this plant. Nothing should be allowed to accumulate near the foliage that is in any way likely to cause damp. Finely sifted coal ashes, or clean cocoanut fibre, placed on the bed and round the collar of the plants is a capital safeguard against slugs. Many of the failures in the culture of this interesting subject may be traced to slugs and snails eating out the centres of the plants in the earliest stage of their growth. Any trouble that may be taken to prevent this will be amply repaid when the flowering season arrives.

EAST LOTHIAN STOCK.

This is one of our most useful plants for many purposes, and where Geraniums are not used for bedding, on account of the room necessary for storing them through the winter, Stocks may be grown to great advantage. I can now gather handfuls of flowers from plants in the open borders from seed sown last January. Sow the seed in boxes or pans from the middle to the end of the month. When sown place the seed in a gentle heat. A vinery which has been started about a month will do. Cover the boxes or pans with glass and shade with a piece of paper till the seedlings show; then put them where they will get plenty of light. Sift a little dry soil on them to prevent their damping off. As soon as they are large enough to handle prick them out singly into 3-inch pots; put them again into a warm house to give them a start, and they will soon make a little growth and begin to fill the pots with roots. They may then be put into a cold frame, which should be kept close for a few days and covered at night if the weather is frosty. After that air should be given on every suitable occasion. Gradually harden them off until they are ready for planting out, which should be early in May. The soil in which Stocks are planted should not be rich or wet, or that tends to make them grow strongly and not flower so well.

T. B. FIELD.

Ashwellthorpe Hall Gardens, Norwich.

KITCHEN GARDEN.

ONIONS AND LEEKS.

THESE should now be sown where large specimens are required for exhibition or for use in the kitchen. Even in gardens where no exhibiting is done, a few rows of these should be grown, as they are extremely useful for special dishes. Of Onions, that well-tried variety *Ailsa Craig* is hard to beat, and, although there are other excellent varieties of the pedigree Onion, I place faith in the above-named.

LEEKs

of the Lyon and Prize-taker varieties are the best for this sowing. The seed should be sown thinly

* "Wild Fruits of the Country Side." By F. Edward Hulme, F.L.S., F.S.A. Published by Messrs. Hutchinson and Co., 34, 35, and 36, Paternoster Row, London, E.C.

in boxes 4 inches or 5 inches deep, placing a layer of crocks concavely over the holes at the bottom. Over all should be placed a layer of rough fibrous loam with the particles of fine soil beaten out in order to prevent the soil running among and blocking the drainage. The compost should be put through a quarter of an inch sieve, and be composed of two parts loam to one each of leaf-soil and well decomposed, rather dry manure, adding a shovelful or two of soot and wood ashes and sufficient sand to make the whole porous. Make moderately firm with the hand and leave the surface quite level, when the seed may be sown and covered with fine soil. A fruit house that has been recently started will be a good place for the boxes of seed, taking the precaution to cover with sheets of glass to prevent holes being made through drip and to hasten germination. A sheet of brown paper laid on the glass will also assist in this way. As soon as the seedlings appear they must be brought near the roof glass to prevent slender growth, and they may be removed to a somewhat cooler structure until the plants are large enough to prick off into other boxes.

HOT-BEDS

may be made with stable manure and tree leaves in the framing ground or any sheltered part of the garden. They will be found of great value for forcing Asparagus, Carrots, Potatoes, Radishes, &c. Attend to the rehiring of the beds and covering of the glass during cold weather in order to maintain as equable a temperature as possible. The earliest batch of

PEAS

may now be sown in 3-inch pots or shallow trays and placed in a genial temperature to germinate. Where large quantities of early Peas are required in the open the latter method is the best, whilst for a few rows to precede these seeds sown in pots will be found to answer well. For providing a few very early dishes a batch may be sown in 3-inch pots, and be shifted into larger sizes as required and kept in glass houses or pits, but avoid the use of fire-heat as much as possible, bearing in mind the more natural the treatment accorded the better will be the results. Grow them freely and feed occasionally when the pots are filled with roots. Abundance of light is essential or the haulm will become drawn up. Those for planting out on a warm border should be removed to a cold frame or pit as soon as they attain 10 inches in height, and all the air given that the weather will allow, in order to harden them in readiness for planting out when the weather is fit. I have found the varieties Early Morn and Chelsea Gem excellent for first earlies. Five plump seeds, or at the most seven, will be enough for a 3-inch pot, and room should be left when sowing for an inch of top-dressing when the pots become filled with roots. The compost should consist largely of loam with some old Mushroom bed manure rubbed through a sieve and mixed in to enrich it. Watch must be kept for rats and mice, or they will quickly make short work of the seed or young plants.

Stoneleigh Abbey Gardens. H. T. MARTIN.

MISCELLANEOUS.

NOTES FROM SWANSWICK

IN a season like this—it is still raining—one must summon up all one's make-shifts and apply craft to that outwitting of the elements that spells two-thirds of success. Not to be grandiloquent, I mean that one must get the continuous planting that goes on where labour is short done somehow, and when the ground is like unboiled Christmas pudding, as it has been here ever since June, there seems to be only one way of getting over the difficulty, namely, by digging out a hole for each plant and filling up with dry soil from a reserve under cover. As we do not suffer much from frost it is

possible by this means to go on moving seedlings and dividing perennials whenever the weather permits all through the winter, but they could not possibly be inserted in the cold paste of the soil as it now is without such a precaution. There is always a pleasure in circumventing Nature's obstacles, and this the plants seem to share with us, judging by the way in which some seedling Polyanthuses and Aquilegias so treated have gone ahead. I suppose this is one of the gardener's happiest seasons. At any rate, if there is a greater pleasure than

MAKING UP SEED LISTS

I have not met it. The only drawback is the evident impossibility of dealing with more than, at the most, one-tenth of the seeds one wants, which always confronts the average individual. If money be plentiful, room probably is not, and at all events I never yet knew a gardener, amateur or "pro," who did not end, in some way or other, by getting more produce than he could use. I have just been making a considerable planting of

SCHIZOSTYLIS.

The corns (if corns they are, which I take it is the case, since they so strongly resemble Montbretias, though having fleshier roots, like those of the *Gladiolus*) came from Ireland, and are particularly fine. Apparently there is less market for this kind of thing in Erin's Isle, for whenever I answer an advertisement of any garden stuff that is at all uncommon and particularly cheap, the reply is certain to be from that quarter of the universe. The lady who sent this especial consignment tells me the *Schizostylis* absolutely refused to grow in a former garden she owned near Lancaster, but it flourishes—a fact evident from the size of the specimens received—at her present abode near Clogher, the soil of which is not stated.

WINTER MULCH FOR ROSES.

The desirability of a stable manure dressing as a winter mulch for Roses is in some quarters so authoritatively denied that I am trying the experiment of using burnt earth instead on some of the Rose beds, all of which are recently

planted. The appearance of this mulch is certainly in its favour, and as a good deal of vegetable refuse was burned with the soil it is of a very hardy texture, easily spread, clean, and workable. For beds about the front of the house it looks more seemly, too, than the untidy, if perhaps more valuable, manure mulch, which has been relegated to the remoter Rose beds. I have, in former years, tried leaving these altogether uncovered, with poor results so far as any newly-planted Roses were concerned.

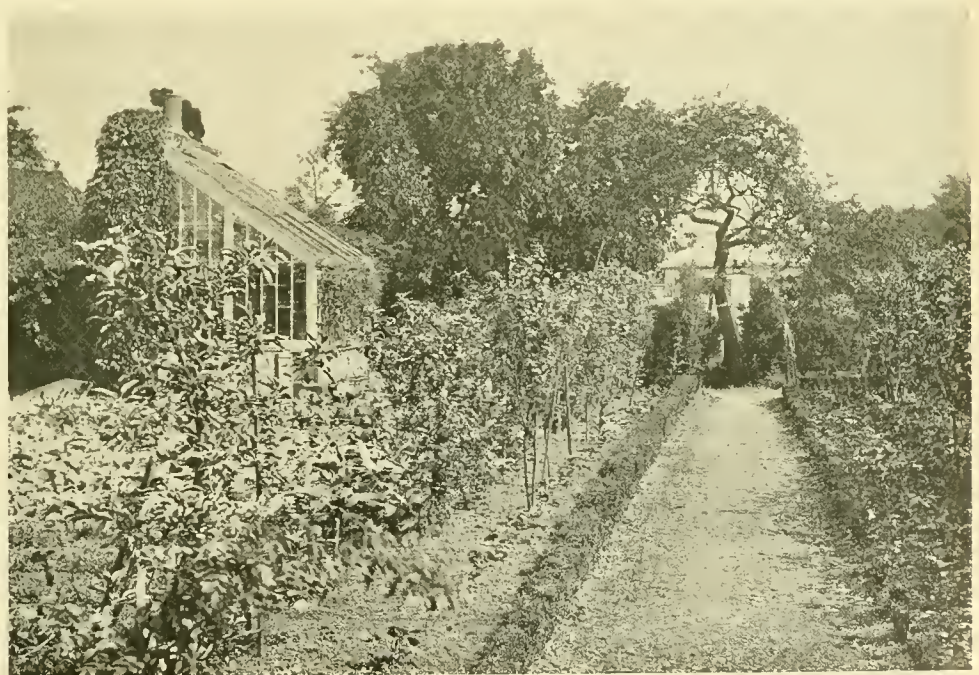
PLANTS UNDER TREES.

For effect under trees there is a great deal of value in the large gold variegated-leaved *Periwinkle*, but I find it extremely difficult to start. Where the plain-leaved form, and even the little white-flowered *Vinca* that is comparatively rare, go away at once, the large-leaved ornamental one sulks for months, and frequently ends by dying. Once it gets under weigh it is as rampant as any. I also find it very difficult to push along *Clematis Flammula* in its early stage. This is good *Clematis* soil, and provided their roots and lower stems are in permanent shade and the tops in sun, any of them grow thoroughly well and fast from the first, with this solitary exception. With regard to *Tropæolum speciosum*, may I be pardoned for saying that I am firmly persuaded that, were it only an amiable and accommodating thing, *Tropæolum lobbianum fulgens*, which is generally perfectly willing to flourish anywhere, would be universally preferred as prettier and more ornamental in the same line; although, of course, the former scores by being, if it will consent to be anything, a perennial, while the small trouble of raising the latter must be annually undertaken.

M. L. W.

AN OLD-FASHIONED GARDEN.

THE accompanying illustration depicts a corner in a garden that has evidently been as it is for many years. The old espalier fruit trees, and the high edging of box, with standard Roses in between, Tomatoes grown in pots, providing shade for the greenhouse front, while Ivy covers the wall at the back, are in great contrast to the modern garden.



IN AN OLD-FASHIONED GARDEN NEAR LONDON.

The modern idea of introducing brilliantly-bedecked flower borders amongst the fruit trees has evidently not been heard of, or at least not thought highly of by the possessor of this quaint old garden. R. B.

THE LEMON AS AN INCOME PRODUCER IN CALIFORNIA.

IN starting a Lemon grove climate and soil are the two essentials. If too far from the coast it will be too hot; and, on the other hand, equal care must be taken to select a frostless location. The land must have a good fall so as to provide good drainage for cold air. Light loamy soil will produce the best results. If poorly watered or badly cared for no climatic conditions can ensure success here any more than anywhere else. The crop is gathered every six weeks perfectly green, all yellowing fruit being discarded, to be utilised as manure. A ring $2\frac{1}{2}$ inches in diameter is used, and all smaller fruit left to develop. At present things are being rushed on the ranches and at the various packing houses, so as to sell before Christmas; prices fall after then. While writing now, 75 cents per 100lb. is paid by the packer, who visits ranches drumming up trade. He assumes all expenses and risk once the crop is delivered to him. In some cases he does the picking, when of course the price paid is less. Ranchers pay 15 cents per hour to pickers, and provide boxes, which, when full, are taken to the packing-house, which is generally near a depot, and there a car is loaded. The freight cost of a car is about 300dols. Many growers hold their Lemons till warmer weather for higher prices. Stacking them in piles under a shed roofed, but wall-less, has been found to be the best mode of keeping them. A canvas covering is used, raising or lowering it according to the needs of the particular pile of fruit, which generally averages a car-load. One man handled 75 cars of Lemons so this year, holding them for five or six months, thus ensuring selling to the best advantages. Such a system best solves the problem of profitable Lemon growing. Given a plan by which a large crop can be harvested and held over till conditions change, the prolific Lemon must be an infallible income producer.

La Mesa, California.

C. MACQUARIE.

ROOM PLANTS.

THE interesting note by "T.," in response to my allusion to the destruction among Palms, suggests that those who mismanage them, while not wholly to blame for their deaths, because the raiser and seller had a good deal to say to it, frequently also kill a much hardier and more useful plant—the Aspidistra. Those who only see these things growing under miserable conditions in railway refreshment-rooms and such places—how often I have, for want of being able to give one of them the better help that under the circumstances was impossible, emptied a wineglassful of the stale drinking water offered on these attractive tables into the parched pot!—cannot form an idea of how beautiful they really are. Because the Aspidistra will stand bad usage it nearly always gets it apparently. I have some variegated plants grown in pans about 15 inches across and 7 inches or 8 inches deep, and always kept in rooms where, however, no gas is used, which are most admirable objects. They carry a very large number of leaves, and I fancy they do better in these pans than in pots; at all events, they are more convenient for house decoration. They are in loam, leaf-mould, and sand, and are given weak stable tank liquid manure once a week from April to October, in spite of which liberal treatment the variegation is consistent. They have to be repotted every two years.

M. L. W.

RECENT PLANT PORTRAITS.

THE first number of the *Revue Horticole* for January contains a portrait of *Lælio-Cattleya Yellow Prince*, raised by the well-known French orchidist M. Marou of Brunoy, and is the result of fertilising *Lælia xanthina* with the

pollen of *Cattleya gaskelliana*. It is a most beautiful clear yellow flower of medium size, with a tube clearly veined with rose colour. The seed was sown on May 2, 1896, and the first flower opened in November, 1899. It was first exhibited at Manchester, where it was also named and awarded a first-class certificate of merit.

The *Revue de l'Horticulture Belge* for January contains portraits of *Cattleya Mossie var. Sir Thomas Lipton*, a most beautiful pure white flower with brownish orange shading in the throat, and *Barosma lanceolata*, a pretty and free-blooming greenhouse shrubby plant from the Cape, with numerous small rosy white flowers.

The *Botanical Magazine* for January contains portraits of *Ruellia macrantha*, a native of Brazil, also known as *R. speciosa* and *Dipteracanthus macranthus*. This is an extremely well known ornament of our warm houses, with large tubular rose-coloured flowers. *Muscari paradoxa*, a native of Persia, also known as *M. pycnanthum*, *Bellavalia paradoxa*, *B. pseudo-muscari*, *Hyacinthus paradoxus*, and *Botryanthus paradoxus*. This is one of the largest flowered of its family, but dull in colour and of little beauty or more than botanical interest.

Chrysanthemum indicum, a native of China and Japan. This is a small flowered, bright yellow composite, with no less than sixteen synonyms. It is one of the parents of the garden *Chrysanthemum*.

Allium Ellisii, native of Khorasan. This is a handsome species with large heads of rose-coloured flowers with white centres. *Diervilla middendorffiana*, native of Mongolia, Manchuria, and Japan. This is also known as *Calyptrostigma*, *Wagneria*, and *Weigela middendorffiana*. It has pretty pale yellow flowers, with red veining on tip, but is, unfortunately, not hardy enough to withstand our winters.

W. E. GUMBLETON.

INSECT PESTS.

DESTRUCTION OF ANTS.

CARBON BISULPHIDE is the best remedy known for the destruction of ants, which are frequently a great nuisance to farmers and gardeners. With a little careful observation most of the common house ants, except the little red house ants, can usually be traced to their homes out of doors. The only effectual way of stopping the annoyance or injury from these insects is to destroy the queens living in the nests which they never leave.

Method of Treatment.—The treatment consists in making one or more holes in the nest with a stick, and pouring into each hole one or two ounces of carbon bisulphide. The hole may be closed immediately by stepping on it, or, as many writers suggest, the vapour may be exploded at the mouth of the hole with a match in order to drive the fumes deeper in the chamber. If the latter method is adopted the hole should be covered with fresh earth immediately after the explosion in order to put out the fire and confine the fumes. If this is not done a large portion of the gas will be burned and the efficiency of the treatment be lessened thereby. Right at this point an added word of caution must be given. After the explosion the vapour continues to burn with a colourless flame. It is therefore invisible, but its presence may be easily perceived by holding the hand over the opening or blowing into it. This point should be carefully noted, for if the operator, thinking the fire had ceased and desiring to make an examination of the insects doubly certain, should attempt to recharge the hole from a can or a bottle an explosion would surely follow, with possibly fatal results. Explosion does not appear to add to the efficacy of the treatment and is not at all necessary. If it is not attempted it may be well to cover the nest with a wet blanket, which will greatly aid in confining the fumes. If any considerable area is infested, as is often the case in lawns, the holes should not be more than $1\frac{1}{2}$ feet apart each

way, and after the close of the application the surface may be thoroughly watered, as the wet surface will add to the efficiency of the treatment by preventing the rapid diffusion of the fumes into the air.

OTHER SUBTERRANEAN USES.

The vapour of carbon bisulphide applied at the rates previously recommended is said to have a marked action against certain cryptogamic parasites of plants, though its influence in this direction does not appear to have been much studied. It is also said to be fatal to the nematode worms, which are frequently injurious. In greenhouses these would seem to be particularly susceptible to effective treatment. The vapour of carbon bisulphide is fatal to animal life of all forms if inhaled in sufficient quantity. Within recent years this chemical has come into quite extensive and successful use against a class of small mammals which are common nuisances, if not actual pests, in many parts of the country, and particularly in the West. To Professor E. W. Hilgard, of the University of California, is given the credit of being the first to employ this remedy against ground squirrels and gophers. It is a matter of common knowledge that this agent is by far the safest and most efficient known for the destruction of prairie dogs, gophers, pocket gophers, ground squirrels, wood chunks, moles, and other pests having similar burrowing habits. The subject is quite an extensive one, and as it is now being given consideration by the division of biological survey, and does not properly come within the province of the division of entomology, further comments here are unnecessary.—*From the Journal of the Royal Horticultural Society.*

THE CARNATION FLY.

This little fly (*Hylemyia nigrescens*), commonly known as the Carnation fly, is not, fortunately for growers, one of the very common pests that assail our favourite flower; but still it does appear, and when it does soon makes itself known, and gives the grower constant and daily employment. It is very much like the ordinary house fly, only smaller, but it has two pair of wings, the under and lesser ones are quite hidden when at rest under the upper ones. It was some time before I found that it had a second pair. It does not fly much, and so with careful watching can easily be caught while depositing its eggs on the leaves of the Carnation. It is usually found in April, but last year was later, and did not appear until early in June on a batch of seedlings I had planted out. The grub is the mischief doer, though the fly is the author originally, for if it did not lay its eggs on the leaves there would be no grub on our favourites to destroy them, so the fly is the foe to watch for in the first place.

Young seedlings are more likely to have this pest than large plants, and unless care is given the whole plant will soon be destroyed. They generally attack the main stem and eat out the heart of the plant, so destroying it. Sometimes only a leaf is injured, and if this is at once picked off the pest may not spread. Care must be taken in looking over the plant to see that the grub is not on any of the small side shoots, as I notice that if checked in the main stem and heart of the plant the tiny side shoots are attacked, and being small easily get overlooked. The grubs are about three-eighths of an inch long, whitish, with heads, but are legless. They feed on the pith of the stem.

There is, I believe, no cure or preventive, and the only thing is to watch closely, and as soon as the grub appears either to pick off the leaves or, better still, prick the tissue of the leaf with a needle and so dig the grub out. I have tried sprinkling the plants freely with soot. It is a good fertiliser and can do no harm, though I do not think it did much good. By careful watching and going over them once or twice every day I saved all my seedlings, and now have a splendid batch, some already showing flower, though sown only in February last.

M. MITCHELL.

School of Horticulture, Torquay.

THE GARDEN

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[JANUARY 17, 1903

NEW FRUITS OF 1902.

NEW fruits are few in number compared to flowers, and in a measure this is satisfactory, as the increase in the number of fruits serves no good purpose unless they are of sterling merit. Several interesting additions were made to the hardy fruits last year, and also awards given to others, the important ones being Grapes, Peaches, and Strawberries. Many difficulties surround the raiser anxious to produce the best results, as in the case of fruit a considerable time must elapse before the merits or demerits of the variety can be ascertained. Then it is not always possible to test them properly owing to unsuitable surroundings. Varieties that when first raised found scant favour, in later years become recognised as worthy of the highest award. During the past year a few new fruits have failed to pass the fruit committee of the Royal Horticultural Society, and recently the test has been made more difficult, though this committee has never been lavish with its awards. In the case of bush fruits and Strawberries there is a wide field for experiment, as these do not appear to retain their vitality so long as stone fruits. Mr. Seden has been most successful. Again we see the result of breeding from the Raspberry and the Blackberry. These fruits may become more valuable in the future, and form the basis of quite a new race.

In a way the raisers of new fruits in this country are less favoured than on the Continent, the climate is not always kind; still it is only fair to add that some of the best Peaches, Nectarines, Plums, and Cherries have been raised in this country. We have only to note the splendid work of the late Mr. Thomas Rivers and his successors to show what can be done under glass. In the case of new Grapes, some of the crosses made do not at first sight appear at all suitable, but time may prove their worth.

PEARS.

Only four Pears have been given awards, and one of these late in the previous year, but it is so good and distinct that it is included in this list. The first to receive an award was the new *General Wauchope*, a seedling from the well-known *Ne Plus Meuris* and the larger *Duchesse d'Angoulême*. The two varieties named are well known, being of Continental origin. *General Wauchope* is a valuable late Pear and a great gain, as the Pear season is so soon over. It was raised by that veteran fruit grower Mr. Charles Ross, and will certainly prove

valuable on account of its good quality. The fruit is of medium size, regular form, and has a yellowish green skin with small spots, whilst the flesh is soft and richly flavoured and free from grittiness; it is stated to crop freely. This received an award of merit late in December, 1901.

Winter Nelis, an old variety, that has been grown in this country for nearly a century, and now, though late in the day, is recognised as worthy of a first-class certificate. Why such an excellent fruit was never noticed it is difficult to say. Probably it was overlooked, but it certainly should have received this award at the time. In the interesting competitions for the Veitch flavour prizes *Winter Nelis* has held its own on several occasions. The fruits to which the award was given were shown by Messrs. Veitch of Chelsea, January 14, 1902.

Michaelmas Nelis.—Here is a distinct new fruit, and certainly thoroughly deserves the award of merit given. It was sent out by Messrs. Bunyard and Co., Maidstone, and is well named *Michaelmas*, as it is a beautiful fruit at that season. Of course late in September and early in October good Pears are plentiful, but the one in question is welcome on account of its first-rate quality; it is of medium size, very shapely, or what may be termed a true Pear shape, skin a light greenish colour and somewhat russety, flesh white, juicy, melting, and of delicious flavour.

Pear Grise de Chine.—This is stated to be a favourite Pear in Belgium, and was sent by Mr. H. H. Raschen, Sidcup, Kent: evidently it is not much known in this country. The fruits are of medium size, with deep eye, short stalk, and the skin a brownish yellow, covered with thick russet, and firm. The flavour is good, the flesh being melting and juicy and of excellent quality for the season. Award of merit, December 9, 1902.

APPLES

are less numerous than usual. A new variety given an award of merit late in December of last year must not be passed over: it is named

The Houlton, and was raised by Mr. Charles Ross of Welford, the parents being the well-known Cox's Orange Pippin and Peasgood's Nonsuch. The fruits are not unlike the Cox's Orange in size, a gain, in my opinion, as large dessert Apples are not required. They are also highly coloured and remarkably handsome. The flesh is rich, not unlike that of Cox's Orange Pippin, but softer: the fruit is in season in midwinter. A valuable dessert variety.

Edward's Coronation.—We are not quite sure if this new Apple has not been renamed King Edward: at any rate, it is a beautiful fruit, of medium size, dessert, not unlike a good Cox's Orange Pippin, but more oblong in shape, and of first-rate quality. The parentage is not stated, but the raiser, Mr. Princep of Buxted Park, Uckfield, states that

it is a splendid cropper, and it should become a standard variety as it is so good. It was given an award of merit, October 21, 1902.

Tamplin.—A very pretty dessert fruit of conical shape, very highly coloured, and striped with red on the sunny side. It is in season from October to December. Award of merit, Mr. Basham, Bassaleg, Monmouthshire, November 4, 1902.

Norfolk Beauty.—A very fine cooking Apple, large, and of excellent quality: it is a grand mid-season variety. This is described as a seedling from the well-known Warner's King and Dr. Harvey. The tree crops very freely. The flesh is white, with a clear yellow skin and slight red markings on the sunny side, with here and there a trace of russet. This was raised by Mr. Allan, Gunton Park Gardens, Norwich, and well deserved a first-class certificate, December 9, 1902.

GRAPE IMPERIAL BLACK.

A very fine late Grape. Tested with Black Alicante and Gros Colman it proved much better. It is described as a free setter, and it certainly will make a valuable market Grape. The bunch is large, also the berries, which are oval and dense black. The quality is very good, the flesh being pleasant and of good flavour. It is well adapted for late use, as it has a firm skin and keeps well. This was raised by Mr. Goodacre, The Gardens, Elvaston, Derby. Award of merit, November 4, 1902.

RASPBERRY NOVEMBER ABUNDANCE.

A distinct new Raspberry of great promise, the result of crossing the American Catawissa Blackberry with Superlative Raspberry. The cross is a decidedly good one in every way. The fruits are large, oval, and of excellent quality. It crops freely till cut down by frost, and is a very free grower. The fruits are dark red. Award of merit, November 4, 1902, Messrs. Veitch, Limited, Chelsea.

LANGLEY BULLACE.

A new fruit in the Plum family, and a cross between the Orleans Plum and the Farleigh Damson. It is a very late fruit of first-rate quality, and is also valuable for its free cropping. This is a gain to fruit growers, as it will prolong the season greatly. From Messrs. Veitch, Limited, Chelsea. Award of merit, November 4, 1902.

PEACHES.

Duke of York.—One new Peach came to the front in 1902, and was raised by Messrs. Rivers of Sawbridgeworth. It is stated to be as early as the Alexandra. If so it will be of great value, as the last-named drops its buds badly when hard forced. *Duke of York* was the result of crossing the Alexandra Peach with Early Rivers' Nectarine. It is of excellent flavour, above medium size, very handsome, and beautifully coloured. Award of merit, May 20, 1902.

STRAWBERRIES.

The Khedive.—A new fruit, under medium size, long, deep red, and of first-class flavour. It should be most valuable for preserving. It is the result of a cross between British Queen and Lord Suffield, and should be a great favourite where flavour is valued. Award of merit, Messrs. Veitch, Limited, Chelsea, July 22, 1902.

Givons' Late Prolific.—This is a very beautiful Strawberry, and a most valuable addition to the late varieties. It is the outcome of crossing Waterloo with Latest of All, and the result is excellent. Last year this variety was favourably noticed, and now it is even better. The fruits are bright red, of wedge shape, and delicious flavour. A most useful late variety. Raised by Mr. W. Peters, Givons Gardens, Leatherhead. First-class certificate, July 22, 1902.

MELONS

were not so plentiful as usual, at least the awards were not numerous, only two being given, one early and one late in the season. These fruits are always uncertain. Though good this year they may lack flavour from various causes when grown by different growers and under varying conditions.

President.—This is a scarlet fruit with a good depth of flesh and deeply netted. It is above medium size and of first-rate flavour. It is a cross between Royal Favourite and Westley Hall. Raised by Mr. W. Ingram, Westley House Gardens, Bury St. Edmunds. Award of merit, June 10, 1902.

The Peer.—A large and excellent Melon, with a bright skin and a great depth of flesh. It is of excellent flavour, and the lateness of the season at which it was shown should increase its value. It should be good for late supplies; the flesh is white and very solid, and it is an excellent keeping variety. It was raised by Mr. Goodacre, Elvaston Castle Gardens, Derby. Award of merit, October 7, 1902.

Other new fruits were shown but failed to secure an award. These will in several cases be staged again, many being of considerable merit.

NOTES ON RECENT NUMBERS.

PRUNUS PISSARDI AS A FRUIT (page 442 of the last volume and page 3 of the present).—This is now known as *P. cerasifera atropurpurea*. Some fruits were received a year and a half ago from the late Mr. G. F. Wilson with the advice to stew them. They are quite excellent cooked; in fact, they were thought by the recipient so desirable a cooking fruit that the following autumn some were plaited against a wall, to be trained and used as fruit trees.

Cactus Dahlias.—The note about these by "A. D." is much to the point. It is to be hoped that if the Royal Horticultural Society has a trial of Dahlias at Chiswick that it will include all the best of the broad-petalled decorative kinds that have of late been thrust aside in favour of those with the narrow twisted petals. These broad-petalled Dahlias are by far the most generally desirable for garden use. Such a trial would be highly instructive, especially if the various kinds were well shown at the Drill Hall.

A prize station garden (page 4).—Good gardening at railway stations—happily, so often seen—is a boon not only to the dwellers at the station, but also to the travelling public. There are especial facilities for good gardening at those stations that occur in cuttings or that

are on hill-sides. Banks may be beautifully clothed with flowery growths of free, rambling habit, such as the Rambling Roses, Clematis montana, Flammula, and the native Vitalba, Everlasting Pea, both pink and white Honey-suckle, double-flowered Bramble, Virginian Creeper, and Pyrus japonica. If there are already on the bank a few bushes of common Whitethorn or Blackthorn that some of these may grow over, so much the better, and a few common flowering shrubs, such as Guelder Rose and Ribes, cleverly grouped would add greatly to the effect. In such places it would not be necessary, perhaps not even desirable, that the whole bank should be trenched or dug. It would answer every need if parallel strips, taken diagonally up and down the bank, were prepared for planting, the strips being 3 feet wide and the grassy spaces left between them 5 feet or 6 feet. This will eventually be covered by the rambling plants. There is a beauty of trim gardening such as is most usual at railway stations, and also a beauty of free gardening. Banks lend themselves best to the free treatment. Planting on diagonal strips would in itself tend to lessen the formality that in such places would probably be undesirable, and if the bank is a steep one the rain would not wash and cut the dug earth into the straight up and down channels so often seen on the sides of cuttings. Even in the dug strips it might be as well to leave a foot-wide span of grass undisturbed here and there in their length. Even in the poorest soil or nearly pure sand there are shrubs and plants that will make a bank beautiful. The best of these would be *Cistus laurifolius*, Heaths, and Lavender Cotton.

G. J.

KEW NOTES.

INTERESTING PLANTS IN FLOWER.

Temperate House.†

ACACIA ACINACEA, *A. baileyana*, *A. dealbata*, *A. ovida*, *Acanthus montanus*, *Aloe platylepis*, *Cestrum elegans*, *C. fasciculatum*, *Olearia ramulosa*, and *Sparmannia africana*.

Palm House.

Brownea coccinea and *Hymenocallis caribæa*.

Orchid Houses.

Aerides Vandarum, *Angraecum distichum*, *A. eburneum*, *A. sesquipedale*, *Bulbophyllum Medusæ*, *Cypripedium chamberlainianum*, *C. Morganæ* and others, *Dendrobium atroviolaceum*, *D. aureum*, *D. bigibbum*, *D. Cassiope*, *D. euosmum*, *D. Johnsonæ*, *D. superbiens*, *Epidendrum calamarium*, *E. ciliare*, *E. evectum*, *E. fragrans*, *E. kewense*, *E. nutans*, *E. snbpurum*, *E. tovarense*, *E. Wallisii*, *Eria vitata*, *Eulophia saundersiana*, *Lælia albida*, *Masdevallia fulvescens*, *M. macnra*, *M. tovarensis*, *M. triangularis*, *M. ventricularia*, *Odontoglossum Inslayi*, *O. Pescatorei*, *Otochilus fusca*, *Polystachya Adansonie*, *Ponthieva petiolata*, *Restrepia maculata*, *Seraphya multiflora*, *Tainia penangiana*, and *Vanda amesiana*.

† *Range.*

Randia macrantha.

Rock Garden and Herbaceous Borders.

Adonis amurensis, *Colchicum Dieffierii*, *C. libanoticum*, *Crocus chrysanthus*, *C. Imperati*, *Galanthus eliciticus*, *G. plicatus*, *Helleborus caucasicus*, *H. odoros*, *H. orientalis*, *H. viridis* and others, *Iris Danfordiæ*, *I. filifolia*, *I. histrioides*, *I. stenophylla*, *I. unguicularis*, and *I. Vartani*.

Alpine House.

Colchicum hydrophilum, *Crocus* (collection of species), *Cyclamen Coum*, *C. ibericum*, *Galanthus caucasicus*, *G. Elwesii robustus præcox*, *G. plicatus*, *Iris alata*, *I. Haussknechti*, *I. Histrio*, *I. reticulata* var. *sopenensis*, *I. Tauri*, *Merendera caucasica*,

Narcissus Bulbocodium var. *monophylla*, and *Primula megasea-folia*. [This is quite a cold house, and very interesting just now.—Ed.]

Arboretum.

Chimonanthus fragrans var. *grandiflora*, *Erica carnea*, *E. mediterranea* var. *hybrida*, *Hamamelis arborea*, *H. mollis*, *Jasminum nudiflorum*, *Lonicera fragrantissima*, *L. Standishii*, and *Rhododendron dauricum*.

NOTES OF THE WEEK.

FORTHCOMING EVENTS.

January 22.—Gardeners' Royal Benevolent Institution Meeting and Election of Pensioners at Simpson's, Strand.

January 27.—Royal Horticultural Society's Meeting.

February 3.—National Amateur Gardeners' Association Meeting.

February 7.—Société Française d'Horticulture de Londres Meeting.

February 10.—Royal Horticultural Society's Meeting.

February 11.—East Anglian Horticultural Club Meeting.

February 13.—Royal Gardeners' Orphan Fund Annual General Meeting, Cannon Street Hotel.

Gardeners' Royal Benevolent Institution.—The friendly supper in connexion with this institution will take place, as usual, at Simpson's, 101, Strand (for the last time in the present building) on Thursday next, the 22nd inst., at 6 p.m., after the annual meeting. Mr. Alfred Watkins will preside. The charge for the supper is 7s. 6d.

Apple Sandringham in the North.

This season late Apples have been more valuable on account of the smaller crop of earlier varieties, and few late sorts are more valuable than the above, as with us in what may be termed a poor fruit soil it not only crops well, but has fruits of good size and quality. This variety has been distributed some years, though by some called new. It is a very fine fruit, not only for the kitchen, but may be made serviceable for the dessert when others fail late in the season. Our best fruits are produced on bush trees, and grown thus it is most prolific. The trees are hardy and do well in exposed places in the northern part of the country, the fruits keeping well into March. I have not grown it as a standard, but from its free-fruiting qualities I think it would do well. As a cordon it is very prolific. For the past few years the Sandriogham has become a favourite in small gardens on account of its free cropping. I saw some very small trees in the eastern counties bearing fine fruits and in quantity.—A. C. N.

A new Brussels Sprout (Cambridge Champion).

—At the late autumn exhibition of the Cambridge Horticultural Society I noticed very fine specimens of this vegetable both in the collections and single classes, and, as the Sprouts were so uniform in size and so solid, I made enquiries as to its origin. The raiser, Mr. J. H. Ridgewell, of the Gardens, Histon, a large vegetable grower, gave me particulars of this new variety, and I regret to say I have lost my note of its parentage. One parent I think was a local sort; at any rate, there can be no question as to its good qualities. There is an entire absence of coarseness, and this is a great gain, even for market purposes a medium-sized, solid Sprout being preferable to a large, open one. It is not a fair test to merely judge Brussels Sprouts by the gathered produce. One must see a quarter of growing plants, and certainly every plant of the new Cambridge Champion was true and may be classed as a medium grower, and the crop a very heavy one indeed. Mr. Ridgewell grows all vegetables remarkably well, and he is fortunate in having such a very fine addition to this class. The quality when cooked is of the best, and I do not think that any variety can surpass it for cropping and keeping.—G. WYTHES.

Stephanandra Tanakæ.—While we are enabled from time to time to read notes about the popular *Stephanandra flexuosa*, so far *S. Tanakæ* seems to have escaped notice, the reason probably being its recent introduction to English gardens. It is larger in every way than *S. flexuosa*, sending up long shoots annually from the base, requiring very little and careful pruning. After the leaves have fallen the stems assume a pleasing, warm, yellowish brown tint, which is so beautiful in winter. Its hardiness is practically assured, as it has withstood the sharp frosts of 1901 and the present season without the slightest protection. When *Stephanandra Tanakæ* is to be obtained in sufficient quantities for massing in such places as the woodland, then I think it will prove a desirable and welcome addition to British planters of choice shrubs. The clay soil here seems to suit it.—A. E. THATCHER, *Aldenham House Gardens, Elstree, Herts.*

Salvia Heerii.—Where cut flowers are required in quantity during winter, *Salvia Heerii* is indispensable. Its pretty little scarlet flowers are produced in abundance on long shoots, which are clothed with dark green Sage-like leaves. It is valuable in the making up of large glasses, as the shoots can be cut 2 feet or 3 feet long, and its foliage is of no mean importance for this purpose. It is essentially a plant for the amateur, as its cultural requirements are very simple. Plants struck in the spring should be planted out during the summer months. These will be excellent by October, when they should be lifted and potted and placed in a cool house. During the growing season a judicious thinning of the shoots will be necessary, as if allowed it will grow into a dense bush, and its true character and effect be lost.—E. HARRISS, *the Royal Gardens, Frogmore.*

A use for Apple tree prunings.—When Apple trees are being pruned it should be remembered what capital flower sticks the prunings will make; the best possible sticks for Carnations or any plants of smallish growth that must be supported. For pot plants they are only second in value to Hazel suckers. The Hazel is rather the better because of its quiet unobtrusive colour, a matter of great importance, in the sticks used for pot plants. The Apple twigs are blacker. But often in a private garden there are plenty of Apple prunings, while Hazel would have to be bought, and it is satisfactory to bring into good use something that would otherwise have to go to the burn-heap. The prunings naturally have a curved shape, but if while green they are pointed at the cut end and tied together with three ties and put to dry over the boiler in the stovehole they dry perfectly straight and are ready for use when they are wanted next summer.—G. J.

Browallia speciosa major.—There are few more continuous flowering subjects than this; indeed, it will maintain a succession of bloom till quite exhausted. It forms a freely branched plant of a sub-shrubby character, and is seen at its best in a warm greenhouse or intermediate structure. The flowers have a tube about an inch long, with a spreading mouth divided into five segments. When first expanded the colour is a rich violet-blue, the throat lighter, but the flowers pale afterwards. *Browallia speciosa major* is a native of Colombia, while an allied kind, *B. elata*, known sometimes as the Forget-me-not of the Andes, is often treated as a tender annual for greenhouse decoration. These *Browallias* are well known, at least by name, to many readers of THE GARDEN, but they are not often seen.—T.

Correa cardinalis.—The popular name of Fuchsia has been given to this *Correa* by settlers in Australia, of which continent it is a native, owing to the resemblance between its drooping tubular-shaped blossoms and some of the members of this popular genus. The *Correa*, however, needs very different culture, as it belongs to what are popularly called hard-wooded or New Holland plants, and therefore needs much the same treatment as the Heaths, *Epacris*, and such like subjects—that is to say, a peaty soil, firm potting, thorough drainage, careful watering, and a free circulation of air whenever possible. The genus *Correa*

contains several species, in some of which the flowers from their greenish white hue are not particularly showy, but in this species the body of the flower is bright scarlet, tipped with greenish white. It does not form so shapely a plant as some of the less attractive ones, hence it is often grafted on *Correa alba*, one of the strongest growers. The usual blooming season of *Correa cardinalis* is from the New Year onward through the spring months.

Eranthemum pulchellum.—Though this *Eranthemum* is well known it might with advantage be more often met with in gardens, for the flowers are of a delightful shade of blue, a colour little represented among indoor plants, added to which they appear in the depth of winter, and the plant itself is easily propagated and grown. True, the individual flowers do not last long, but a succession is kept up from each cone-shaped head for some time. It is an old plant in gardens, where it is generally known under the above name, but is now by botanists included in the genus *Dædalacanthus*, with the specific name of *nervosus*. The genus *Dædalacanthus* now contains, besides the above, *D. macrophyllus*, which was also formerly included in the genus *Eranthemum*, *D. parvum*, and *D. Wattii*, which have been shown several times within the last year or two at the meetings of the Royal Horticultural Society. All are of simple culture, the chief trouble being red spider, and then only if the atmosphere of the structure in which they are growing is kept too dry.—H. P.

Gardens for working men.—The Horticultural Society of Valenciennes, presided over for so many years by M. Weill-Mallez, has resolved to take the initiative in creating and organising gardens for working men under the following conditions: The extent of each garden shall be at least 250 square metres; they shall be placed at the disposition of families without rent of any kind; they may be taken away at any time from the holder, if need be, and they can in no case be ceded by the holder to another; they will be specially devoted to vegetable cultivation, to supply the needs of each family; any garden badly kept will be taken from the occupier. The reasons which have decided the society to undertake the initiative in this beneficent work are that the fatigue of the workshop and the mine may be forgotten in the wholesome and refreshing labour of the garden; and to counteract the habits resulting from the vice of alcoholism.—*Le Jardin.*

Clematis calycina.—Among the hardy *Clematis* this is conspicuous for its evergreen leaves and its flowers, which are borne in mid-winter. Though for several reasons it is very interesting and worth a place in gardens where large collections of shrubs are formed, it cannot be called everybody's plant, for there are a great many far more ornamental species. It is an extremely old plant, the date of its introduction into England being given as 1783. It is a native of the Balearic Islands, and was sent to Kew about the date previously mentioned by M. Thonin, from the island of Minorca. The branches are slender, 10 feet or 12 feet long, and twisted and twined together so as to form a large tangled mass. The leaves are usually ternate, the leaflets being deeply lobed and deep green. The flowers, which are borne from the end of November till February, are pendulous, greenish white, and 2 inches to 2½ inches across. When growing in the open the flowers do not make a very great show at any particular time, but when against a south wall flowers are produced more freely and the colour is much better. The latter method of culture appears to be the most suitable one. Another name under which this species is sometimes seen is *C. balearica*.

Hamamelis mollis.—During recent years much attention has been paid to the Witch Hazels on account of the bright display made by their flowers early in January. The number of species in cultivation is four, and three of these bloom in January, the other during late autumn. *H. virginica*, the common North American Witch Hazel, is the autumn-flowering species, the spring-flowering ones being *H. arborea* and *H. japonica*—with a variety of the latter called *zuccariniana*—

from Japan, and *H. mollis* from China. With the exception of the Chinese species all have been in cultivation for a considerable time. The one under notice, however, is still a new plant, having been put into commerce two or three years ago by Messrs. Veitch. It was discovered by Dr. Henry in the Hupch Province of Central China, where it is said to make a tree from 10 feet to 30 feet in height. Its most distinct character is its large oval leaves, which are covered with silky hairs. The flowers, in addition to opening earlier than those of the Japanese species, have wider petals, terminated with a slight hook, and are not so twisted as in other species. Up to the present it seems to grow well, but has the disadvantage of starting into growth early, and is apt to suffer through late spring frosts. The sharp frost experienced last May damaged this species considerably, other species escaping in a large measure. At the present time—the last day of December—many flowers are open, and should the weather keep mild the plants will be in full bloom shortly.—W. DALLIMORE.

The common Bracken.—My experience is that this common Fern grows strongest when beneath tall trees, the soil having been manured for generations by the falling leaves. Naturally the shade promotes a greater length of Bracken stems, but, all the same, evidently revealing in the shade and ample store of root food supplied by the decaying tree leaves. Sometimes the fronds are 6 feet to 7 feet high. What Bracken is on really poor, unfed soils can be seen in Bushey Park, where out in the open, with only deer to manure the ground, it is of miserably stunted growth, showing how poor and foodless the soil must be. We are too apt to overlook the wonderful part trees can play in the rendering unusually fertile what previously was very poor soil.

Chrysanthemum Framfield Pink.—My neighbour, Mr. Hayward, the Kingston florist, showed me, on the 3rd inst., a bunch of this singularly beautiful pink variety, which he had brought from market. The flowers were not at all big, happily, but just the size to suit floral decorators, and were on long stems. To me, amidst the abundance of whites, yellows, and bronzes seen almost on every hand even yet, this pink variety was indeed charming. It was not a washy colour, but a real rich mauve-pink, the colour being as good as could be seen on any pink variety in November. In contrast was a bunch of the same variety from another grower that were rubbish; hence it is evident that all cannot, or do not know how to, grow the plants for such late blooming. I am aware that the French claim the name of *Mme. Felix Perrin* for Framfield Pink, but the market growers at least have resolved that the English name is to stay.—A. DEAN.

Winter-flowering Geraniums.—At the Manchester Chrysanthemum show, which was held on November 20 last, Messrs. Cannell and Sons staged one of the finest collections of cut blooms that even this firm has ever exhibited. Even the bright-coloured Japanese Chrysanthemums looked dull beside the glowing Geraniums. What struck me so much was the wonderful depth of colouring of the flowers as well as the individual size of the petals. Thinking the names might act as a guide for cultivators in the future in selection I append those that struck me as being the most noteworthy, with a brief colour description: Princess of Wales, rosy cerise; Duke of Norfolk, magenta, suffused crimson with large white eye; Mrs. George Cadbury, salmon. Captain Holford produces extremely large trusses and blossoms. In colour it is soft crimson, the lower petals shaded with purple, the upper are suffused with bright orange. General French is a soft scarlet colour, shaded deeper at the base of each petal. During the winter season the colour is more intense; it is an extremely fine variety; President McKinley, warm rosy red in colour, with a conspicuous white eye; Lord Curzon, a rich magenta shade, the blooms are large, the petals beautifully formed; Mary Pelton, pale salmon, delicate and beautiful shade; The Sirdar, deep scarlet; Lady Roscoe, a delicate shade of

blush pink; King of Crimsons is quite one of the best of winter-flowering varieties of a glowing crimson colour; Lilacina Improved, soft lilac-pink; Nicholas II., crimson-scarlet, large; Chaucer, cerise; Lord Faer, clear rosy scarlet; Lord Roberts, purple, shaded magenta, with a large blotch of orange at the base of the two upper petals; Lady Tennyson, salmon, mottled towards outside of petals; and Winston Churchill, magenta-pink, white eye.—E. MOLYNEUX.

Daphne Mezereum grandiflorum. Though little known, this variety of the Mezereum is a very old one, for it is alluded to by Loudon as *Daphne Mezereum autumnale*. These two varietal names well express its most prominent characteristics, for the flowers are larger than those of the type, and borne during autumn. The season of blooming is, however, not limited to that period, for unlike the common Mezereum, whose flowers expand almost simultaneously, those of the variety *grandiflorum* are produced from November until early in the New Year, hence at no time is there a display equal to that yielded by the type, but appearing as they do throughout the winter they are most welcome. The flowers are much larger than those of the type, and of a richer purple, while, like it, they are deliciously scented. Of the other varieties of the Mezereum, the white-flowered form affords a pleasing variety, and it flowers at the usual time. It is some years since I met with the white variety with double blossoms, but I see it is still in the "Kew Hand List."—T.

TREES AND SHRUBS.

YELLOW-FLOWERED SHRUBS IN WINTER.

OUR hardy shrubs that bloom during the winter months those in which the flowers are of some shade of yellow are largely represented and particularly welcome, for this colour is very effective in dull weather, and little dimmed by heavy rains. First and foremost is the Winter Jasmine (*Jasminum nudiflorum*), which maintains a succession of its golden blossoms for a long time. It is usually treated as a wall plant, and in this way forms a delightful object. It receives a certain amount of protection from sharp frosts, which, though they injure the expanded blossoms, have little effect upon the unopened buds. It is also very beautiful as an outdoor shrub, all that is needed being to secure the principal branches to a good stout stake and allow the minor ones to grow at will. Though seldom seen in this way it flowers freely, and against a background of dark-leaved evergreens is very conspicuous. On large bold arrangements of rockwork the bright green twigs studded with their yellow blossoms are seen to great advantage when draping the surface of a rock or in a similar position. The garden lover has much to thank Robert Fortune for, as he was the means of introducing not only this Jasmine, but many other valuable shrubs. After this comes the Japanese forms of the Witch Hazel (*Hamamelis*), in all of which the quaintly shaped flowers are of some shade of yellow, while the Cornelian Cherry (*Cornus Mas*), which blooms usually in February, is, when at its best, thickly studded with little tufts of blossoms which are of the same hue. *Berberis japonica*, the first of the Ash Berberries to unfold its blossoms, often commences to flower soon after Christmas, while the better known and richer tinted *Berberis Aquifolium* will, unless the weather is very severe, begin to flower quite early in the New Year. *Forsythia suspensa*, too, which is one of the first of what may be regarded as early spring-flowering shrubs, has also yellow blossoms.

COLLETIA CRUCIATA.

THE receipt of some flowering sprays of this *Colletia* serves to direct attention to one of the most curious of all our hardy shrubs, and a plant

full of interest in every way. It is practically leafless, the entire specimen being as it were built up of large flattened triangular-shaped spines, arranged in opposite pairs, each pair being set crosswise to the next. These spines are deep green, so that a specimen is in the winter nearly as effective as an evergreen. The flowers, which are borne in little clusters from the lower portion of the spines, are small, urn-shaped, wax-like in texture, and greenish white in colour. Closely inspected they are pretty, but do not add much to the general effect of this singular shrub. It is a native of Uruguay, and is, beside the specific name of *cruciata*, also known by that of *biconensis*. On the ground of priority, however, *cruciata* is the correct name, while it has also the advantage of being very descriptive. A second form of *Colletia*, known as *C. horrida* or *spinosa*, is composed almost entirely of awl-shaped spines, and is quite as formidable as the preceding. This was long recognised as a perfectly distinct species from the other, but of late years many instances have been noted of branches of one kind being produced from specimens of the other, thus proving conclusively that they are but forms of one species. Such a marked case of dimorphism as this occurs in few plants. The *Colletias* are hardy in the South of England, but in most districts succeed best in a sheltered position. T.

A BEAUTIFUL HOLLY (ILEX LAURIFOLIA NOVA).

IN his interesting notes of good Hollies (page 444) Mr. Clark has not mentioned the above, which I regard as quite the best of all green Hollies. This Holly is, I believe, known on the continent as *Camelliaefolia*, but is altogether distinct from *laurifolia*, which Mr. Clark writes of as synonymous with *Camelliaefolia*, and this accords with Messrs. Clibran, who give "*I. laurifolia* = English *Camelliaefolia*" and "*I. laurifolia nova* = *Camelliaefolia* of continental growers." *I. laurifolia nova* is not to be met with in all nurseries, and there are probably very few plants of specimen size in the country, but its merits are beginning to make themselves known. It has very large leaves, not quite so broad as those of the variety generally known as *I. Shepherdii*, and some others, though 5 inches by 2 inches would be about the average size of the leaves on a well-grown plant. The leaves are generally spineless, except at the tips, but some have also spines on the edges. They are a very deep green, and the leaves take on sometimes a deep purple tinge during the winter and spring, almost the colouring frequently seen in the Mahonia. As a berried Holly it leaves nothing to be desired, for the berries are very large, plentifully borne, and persistent, while the habit of the plant is excellent, being dense and stiff.

Shipley Hall Gardens. J. C. TALLACK.

[This is an excellent Holly, the leaves large, very leathery, and rich green. We noticed it at Shipley Hall in the autumn, and thought how handsome it looked in the garden, and also in Messrs. Barrow and Sons' nurseries at Borrowash, near Derby. Mr. Tallack sends a few leaves to remind us of its value.—E.D.]

PROTECTING EVERGREENS.

THE severe cold weather which has frozen up the whole North and a portion of the South, too, brings us suddenly to the question of tying up evergreen and other trees and shrubs deemed not quite hardy. The shelter these subjects require is that which will protect them from sun and wind. Any of the evergreens growing where the requisites mentioned are already afforded them by some building or large evergreen trees will be evidence of what kind of protection they require. I have seen these evergreens in such positions come through the winter with not a leaf hurt, when others of their kindred not so favoured would not be able to show a perfect leaf. Keep steadily in mind that the sun and the wind are the enemies in winter; then what to do will suggest itself. A nice little specimen of the rare, in this country, *Photinia serrulata*, in my own

collection came through last winter in splendid condition when so sheltered. A house kept off the cold winds nicely, but the plant got the full afternoon sun when not sheltered. The shelter was given it by a leaning board from the house to the ground breaking the sun from it. Not a leaf suffered. The practice of wrapping up evergreens tightly in straw, so close and tight that air cannot easily penetrate the covering, is wrong. I have seen evergreens killed outright by this practice. Some such covering is all right; but put it on loosely enough to break the sun's rays and the wind, but not to make the foliage and the wood tender by confinement.

In situations where evergreens are well sheltered from cold winds, and, in consequence, from hard frost also, the sun in winter is not to be so greatly feared. Rhododendrons and Magnolias when so sheltered near a dwelling are not hurt by the sun, especially when the ground is moist; but 50 yards away without this shelter the risk of losing every leaf would have to be run.—JOSEPH MEEHAN, in *The Florists' Exchange*.

THE INDOOR GARDEN. NEW ANTHURIUMS.

ABOUT twenty-five years since the large-leaved *Anthurium* brightened the flower shows; *A. crystallinum* had appeared; *Caladium* introduced from Brazil by M. Bleu were grown everywhere; *Alocasias* came into vogue; and the *Philodendron* began to be generally grown. But in 1880 a new era was marked in the evolution of the Aroids by the appearance of *Anthurium andreanum*. Whilst some specialists were enriching their collections with a series of novelties obtained from A. scherzerianum, others showed the brilliant results of their efforts with *A. andreanum*, *A. carneum*, *A. ferriense*, *A. houletianum*, *A. Chantreieri*, and *A. Edwardii* were sent out in 1884. Afterwards, in 1888, *A. lawrenceanum* appeared.

The vigour of these plants, their rapid growth, their free flowering, and, above all, their success, prompted the continuance of the search for them. About 1891 *A. Goliath*, with large deep carmine-vermilion spathes, was much admired at the different exhibitions, as also were the spathes equally as large, but of a salmon colour, of *A. Baronne Chandon*, as well as those of a rounded form of *A. John Laing*. Hybridists especially sought to obtain a white-spated variety, and finally *A. andreanum album*, with spathes of pure white, was obtained in 1898.

For several years past, owing to the general cultivation of these plants, we have constantly witnessed new productions, larger, deeper coloured spathes, improvements in the form of the plant, &c., at the annual exhibitions. Such are *A. Fournieri* of M. le Dr. Fournier de Neuilly; *A. Monarque* of M. Page; and *A. Baron Seillière* of M. Bultel. There are also the magnificent productions of M. Jarry-Desloges and of M. Fournier of Marseilles, as well as those which were lately shown by M. Valvassori of Italy, at the exhibition of the Société Française. Since then notable improvements have been made in the *Anthurium*. In 1900 we were struck by the phenomena which the inflorescence of one of our sowings presented. From the first leaf this one was always much more vigorous than the others. Its elegant leaves were further developed and of a deeper colour. Its flowering appeared to us to be so original that we feared at first it was but an eccentricity, and we waited until several others appeared before having it described. *A. andreanum rhodochlorum* (for such is its name) offers to the amateur the advantages of a plant which is at the same time both decorative and peculiar. Moreover, it presents a new and curious type to hybridists. To this variety, which is of the first merit, we would add *A. Goliath*, *A. Charles Joly*, and *A. Baronne Chandon*.

Another novelty of which we wish to say a few words is the result of crossing *A. andreanum*



MARICA GRACILIS.

with *A. scherzerianum*. This plant takes after both parents. It has the habit and the foliage of *A. andreaum*, but it remains dwarf, and its leaves, which are thick and long, are much smaller; the spathes are heart-shaped; they are glossy like those of *A. scherzerianum* and of a crimson colour. The spadix is erect and long.

J. CHANTREIER, in *Le Jardin*.

GREENHOUSE "FLAGS."

The members of the genus *Marica*, to which the above-named term may well be applied, are by some authorities included in the genus *Iris*, while by others they are kept distinct. Even then the nomenclature is by no means uniform, for *Morea* and *Cypella* sometimes claim them. The general appearance of *Marica gracilis* is well shown in the accompanying illustration, its floriferous character being there very apparent. In colour the flowers are whitish, marked in the centre with blue. Other well-known species are *M. cerulea*, whose flowers are pale blue, with the small petals in the centre striped and barred with purple; and *M. northiana*, in which the flower is dotted with chocolate-brown.

Morea iridioides, from South Africa, is another pretty member of this class, in which the flowers are white, with a yellow blotch. The Wedding Flower of Lord Howe's Island (*Morea* or *Iris robinsoniana*) was the subject of many eulogistic notices previous to its flowering in this country, now about fifteen years ago. When it first bloomed in the succulent house at Kew there was a general feeling of disappointment, not from any lack of beauty—for it is really a handsome plant—but because it had been so overpraised that one was led to expect flowers even superior to the Japanese *Iris laevigata*, but those of the new comer turned out to be very much smaller. The culture of the different *Irids* above alluded to is not at all exacting, the principal consideration being to give copious supplies of water during the growing season, with a less quantity throughout the winter, but at no time must they be kept dry. When once established they will keep in health for years and flower well without repotting. In all of this class the individual flowers remain but a short time in perfection, but a continued succession is kept up from each scape, thus extending their season of blooming over a lengthened period.

No notice of these tender members of the *Iris* family would be complete without mention of *Iris chinensis*, also known as *I. japonica* and *I. fimbriata*. When good-sized masses are established in pots from 10 inches to 12 inches in diameter, they will, in the month of March, be laden with their beautiful pale blue flowers. This species (an old one in gardens) should not be disturbed at the roots more than is absolutely necessary. In summer it may be stood out of doors in a sunny spot, this being of great help in ripening the growth for the next season's display.

H. P.

TECOMA SMITHII.

FOR some time past this charming plant has added not a little to the beauty and brightness of the greenhouse. Its somewhat large pendulous orange-coloured flowers are arranged in a loose head at the end of the summer's shoots. Plants about 18 inches or so high are very pretty, and look particularly well if intermixed with such things as *Narcissi*, white *Bourvardias*, *Epacris*, &c., and having an undergrowth of green furnished by *Selaginella* in pots. *Tecoma Smithii* is well worth the attention of those interested in greenhouse plants, and should not be absent from the smallest collection. It is not difficult of culture, requiring but a cool house. Young plants may be raised either from seeds or cuttings inserted in early spring. When established in larger pots they should be allowed the full benefit of the sun, so that the growth made may be as strong and well matured as possible.

NOTES ON BEGONIA GLOIRE DE LORRAINE.

This plant can be most successfully grown in a temperature higher than that of a cool greenhouse. As soon as the plants show signs of exhaustion after flowering, and some will now be in this condition, they should have rather less water given to them, and should also be placed in a somewhat cooler house where the minimum night temperature does not fall below 53°. The old shoots should be shortened back considerably so as to induce the formation of young growths from their bases. With the advent of warmer and brighter weather these will not be slow to appear. When the shoots are about 3 inches long they

should be taken off and inserted singly in small pots in a compost of equal parts of loam, leaf-mould, and silver sand, the whole being passed through a sieve; then in a close propagating case the cuttings will soon root. When rooted they must be exposed to the usual conditions prevailing in the house. They will be ready for potting into 3-inch pots in about a fortnight; the compost should consist of loam and leaf-mould with sand added. In a few weeks' time, if the plantlets are placed in a warm moist house, they will be ready for transference to 5-inch pots, and in these they may be flowered well. In 6-inch pots larger plants would be obtained, but for most purposes those grown in the smaller size will be found generally useful.

It is astonishing for how long a time this *Begonia* will continue to produce flowers. Commencing in the autumn, it may be had in bloom throughout the winter. Those who had the pleasure of seeing the splendid specimens shown by Mr. Fleming, Wexham Park Gardens, Slough, at the November exhibition of the National Chrysanthemum Society will not need to be told what splendid decorative plants these *Begonias* make when well grown. Those exhibited by Mr. Fleming were grown in large pots—8-inch, I believe—and being masses of flower and the plants of perfect shape, of course made a grand display. Plants in smaller pots, however, if well grown, almost smother themselves with blossoms. Good winter-flowering plants are none too plentiful, so that such a valuable one as *Begonia Gloire de Lorraine* deserves all the attention that can be given to its culture.

It is essentially a plant that well repays careful treatment, the difference between a fine plant, symmetrical and well flowered, and a poor weakly yellow-leaved specimen, with flowers which might be counted without difficulty, is very considerable; the latter is not to be compared with the former.

A. P. H.

THE FLOWER GARDEN.

INCREASING DAHLIAS.

INTENDING propagators of the *Dahlia* from cuttings should now make a start. Tubers should be thoroughly looked over to see if any are inclined to rot, and if simply the tips of the tubers are decayed they can be cut back to where the root is healthy; but if badly rotten cut back to the collar. Be sure that no affected portion remains or it may still continue and eventually be the means of losing the entire root. If the roots have been at all damp dry them, not too much, but only enough to make them feel leathery and rough when handled. The tubers being ready, a place in the greenhouse must be decided upon where they can be placed to produce cuttings. A suitable arrangement is a temporary stand fixed near the hot-water pipes on which about 6 inches of soil is placed and the tubers bedded in, always leaving the collars or crowns well out of the soil so that the cuttings may be the more easily taken off. One need not trouble about the soil for the tubers so much as in the case of potting mould, but if some fairly good well-rotted material is at hand mix a good portion of ashes with it, and if available some leaf-mould also. If when the roots are bedded in it is in a moist condition no water need be given for some time. If the greenhouse is kept up to a temperature anywhere between 50° and 65° cuttings will soon be ready to take. They should be about 3 inches long and cut off close to the base, unless a large number of a sort are required, or only one or two eyes seem likely to push forth, in which cases leave the bottom joints of the cutting for other shoots to start from. Cuttings taken at an ordinary joint do not, however, strike so easily. The cuttings can be put in one on each side of a small pot in very sandy soil and placed in a shady part of the

house. They may be somewhat freely watered, and in about fourteen days will throw out their first roots. They can then soon be parted, potted on, and placed out in a frame. If not convenient to make a special place in which to put the tubers they can be bedded in pits or boxes, or even potted if small enough, or if the grower cares to use pots large enough to hold them. As is done in many cases, they may be started on a hot-bed, but the hot-bed method, however, has never found favour with us. It is too forcing, and for striking Dahlias is often a source of sad failure. We once made up a small hot-bed and placed thereon a very fine collection of double Dahlia cuttings, all looking well for a day or so, and we did not think to notice how the heat of the bed was progressing till one morning nearly the whole lot was killed, and eventually only one survived—a little wiry chap, "Burgundy" by name, who happened to be placed at one corner of the bed. Of course, once bitten twice shy; but hot-beds are uncertain for striking Dahlia cuttings.

It is not necessary, as so many seem to think, that the cuttings must be placed in a tremendous heat. No doubt a moderate heat is best for quick rooting, but as everyone cannot have a first-class house with hot-water pipes and everything of the best to maintain a great heat, the cuttings must be struck in a cooler temperature. There is also an idea that they must be enclosed in hand-lights or close frames. This also is very good if attainable, but they will strike, as before-mentioned, in the open house, though they may present a sorry spectacle for a few days through flagging so much, but soon recover from this, and should not be unduly watered in order to freshen them or the chances are they will at first look better and finally rot. The wiry cuttings keep stiff and fresh from first to last. P.

CAMPANULA RAINERI.

I HAVE more than once been asked to describe the habitat of *Campanula Raineri*, which grows so beautifully in the rocks in the mountains of North-Eastern Italy. I cannot do better than send a small photograph done in one of the first days of November in the Bergamasque Alps, near La Presohana, Italy. The rocks are dolomites, a kind of tuff or limestone. *Campanula Raineri* sometimes grows in places that are damp and shady, and sometimes facing the hottest sun, but always in narrow rock crevices, into which the roots penetrate, so that it is very difficult to get them out. The best means of bringing it into gardens is by seed or by cuttings of its many little shoots. Such cuttings do very well in a cold frame in August or September.

H. CORREYON.

Floraire, Chêne-Bourg, Geneva.

HEMEROCALLIS OR DAY LILIES.

THE *Hemerocallis*, a group of very hardy and easily-grown plants from South Europe and Japan, have received marked attention in recent years. The advent of *H. aurantiaca major*, a singularly fine plant from Japan, helped to direct attention to the many good qualities of other species. Many of the taller species are admirable plants, their soft, yet distinct colours, tall towering flower stems and tufted habit, combined with a faculty for growing in almost any damp soil and in any situation, fit them for producing floral displays calculated to be effective at a distance. The smaller species, a few of the new hybrids, and the double-flowered varieties of *H. fulva*, make excellent border plants of limited growth, whilst the little *H. minor* is worthy of a place on a moist rockery. The one characteristic that in some measure damps their popularity as garden plants is the short

length of time the flowers last in good condition, and with such plants as *H. Dumortieri* and *H. minor*, which are few-flowered, this is a great drawback, but with others (*H. flava*, *H. Thunbergii*, and the like) which produce quantities of flowers daily the brief life of individuals is a matter of little moment to those who value them as plants and as flowers for cutting. All are moisture-loving plants, and the one reason why *H. aurantiaca major* fails in so many gardens is just lack of moisture. They increase quickly—some need triennial splitting up to keep them within the circumscribed limits allotted to plants in small gardens—and it is this freedom of growth and quality of self-help that renders *Hemerocallis* so useful in all kinds of informal gardening on a large scale, where the plants can spread at will and show more of their graceful habit than would be possible in a crowded plant border. The best plant for all purposes is the canary-yellow



THE HOME OF CAMPANULA RAINERI.

H. flava (L.), a European species producing ample leaves in dense yet graceful tufts 2 feet high and 1 foot through, and numerous spikes towering high above the foliage, each bearing about a dozen canary-yellow flowers from 3 inches to 4 inches long and 3 inches across, with broad inner petals and lanceolate outer ones. The colour is very pure and distinct, and the flowers are of good shape. The plant is good alike for the "wild" garden, and would grace any position in the choice plant border; it has been known for years, and is a general favourite. It flowers from the beginning of June onwards.

H. Thunbergii (Hort. Kew).—A tall species producing dense tufts of linear leafage 2 feet high and 1 foot through, and stout, much-branched stems 4 feet high, bearing large quantities of pale sulphur-yellow flowers each 2 inches across and 3 inches long. The plant is more suitable for grouping in the garden than for border planting, as it is a very strong grower and free to flower, making a grand display of its sulphur-coloured flowers in July and August. There are several forms of this plant in cultivation, two of them having simple flower-spikes and larger flowers, but the much-branched type here described is far and away the best. In strong soils, and especially

when planted near water, this plant grows from 5 feet to 6 feet high, the flowers being borne tier upon tier in endless profusion and for a great length of time if the swelling capsules are occasionally removed. It is one of the parents of the hybrid *H. luteola*.

H. aurantiaca.—A plant scarcely known to the majority of British gardeners, though I have noticed a few clumps of it in various parts of the country, but without names or history. It makes growths of smaller size than the variety major, forming a clump 2 feet high and as much through. The spikes are 2 feet long, sub-erect, bearing from five to eight orange flowers 6 inches to 7 inches long and 6 inches across, raised just above the foliage. It is a better plant than *H. aurantiaca major* in light, dry soils; it is also freer in growth, but the inflorescences are not so large. The variety

H. major (Baker) is the finest plant of the genus.

The leaves are arranged in broad, distichous tufts, which never grow so dense that the distichous character of the plant is lost. The spikes flower in July—sometimes a few are produced early in the year, and many often appear late in September. They average 1½ feet to 2 feet in length, and are not raised high above the foliage, but are poised at an angle, bearing from five to ten flowers of a fine rich orange hue, the petals of which are exceptionally massive, spreading to the fullest extent so that the flowers span 8 inches across. The plants require to be established for a year before they produce flower-spikes, and if the site is dry they must have heavy and frequent waterings to develop growth to the fullest extent. The season 1902 has been an ideal one for this plant. Specimens three years established are sending up several spikes each, and even tiny pieces are producing one spike. It does not require manure or high feeding of any kind—simply moisture in plenty and a sunny position.

GEO. B. MALLETT.

(To be continued.)

CHRYSANTHEMUMS.

NEW AND PROMISING VARIETIES.

AS promised in my last notes, I append a list of new sorts for the benefit of those who are adding to their collections and have not had an opportunity of seeing them.

These are undoubted acquisitions, and should be secured by all who are anxious to possess the best novelties either for exhibition or home decoration. All are quite new or were rarely seen before the past season.

Mme. Paola Radaelli.—This is not quite new. It is a monster Japanese of great merit. The colour is a very pleasing pink, and it is grand either for staging on boards or in vases, and is equally good for grouping. This was finely shown both in London and Brighton.

Hon. Mrs. Acland.—A fine golden-yellow English-raised Japanese variety which will make a splendid exhibition flower. The florets are broad, slightly incurving, and quite distinct.

George Mileham.—A very distinct and pleasing Japanese, colour rosy crimson. A very telling and refined flower.

Mrs. A. R. Knight.—A fine yellow Japanese. The petals are long, tipped with red. The bloom is of fine build and very pleasing.

Miss Mildred Ware.—This, in my opinion, is the finest Japanese novelty of the season. In colour it much resembles *Lady Hanham*, which is probably one of its parents. The flowers are of immense size, quite full, very elegant, and should find a place in every collection.

George Penford.—This is a welcome and desirable new Japanese variety, just the colour which was sadly needed. The petals are a fine crimson,



PHYTEUMA COMOSUM (LIFE SIZE).

the reverse gold, and will unquestionably replace that famous variety which has so long held its own, E. Molyneux.

Florence Penford.—Lemon-yellow, a finely-formed incurved Japanese, good. The two last-

tors; the colour is a most pleasing yellow, the petals long and drooping and somewhat pointed, the quality being all that one can desire.

Cecil Cutts.—Incurved; colour deep rich yellow, very large; will make a fine back row flower.

Mrs. J. Seward.—A very pretty, large, and telling incurved variety; colour soft yellow, shaded towards the base into rose.

Madge Creagh.—A magnificent incurved variety; colour yellow and bronze, a grand addition to this section.

The King.—This is probably about the best of the new incurved kinds, very large, of splendid form, and distinct. It was finely shown at the National Chrysanthemum Society's November show by Mr. Higgs, the champion incurved grower.

Curri.—A fine addition to the early-flowering decorative varieties; golden-yellow and very free.

Gertie.—A medium-sized early variety; yellow, shaded rose, very telling.

Belle of Weybridge.—This is a charming decorative variety, and should become a general favourite in this section; colour a rich crimson-scarlet. Should be a good variety for table decoration, &c.

named varieties were raised by Mr. G. Penford of Leigh Park Gardens, Havant, and he is to be congratulated on placing such fine novelties before the public.

Miss Olive Miller.—A beautiful Japanese of great size and with broad petals, slightly incurving; colour silvery lilac, the reverse being very pleasing.

Mary Perkins.—A fine incurved Japanese, large, and very full; colour light yellow.

Henry Perkins.—A distinct Japanese of great size but a little loose, nevertheless a grand addition; colour dull crimson on a first crown bud, but much brighter on a second crown.

Countess of Arran.—A fine drooping Japanese. The petals are of great length; colour salmon-pink.

Edith Smith.—Japanese. Finely shown by the raiser, Mr. H. Perkins, in his first prize stand at the November National Chrysanthemum Society's exhibition; the colour is a pleasing creamy white, and the flower is very refined.

Viscountess Cranborne.—A Japanese of promise, and will prove of great value to exhibi-

Joseph Lowe.—A decorative variety of great promise, beautifully shown as grown in a pot at one of the meetings of the Royal Horticultural Society; colour rich golden-yellow.

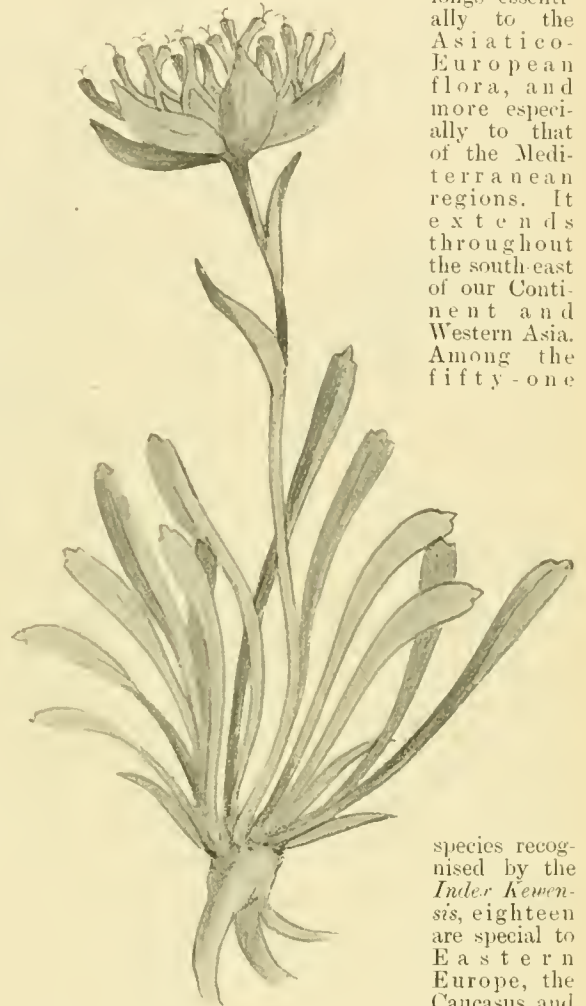
Black Prince is a very pretty early-flowering variety; crimson, golden reverse, very effective.

Nellie Blake.—A seedling from Mme. Desgrange, which it much resembles in habit, the colour being a pleasing crimson; good.

Acquisition is an early-flowering Pompon variety; colour bright crimson-red, shaded plum, very distinct and pleasing. E. BECKETT.

THE PHYTEUMAS.

The genus *Phyteuma* is one of the most completely alpine of the family of the Campanulaceæ. It belongs essentially to the Asiatic-European flora, and more especially to that of the Mediterranean regions. It extends throughout the south-east of our Continent and Western Asia. Among the fifty-one



P. CONFUSUM (LIFE SIZE).

species recognised by the *Index Kewensis*, eighteen are special to Eastern Europe, the Caucasus and Asia Minor, one to Siberia, one to the

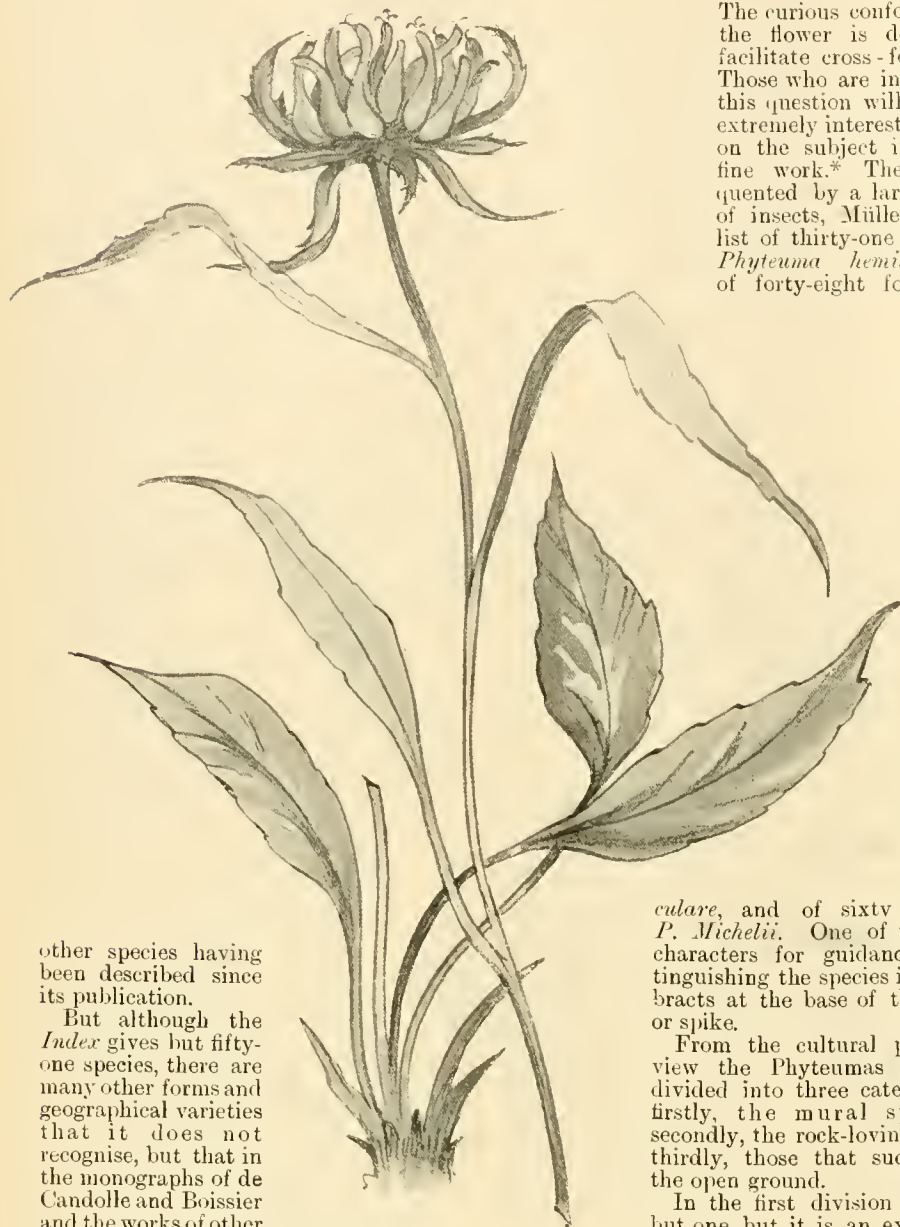
Himalayas, and one to Japan, which no doubt is of Siberian origin. One species is said to be American, from Chili, but it is possible that this may prove to belong to another genus, for it would be difficult to account for its presence in the Andes unless it were possibly by the agency which has carried several Arctic and European species to Terra del Fuego. It is true that the *Index Kewensis* also indicates another species in South Africa, but this again may prove to be a plant of doubtful identity.

De Candolle's *Prodromus*,* with the exception of the one Siberian species, gives only the European and Asiatic-Levantine plants, the

* *Prodromus*, Vol. VII., page 430.



P. HEMISPHERICUM (LIFE SIZE)



PHYTEUMA SCIEUCHZERI (LIFE SIZE).

other species having been described since its publication.

But although the *Index* gives but fifty-one species, there are many other forms and geographical varieties that it does not recognise, but that in the monographs of de Candolle and Boissier and the works of other botanists have been given specific rank. From the horticultural point of view, the one here chiefly

under consideration, there are many more *Phyteumas* than appear in the Kew list. But only twenty are in cultivation, or possibly twenty-five to include all that are found in botanical collections. The Oriental species are very little grown, the greater number of them not having been introduced; probably many of them are of difficult cultivation, for the seeds brought by the botanist Alboff from the Caucasus could not be grown here at Geneva in our *jardin alpin d'acclimatation*. Of these Eastern species, which belong to the special group *Podanthum*, two only appear to be known in our gardens, namely, *P. limonifolium* and *P. canescens*. It would, therefore, be desirable if my readers (English people having special facilities in these regions) could effect their introduction by means of seeds.

The genus *Phyteuma* is distinguished from *Campanula* by its tubular corolla, coherent at the top, and, towards the base, divided into five narrow separated straps, which form, as it were, a protective rampart around the ovary.

The curious conformation of the flower is designed to facilitate cross-fertilisation. Those who are interested in this question will find some extremely interesting details on the subject in Müller's fine work.* They are frequented by a large number of insects, Müller giving a list of thirty-one species for *Phyteuma hemisphaericum*, of forty-eight for *P. orbi-*

place in tufa, in which it appears to grow most willingly.

It is a handsome plant of strange aspect, with coarsely toothed leaves and large blue sessile flowers, closely pressed together in a compact umbel, pale lilac in the swollen base,



P. PAUCIFLORUM (LIFE SIZE).

and deep violet in the narrowed upper part. The bifurcated style is fine and drawn out beyond the flower to a length equalling that of the flower itself.

It blooms in June and July, and must have an absolutely horizontal position, that is to

culare, and of sixty-eight* for *P. Micheli*. One of the special characters for guidance in distinguishing the species is in the bracts at the base of the head or spike.

From the cultural point of view the *Phyteumas* may be divided into three categories—firstly, the mural species; secondly, the rock-loving; and, thirdly, those that succeed in the open ground.

In the first division there is but one, but it is an extremely characteristic plant, of more value than many others. This is the well-known

Phyteuma comosum (L.), only found in a wild state within a comparatively restricted area. This very remarkable plant, of which de Candolle, in his monograph, makes a section alone, grows in the fissures of the calcareous rocks which edge the lakes of Como and Garda and the rocks of Carinthia. In some places it comes to the actual water edge and can only be gathered from a boat. It grows really in the rock, thrusting its thick fleshy roots into the fissures, which they fill entirely. They could only be got out by means of a stone-mason's chisel and hammer; indeed, I doubt if it is possible ever to get them out with the roots unhurt. It may, however, be grown from seed, though not easily. We did well with them in the tufa wall of the *jardin alpin d'acclimatation* at Plainpalais, also here at Floraire, to which place we have recently removed the garden and all our collections. Here we have made it a special



P. HUMILE (LIFE SIZE)

* Müller, "Alpenblumen und ihre Befruchtung durch Insecten," page 406.

say, it must be planted in the joints of a wall or a piece of perpendicular rockwork. It likes to face either the rising or the setting sun, though in England it can very well bear a full southern exposure. It must have limestone. It is one of the handsomest rock plants, and one of those most rarely seen in gardens. Still it is not very difficult to grow, its only requirement being a fissure in limestone.

In the second division we have the species that grow in mountain rocks, generally dwarf, tufted plants. They are as follows:—

Phyteuma Curesia (Bic.).—From Corsica and the Western Alps. This is a *P. humile* still more thick-set, and is grown in the same way as its congener.

P. Charmeli (Vill.).—From the Alps of Dauphiny, the Pyrenees, and the Apennines: 6 inches to 12 inches high; root-stock thick and brittle, leaves soft, coarsely serrated: flowers dark blue in round heads. The bracts are linear-lanceolate, very gradually drawn out to a point, usually entire and ciliated, often longer than the flower-head. A rare plant in gardens, flowering in June and July.

P. confusum (Kern.).—From the granitic rocks of the Tyrol. A low, tufted plant; leaves long and grass-like, narrowing abruptly to a toothed tip; bracts of the flowers broadly ovate-lanceolate: flowers deep violet in a close head.

P. globulariaefolium (Sternb.).—From the Southern Alps; a form very near *P. pauciflorum*, from which it is distinguished by the leaves being widened in their upper part and toothed, and by the more globular flower-head.

P. hemisphericum (L.).—From the granitic Alps. A small plant with grass-like leaves, forming large tufts scarcely distinguishable from the grass; flowers violet-blue, in close heads, with ovate-lanceolate ciliated bracts at their base. It flowers from June to August. In cultivation it likes a dry place in full sun. In our garden we have a fine white-flowered variety that was found near Bourg St. Pierre.

P. humile (Schleich.).—From the high middle and Eastern Alps. A beautiful and rare species, with large violet-blue flowers in globular heads; bracts as wide and as long as the flower, sometimes even longer; leaves narrow and grass-like, but larger than those of *hemisphericum* and sparsely toothed. June.

P. pauciflorum (L.).—From the high Alps, throughout the whole chain from the Pyrenees to the Carpathians; the smallest and most tufted species of the genus. It forms a close, short turf and sometimes very large tufts; leaves entire, ovate-elliptical, obtuse and toothed at the tip: flowers few, violet-blue in spread-out heads, with ovate-orbicular bracts, which are shorter than the flowers. June.

P. serratum (Viv.).—From the mountains of Corsica. A small plant, dwarf and tufted;

leaves lanceolate, with widely spaced teeth; flowers violet-blue, in globular heads, with wide bracts expanded or reflexed. June and July.

P. Sieberi (Spreng.).—From the Southern Alps and the Apennines; leaves ovate-rounded, cordate-crenulate; flowers deep violet-blue, in globular heads, with ovate, coarsely toothed bracts. June and July.

P. Scheuchzeri (All.).—From the sunny granitic rocks of the Alps, the Pyrenees, and the Carpathians. A plant with slender flexible stems, relatively tall (4 inches to 16 inches); leaves ovate-elliptical, with serrated edges, the upper ones long and narrow; flowers deep



IRIS TINGITANA IN A PENZANCE GARDEN.

violet-blue, in rounded heads, furnished with long narrow bracts, either expanded, erect, or drooping, always longer than the flower. July and August.

All the species in this division require rocky fissures in full sun and dread damp; they need but little soil, and that only of leaf-mould and sand. It is desirable in winter to protect them from heavy rains by some kind of overhead shelter, but this only applies to damp regions, such as the centre and north of England.

Flourire, Geneva. HENRY CORREVEON.
(To be continued.)

NOTES ON HARDY PLANTS

IRIS TINGITANA.

RARELY met with in this country is the Tangiers Iris, though an exceedingly beautiful species, a fact that is doubtless chiefly due to the difficulty generally experienced in flowering it. Numerous queries appear from time to time in the columns of the gardening press asking for information as to its successful culture, and very rare are the notes recording its blooming in the British

Isles. At Ryde, in the Isle of Wight, the late Rev. H. Ewbank flowered it, but, I believe I am correct in stating, not annually, and in certain other favoured spots it blooms fairly satisfactorily. The best examples that have ever come under my notice I met with in a garden some two miles distant from Penzance in the last week of March, 1902. The plants were growing in deep porous soil at the foot of a wall facing east, and the group displayed seventeen flower spikes, averaging about 2 feet 6 inches in height. The foliage was exceptionally strong and the flower-stems stout, this vigour being presumably accounted for by the presence of a layer of manure a foot or so beneath the surface. The garden in which these Irises were growing is noted for the splendid specimens of the rarer *Narcissi* that it produces. The flower, which resembles that of a glorified Spanish Iris (*I. xiphoides*), to which this species is allied, is in strong examples, 6 inches across, and is pale blue, merging into purple-blue, with a spreading keel of golden-yellow. The leafage is grey-green in colour and deeply channelled, curving gracefully outward as in the English Iris (*I. xiphium*), but considerably exceeding the leaves of that species in length. *Iris tingitana* starts into growth in the autumn, and carrying its foliage through the winter is exposed to the full rigour of that inclement season. The plants, however, are rarely killed by the frost, but in most instances persistently refuse to flower, and where this is the case their culture from a decorative point of view is useless. The conditions most suitable to this Iris are a rich and porous soil, shelter and ample sunshine, the two latter being most easily provided by planting at the foot of a warm wall.

S. W. FITZHERBERT.

POLYGONUMS BY WATERSIDE.

YOUR illustration of the tall-growing *Polygonum sachalinense* by the waterside reminds me of the great value of *P. alpinum*, a much dwarfier and better plant I think for the same purpose. Unless the sheet of water is very large one does not want too many tall plants round it, but *P. alpinum*, which is not well known, meets the case well, as it is only about 4 feet high, is sweet scented, and bears a very long succession of flowers

quite until late autumn, *i.e.*, until cut by frost, the flowers, too, being very white and large individually for a Polygomm. *P. sachalinense* is too readily affected by spring frosts to be universally useful, as there are many places where it would certainly have its first growth cut off if planted by the waterside in a low-lying spot. I have not seen *P. alpinum* served in this way, possibly because it is later in growth.

J. C. TALLACK.

SOLIDAGO SHORTII.

THE *Solidagos* are generally regarded as commonplace, and more suitable for planting in the shrubbery than among our choicer perennials. Yet the above is a very beautiful plant, and will prove a distinct addition to the herbaceous border. It has a robust constitution and reaches a height of 5 feet, bearing large heads of golden-yellow flowers in gracefully drooping racemes, which are splendid for decoration in a cut state.

It is most desirable either for grouping or planting as isolated specimens, and retains its characteristic beauty after the flowers have faded. *S. Shortii* quickly increases, and when better known will be a general favourite with hardy plant lovers.

A. E. THATCHER.

Allenham House Gardens, Elstree, Herts.

COLCHICUM BISIGNANI.

HERE the unseasonable character of the greater part of 1902 appears to have affected the late-flowering bulbous plants more than I had anticipated, and, writing in the second week of January, I may mention that *Colchicum autumnale roseum plenum* is still in flower, as well as *C. Bisignani* of bulb dealers. All other varieties of *C. autumnale* have long ago gone to rest, but the variety *roseum plenum* of Messrs. Barr and Son always flowers longer than any other. I have before referred to *C. Bisignani* as being one of the latest to flower, and it is in perfect condition now, although flowers have appeared for some weeks. *C. a. roseum plenum* looks a little unhappy, but one cannot say this of *C. Bisignani*, though our weather must have proved very different from what this Meadow Saffron experiences in its native Italy. I call this plant *C. Bisignani* "of bulb dealers," as Mr. J. G. Baker in the *Journal of the Linnean Society* only gives *Bisignani* as a synonym of *C. Tenorii*, in which he is followed by the "*Index Kewensis*." I am of opinion, however, that the plant here is not in accordance with *C. Tenorii* as described by Mr. Baker as above. Its segments are more pointed than one would expect from the description of our eminent botanist. The nomenclature of the Meadow Saffrons in gardens is very confused still. This matters less if we can procure exactly the plant we want, and I think that *C. Bisignani* can be had in this way under its name. Its late-flowering habit is a distinct advantage, and when one can have it in mild winters flowering in the open and without any glass shelter from some time before Christmas until well into January we have surely a good thing. This and *Polygala Chamæbuxus purpurea* form the brightest bits of colour in the garden to-day, except, perhaps, the *Winter Aconite* and the *Winter Jasmine*. The colour is quite different, however, of course, and the bright purple of *C. Bisignani* is welcome in the rock garden, especially when the sky overhead is gloomy and heavy rains sweep over the garden. I have grown this *Colchicum* for several years now, and each winter it seems to become more appreciated.

GALANTHUS SPECIES FROM ALBANIA.

THERE appears a general tendency on the part of the autumn-flowering *Snowdrops* to gradually adapt themselves to the habits of their sister flowers when they have been in our gardens for some time. The "October" ones gradually postpone their flowering until they come in the end of December and render the name of "*Octobrensis*" applied to one species a decided misnomer. I shall not venture to assert that this is invariably the

case, but my experience on this point is supported by that of some of my correspondents. Some who think a *Snowdrop* before its wonted time an undesirable thing will not lament this habit, but many will do so. A few years ago, through the enterprise of Mr. Van Tubergen, of Haarlem, Holland, an importation of these autumn-flowering *Snowdrops* was secured from Albania, and disposed of under the name at the head of this note with the addition "probably *Octobrensis*." They proved to be more robust than the ordinary form of *Octobrensis* as previously known in this country, though he would be a bold man who would attempt to discriminate and give distinct names to these *Snowdrops*. This stock has turned out the most satisfactory of the earlier *Snowdrops*, with the exception (here, but not elsewhere) of *G. Elsæ*. It is now in flower, and was the first to bloom with the exception of some newly-imported bulbs of *G. cilicicus*. This Albanian *Snowdrop* has the characteristic mark of all these autumn *Snowdrops*—a distinct white line up the centre of the leaf.

Carsethorn, by Dumfries, N.B. S. ARNOTT.

CORRESPONDENCE.

(The Editor is not responsible for the opinions expressed by correspondents.)

THE HORTICULTURAL HALL

[TO THE EDITOR OF "THE GARDEN."]

SIR,—It would be interesting to learn what was the particular public competition which furnished your correspondent "Onlooker" with the experience upon which his letter to you has been founded.

As a matter of fact the conditions which are stated in an invitation to such a competition are by this time well settled and known, and are available, and no exceptional difficulties or complications can on that account possibly arise. But I observe that your correspondent qualifies his "difficulties" by suggesting that they are "quite beyond the control of the present committee," and he pleads the necessity for a committee "of exceptional strength." This is not perhaps very complimentary to "the present committee"—your correspondent's estimate of which may have been influenced by an examination of the plans before us; but surely his argument points rather to the strengthening of the committee, should that be found necessary, than to the abandonment of a course which alone seems possible to rescue the society from the *impasse* into which it has been led.

I know that many Fellows of the society will receive with a feeling akin to despair the intelligence that the terrible building proposed as the English Home of Horticulture is to be adopted as it has been presented to us. Rather than this let us have any reasonable expenditure of money, time, and patience. EXPERTO CREDE.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—"Onlooker" is quite mistaken in supposing that there are any substantial difficulties in the way of public competition among architects when any public buildings are proposed. That any such difficulties exist is absolutely contrary to practical experience. There is no conceivable reason why the council of the Royal Horticultural Society should not have invited architects to submit sketch plans for their approval. In this way there would have been a splendid opportunity of securing plans for a building which would have done credit to the taste of the society. Horticulture may not be an art, but it has none the less many associations with Art, and I trust sincerely that those Fellows who value these associations will protest against the architectural outrage which the council propose to perpetrate in Vincent Square in the name of the society and in the name of horticulture. If the council carry out the plans now proposed they will not only convict themselves of Philistinism which would be disgraceful in a

jerry builder, but they will further show that they have not even considered the most elementary questions relating to the practical utility of the hall for the many and varied purposes for which they propose that it shall be used. Let us hope that even yet other architects may have the opportunity of submitting plans, and that the council may call in the assistance of some of the Fellows of the society, whose names are famous in the world of Art, to supply the taste which they so obviously lack. R. C. REGINALD NEVILL.

Croft Cottage, Elmstead Lane, Chislehurst.

CATTLE POISONING.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I have only just noticed the article under the above heading in your issue of December 13 last, and am sending an account of my experience, which, perhaps, may be of interest to your correspondent. A few years ago my employer purchased a pedigree shorthorn heifer for £36, and the animal, with several others, was turned into the park in which grew a number of English and evergreen Oaks, from which were falling great numbers of Acorns. Soon three of the animals developed symptoms of bad health, and one, the pedigree heifer, pined away and died. A "vet." being called in he pronounced it a case of Acorn poisoning. After that time a number of pigs were always turned in to eat up the Acorns before the cattle were allowed. Pigs take no harm, but, on the contrary, soon fatten and become fit for market.

Trelissick, Truro. W. SANGWIN.

THE USE OF CLIMBERS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I can sympathise with "Dundee Rambler," and therefore send the following particulars, which he will find to answer well. Some years ago I was requested to clothe many of the trees here with climbers, such as rambling *Roses*, *Clematis montana*, and such like, and I found this a very difficult matter, because, as "Dundee Rambler" points out, if a climber be planted near the base of a large tree it is starved during the summer months for want of moisture, and if planted at some distance from the stem of the tree it suffers in the same way, also looks out of place, and requires some kind of support to lead it up into the branches. It is useless placing good soil thinking thus to improve matters, as this will quickly be taken possession of by the roots of the tree which the creeper is required to clothe. To get over this difficulty I adopted the following plan: I procured some sound cement casks which were well hooped; I bored one hole in the bottom of each and placed over it about 2 inches of broken potsherds for drainage. The cask was then sunk at the foot of the tree to be clothed by the creeper, not only its full depth, but some 3 inches or 4 inches below the surface. It was then filled with thoroughly good soil, which was well rammed in. The creeper was planted and watered, and tied to the stem of the tree. Let me here give a word of caution. Plant only healthy strong plants, as well as suitable kinds. For this purpose true rambling sorts are needful, whether *Roses*, *Clematis*, or what not. It is useless to attempt to cover a tree with such kinds of *Roses*, for instance, as climbing *Captain Christy*, *Niphetos*, but use such as *Dundee Rambler*, *Bennett's Seedling*, *Aimée Vibert*, *Crimson Rambler*, *Aglaia*, *Reine Olga de Wurtemberg*, and those known to be hardy and of robust growth. *Clematis montana* is the best climber for this purpose, and certainly the most beautiful. It will take care of itself under the most trying circumstances. Try the common wood *Honeysuckle* and the wild *Clematis* or *Traveller's Joy* (*C. Vitalba*). The common white *Jasmine* is a good plant for the purpose and very delightful, because it will retain its foliage during mild winters, and its fragrance is delicious. It is more suitable for deciduous than for evergreens trees. The *Japan Vines* are most delightful for this purpose. *Vitis Coignetia* is perhaps the best. *Aristolochia Siphocampylus*

is also a suitable plant. One more word of caution. Do not suppose that these plants will require no attention. They certainly should have abundance of water for the first two years. After they have thoroughly established themselves and have reached the outside of the branches they may be left to take care of themselves, and it is astonishing how well they grow, as they derive considerable nourishment from the decayed leaves of the tree. If "Dundee Rambler" has old Holly trees or Austrian Pines to cover, by all means try Clematis montana. Close by where I write there is an Austrian Pine almost covered with this delightful plant, and before it could reach this tree it had to clamber over Laurels, Hollies, Box, and other large shrubs. In May and June it is a beautiful picture. Polygonum baldschuanicum is a promising plant for this purpose, and should be tried. I believe it will succeed almost in any position.

T. ARNOLD.

The Gardens, Cirencester House.

ORIGIN OF LILIUM HENRYI.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I have just received THE GARDEN of October 25, and as I always glance first at articles concerning Japanese plants, and especially those about Lilies, I read at once the article "Lilium Henryi" by Dr. Henry. This interesting article ends with the following sentence: "It would be a strange thing, but one not inherently impossible, if Lilium auratum were really a hybrid of Chinese origin, which has become wild in certain parts of Japan."

I have at various times intended to write about this theory, and now that so great an authority as Dr. Henry has written to you concerning it I wish to add a few words. It seems to me that no one who has seen Lilium auratum here in its native land can have any doubt that it is a distinct species, native of Japan, for it seems impossible that any hybrid introduced into Japan could spread over the country to such an extent as we find this Lily. It grows in the Nikko Mountains, the Hukon Mountains, in fact, on the mountains and hills almost all over the eastern and northern parts of the island of Nippon, the most central and largest of this island empire, unfortunately, however, no longer in such quantities as formerly, owing to the immense quantities exported, for the planting stock is simply taken from the native haunts of the Lily each year. Collectors do not trouble

to cultivate the bulbs either by scales or by seed. In support of this theory it may be mentioned that on those hillsides too steep for man to reach there the Lilies are still to be seen in masses, all of which leads one—who in the early years has seen the Lily growing there—to conclude that it is a native Japanese plant and doubtless a species.

The question is often also asked why the early travellers here did not mention L. auratum. The answer to this is, I think, that before Japan was opened to the world foreigners were only allowed to live on the small island of Deshima in Nagasaki Harbour, and all plants which they described and sent home came from that region. L. auratum does not grow there. Another reason is that the Lily was so common here that the Japanese botanists who helped Siebold and the other foreigners probably never regarded this flower as an important one. The Japanese to-day rarely plant it in their gardens, apparently caring very little for it.

Yokohama.

ALFRED UNGER.

MELONS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—On page 10 "A. P. H." gives a list of some twenty-one Melons—old and new—as of particular merit. Unfortunately, the list is far too long to meet the requirements of those who want to grow only two or three, and much too short to include all the good or generally esteemed good Melons in commerce. Were a complete list of these furnished no doubt it would extend to 100 varieties, all of which are by some one or other grower held to be the best. But in spite of the fact that we have all these varieties, and that it would seem that stocks not only can be kept true but remain of good constitution for fifty years at least, yet Melons put out as new are constantly being raised. No one can declare that during the past five years any one variety has been sent out that is any better than older ones, and it becomes increasingly difficult for anyone to assert in what respect they differ from old ones. These are facts in relation to Melons that cannot be contraverted. Why is it so? Has the Melon reached the end of its tether in the matter of flavour, appearance, or cropping? It is well we should face the question whether it is so or not, because so few grow many of the old and, at one time, well-known varieties now. There can be no doubt but that were some of them put

forward as new few would be able to say whether they were or not. We want varieties that can be relied upon to produce fruits of high-class flavour under all conditions. No grower in cutting even the most perfect fruit from any one variety can be absolutely assured that it will have good flavour. That is the defect in all Melons which raisers should seek to overcome. It is all very well to describe certain varieties as having exquisite flavour, but when cut, alas! how seldom is it found.

A. D.

THE KITCHEN GARDEN.

VEGETABLE MARROWS UNDER GLASS.

FEW kitchen garden crops are more remunerative or more highly appreciated than early Marrows, and it is surprising, considering how easily they are brought forward, that they are not more grown. Cold frames

and the mildest hot-beds will produce excellent fruit early in May, and if carefully attended to will give a continuous supply till the frost puts an end to them in autumn. Not only are the fruits extremely valuable at such an early date, but what is of far more importance is that when the frames are removed at the end of May the plants are in full bearing for some weeks before those sown and planted in the ordinary way; thus from a market point of view this is a great gain. The seed should be sown the last week in February singly in 3-inch pots. Some heat will be required to germinate the seeds, but if kept moderately dry they will do so in a temperature of 50° to 55°. The plants should be moved into 5-inch or 6-inch pots when large enough, using a light porous compost warmed to the temperature of the house in which they are growing. Well drain the pots, and press the soil only lightly about the roots. Grow near the glass so as to keep the growths sturdy.

A very mild hot-bed should be prepared and made ready by the first week in April. Use a compost of loam, leaf-soil, and road grit in equal proportions. See that this is well warmed, but not overheated, before planting. Give air carefully at first, but when the plants are well established this should be given much more freely, the lights being tilted in the opposite direction to which the wind is blowing, especially if it is in the north or east. Regulate the growths by pegging them down, syringe with tepid water, and shut up early in the afternoon. Cover the lights securely against frost. The plants will soon show fruit, the earliest of which should be fertilised precisely in the same way as Melons or Cucumbers. The lights should be entirely removed whenever the weather is sufficiently warm, and be replaced at night. Towards the end of May the frames can be removed altogether. Give a good mulching of soil similar to that in which they are planted, but add a little decayed manure or bone meal, and should the weather be dull and cold place a few uprights and supports on which the lights taken from the frames can rest—(see accompanying illustration)—when the whole of the growths can be easily protected with mats at night. The plants should be well supplied with mois-



VEGETABLE MARROWS UNDER GLASS IN ALDENHAM GARDENS.

ture and manure water towards the end of the summer, when they will be found as vigorous and fruitful as late-sown plants.

Suitable varieties, of course, should be grown. The following I have found admirable when so treated, all being very prolific and of excellent flavour: Moore's Cream, white; Prince Albert, green; Pen-y-byd, white; Improved Custard, white; and Sutton's Perfection, green, the latter a new variety of much merit.

Elstree.

EDWIN BECKETT.

FORCED LETTUCES IN FRAMES.

Few vegetables do better in frames than the Lettuce. Plants from seed sown in January give excellent heads in April and May, and at a season when choice salads are much appreciated. For years I advised sowing in early autumn for a spring supply, but at that date the varieties relied upon, viz., the Hardy Cabbage and Brown Cos, had to be sown some seven or eight months in advance to get a supply at the season named, and, as growers found out to their cost, few vegetables were less reliable. After severe winters very few plants were left, even with frame protection. My note more concerns what may be described as sowing in heat. I follow the market plan of sowing in the autumn, but this varies considerably from the old system, *i.e.*, to sow and get a plant large enough to lift into frames at the approach of frost. These were the plants that often failed to mature, their worst enemy being damp, and the plants decayed at the ground level often.

I follow the market system of sowing late in cold frames quite close to the glass, and keep the seedlings as hardy as possible from the start. It is necessary that the plants be free from drip, and if they get too large they fail to winter well. There is a possibility that after severe weather damping may ensue. Early in spring the plants are thinned out, each one being lifted carefully so that the roots are not broken, and the thinnings are planted out on a warm border. Those left—*i.e.*, the most important ones—are then kept a little closer and are usually ready in about six weeks or a little more from the time of thinning. By this system a great quantity of seedlings may be grown in a limited space and there is a certain crop, whereas such is not the case with earlier sowings or from open ground sowings in August for a spring supply.

When sowing in heat early in the year more heat is necessary, but even then excess means failure. In the Cos section I find Sutton's Intermediate, Heck's Hardy White, and the Bath or black seeded the best, but I think the Cabbage the most useful. Many prefer Cos to the Cabbage, but the plants take longer to mature. The best hardy Cabbage varieties are the old Hammersmith Hardy, Lee's Immense Hardy Green, Brown Dutch, and Sutton's Marvel.

I now come to what may be termed present sowings. Of late years this method of culture has become very popular, as many growers are unable to give frame room, say, from October to March, whereas a pan or box of seed sown in January or early February, the seedlings pricked out in a warm frame a month later will give good material in April or May, or, say, about three months from the time of sowing, that is if the seedlings are given warmth from the start. I have mentioned that seed may be sown in boxes, but of course it is not essential, as more space may be spared and the plants sown on a slight hot-bed and the seedlings thinned. Grown thus I have had much earlier produce, and it is an excellent plan when the demand is great for early salads. It is a simple matter to utilise the thinnings, as those placed in other frames give a succession. It is the seedlings that are not disturbed that turn in quickly. Of course when sown in boxes the transplanting causes a slight check, but with a warm root-run it is soon got over. There is one great point with this sowing, and that is to avoid crowding, as if the plants are sown like Mustard and Cress it is impossible to secure a strong seedling at the start. From the first, no matter where sown at this early

period of the year, the seedlings should always be near the glass and not over-watered.

The best results are obtained from movable frames placed over a good bed of leaves and warm litter, I mean the bed for planting out the seedlings. When grown with more heat from hot-water pipes the heat fluctuates, is also much drier, and a thin plant is the result. I use leaves largely, as they heat slowly and keep warm much longer. It is well to make the bed as firm as possible when placing the materials in bulk. For this sowing the earliest Lettuce is the small but valuable Commodore Nutt. Either under glass or in the open it is most valuable. Another very excellent Lettuce is Sutton's Golden Ball. This variety requires little room, is deliciously crisp and sweet, and a gem for frame culture. A little larger Lettuce and quite as valuable is Veitch's Golden Queen, a perfect frame Lettuce, makes a solid heart with few outer leaves, and is of very delicate flavour. I do not advise the Cos varieties for growing quickly, that is, for frames with bottom heat. The white-hearted varieties are the earliest, but they are not so reliable as the Cabbage; by growing the early varieties advised there will be few failures.

G. WYTHES.

THE FRUIT GARDEN.

CULTURE OF MELONS.

FOR the production of ripe Melons as early in the season as it is possible to obtain them fit for the table the best house is undoubtedly a low, narrow, lean-to structure, having a south-west aspect and provided with four rows of 4-inch hot-water pipes—two flows and two returns—placed in pairs one above the other and resting on brick piers close to the wall the entire length of the house. Improvised troughs, say, 6 feet long, 1 foot wide at the bottom, 15 inches deep, and the same width at the top being placed thereon for the reception of soil to grow the plants in. Pieces of wood 3 inches by 2 inches and 14 inches long should be placed across the pipes at intervals of 2 feet to rest the boxes on. Put 1½ inches deep of potsherds in the bottom, following with a covering of half-rotted leaves or thin turves, grass side down, so as to ensure perfect drainage.

The next best house for Melon culture is a low span-roofed one, from 12 feet to 15 feet wide, running from south-west to north-east, this being provided with three rows of 4-inch hot-water pipes fixed one above the other—two flows and one return—on either side close up to the walls the entire length of the house. Borders about 20 inches deep, 16 inches wide, and confined by a 4½-inch wall, each border being provided with a flow and return pipe for warming the soil, and thereby stimulating growth in root and branch. These pipes should be covered with 2 inches or 3 inches of brick rubble, followed by a layer of stable litter to prevent the rooting medium choking the drainage. In the absence of the brick-enclosed heated borders indicated above, excellent Melons may be, and are extensively, grown in suitable soil made into hillocks on the floors of low span-roofed houses, on either side the pathway the length of the individual structure at intervals of 2½ feet; the heaps are about 15 inches in diameter at the bases and 9 inches deep at the top for setting the plants in as soon as they have reached the desired size. As to the time of sowing seed from which to raise plants to produce ripe Melons the end of April or early in May, nothing is gained by sowing before the end of December or early in January. As to varieties, Blenheim Orange, scarlet flesh; Earl's Favourite, green flesh; and Hero of Lockinge, white flesh, may be mentioned as being thoroughly reliable varieties, yielding good crops of handsome-looking high quality fruits with great freedom under ordinary cultural treatment.

Sow the seed singly in 3-inch pots three parts filled with a mixture of lean soil and horse manure, in the proportion of three parts of the former to one of the latter, passed through a

half-inch meshed sieve, putting a piece of crock and a few half-rotted leaves or such like material in the bottom of each pot for drainage. When the young plants have made a couple of inches of growth, and the stems have become somewhat hard and firm, top-dress with some of the compost described above, being careful in doing so not to press the stems of the plants. Give the plants a position near the glass roof in order to promote a sturdy growth, watering with tepid water to settle the soil about the roots.

Plants intended for planting on mounds or ridges and training to wire trellises (fixed to the rafters some 12 inches or 15 inches from the roof glass) should be shifted into well-crooked 6-inch pots as soon as the roots have pushed through the soil, making the soil moderately firm in repotting. Put a small stick to each plant for support and return to the shelf or stage, transferring them to the ridges when they have reached the height of 15 inches or 18 inches, and before the roots become matted in the pots.

Plants intended for growing in frames placed on hot-beds or for training over the surface of beds in hot water pits, should be planted out when they have made two rough (perfect) leaves, the soil being made fairly firm about them in planting. This remark also applies to plants being set on mounds and ridges. A minimum night temperature of from 65° to 70°, according as the weather is cold or mild, should be maintained, rising 5° higher with fire-heat in the daytime under like weather conditions, and 10° to 15° with sun-heat.

The soil in which the Melon delights is loam, dug up fresh and used immediately, in preference to that which has been stacked for twelve or more months. Should this be lacking in fertility, add one-fourth of horse manure or well-rotted stable manure, free from worms, and should it be of a stiff, adhesive nature, the addition thereto of a barrow-load or two of lime rubble will be beneficial. In every case the soil should be in the house, pit, or frame sufficiently long to become warm.

In planting let the surface soil of the young plants be about level with the top of the troughs, placing sufficient soil around the roots to cover the latter to the depth of 1 inch or 2 inches; top-dress at short intervals as the roots push through the soil and until the intervening spaces are filled up. The plants should be moist at the roots when transplanted. The weather as well as the special conditions under which the several batches of plants are growing will in a great measure determine the question of when the plants should be watered. As the soil becomes permeated with a network of hungry roots more frequent and liberal applications of water at the roots will be necessary. In the case of plants growing in boxes applications of tepid diluted liquid manure should be given to the roots twice a week while heavy crops of fruit are developing and until the fruits begin to change colour.

Allow the plants trained on trellises to reach within two wires of the top before pinching the points out, the object being to obtain an even distribution of fruits. This can be accomplished by pinching out the first flowers that show on the laterals proceeding from the base of the plants. Side shoots will proceed from the base of each leaf-stalk as freely and regularly as on a pot Vine and for the entire length of the stems. Superfluous shoots should, however, be pinched at one joint from the main stem. Train the shoots forming the plants at about 15 inches from one another on either side, and when they have made two or three leaves stop them. When five or more flowers are open on a plant fertilise in the ordinary way about midday when the pollen is dry. Stop the fruit-bearing shoots at one joint beyond the fruit, and when it can be seen beyond doubt which fruits are going to swell remove all superfluous ones, leaving from five to seven on a plant. All flowers and needless growths should be persistently removed. When the plants are in flower, and, again, when the fruits are ripening, keep the house dry and give more air. When the fruits are fast developing the temperature may safely reach 100° with sun-heat, give plenty of moisture at closing time in the afternoon. When the fruits are the size of a

bantam's egg or thereabouts they should be supported by two cross-bands of raffia secured to the trellis.

H. W. WARD.

ORCHIDS.

HISTORY OF LÆLIA DIGBYANA, WITH AN ACCOUNT OF ITS HYBRIDS.

FIRST sent to England in 1846 from British Honduras by Mrs. MacDonnell to Mr. St. Vincent Digby, of Minterne, in Dorsetshire, there this extraordinary Orchid flowered in 1847 for the first time in cultivation. This was before the times of the great importers of Orchids, and when it would have been extremely difficult to obtain and bring home the colossal importations that we have had in England almost annually for the last thirty years. It is a curious fact that the habitat of this plant was only known to one man, with the exception of his workpeople, who, under his direction, collected the plants. This and *Cypripedium fairieanum* are the only two very notable Orchids that baffled all efforts at rediscovery, and now we know the habitat of *Lælia digbyana* only the *Cypripede* remains lost.

Importers have very diligently sought for the *Lælia* for more than twenty years, in fact, ever since the huge importation was sold in Stevens's Auction Rooms in King Street, Covent Garden, about twenty-five years ago; but all efforts to discover it failed, and the plant became once again very scarce in collections, and, while Orchid lovers were lamenting over the great scarcity of specimens in cultivation, another large importation was offered for sale by our Orchid auctioneers, the famous Protheroe and Morris firm of Cheapside. This is only a few years since. One day the writer was sitting in his office at work and an old gentleman was announced who wished to take an order for an importation of *Brassavola digbyana*, as he was going back home to the country where it grew. Here was a surprise. This turned out to be the man who had sent the importations to Stevens and Protheroe. I promptly told him that the last lot had flooded the market, and no plants were wanted for a few years to come at least. Then he gave me the whole history of the plant, which he had known for more than fifty years. His name is Mr. C. T. Hunter, and he it is who held the secret of the habitat of *Lælia digbyana* for all those long years, never knowing that the plant was being so much sought after. The first big importation was a loss to him, hence it was many years before he attempted another. I am at liberty to publish the information he gave me. Mr. Hunter says *Lælia digbyana* grows on tall trees which bound the River Hondo (the Rio Norte or Northern River) in British Honduras. This river forms the boundary between the northern portion of British Honduras and Mexico, and it is necessary to take a boat from Belize and proceed up this river, searching the lagoons and creeks, on the banks of which this plant is to be found. The Rio Hondo is at least 120 miles long.

Wherever there is great moisture bordering the banks of the river most of the trees support plants

of this Orchid, but they are only found in the densest shade and from 6 feet to 20 feet from the ground. The trees on which the plants grow are often 80 feet in height, so that the plants have as a rule quite 50 feet of dense foliage above them. It will thus be seen that this *Lælia* is a shade-loving one. All the best and finest developed specimens are found in the forks of the branches of the trees where there is an accumulation of humus, decaying leaves, and probably excrement from birds and small animals. In this compost, surrounded by great humidity, the plants flourish, and these are the long-bulbed finely-developed plants. The short-bulbed stunted plants are found in more exposed places, in situations where there is little to nourish them. In the growing season, which is our winter, the plants have a temperature of about 80° Fahr. by day, which falls to 65° at night, with a prodigious amount of moisture.

The reason probably why so many plants have died under the general treatment of *Cattleyas* in cultivation is owing to growers giving them too little heat and moisture in our winter. It is

digbyana grew in an arid country and probably on rocks in full sunlight, hence our failure in growing it as well as it might have been was put down to our want of sunlight in this country in the growing season, whereas the true reason is probably owing to our having grown it too cool and dry in winter. Heat and moisture the plant must have, and in plenty when growing if one is to succeed with it for a number of years, and improve the specimens year by year. We know now that this plant flourishes in its native habitat in the densest shade, and we also know that the rainfall for a great part of the year is prodigious, which, together with the nightly dews, produces a saturated atmosphere quite beyond our conception, and would incline any Orchid grower to suppose that the plants must rot under such excessively wet conditions. I may remark here that naturally there is a free circulation of air among the plants at all times, and oftentimes hurricanes, hence the natural conditions under which the plant is found are very different to the artificial treatment that we usually give.

The flower of this extraordinary Orchid somewhat resembles the head and face of the Marmoset monkey, and is of a buff-white or tawny colour, sometimes pure white; the labellum is abnormally developed and very heavily fringed, the exquisite filaments resembling filigree work. It has been largely used of late years in hybridising, and some really wonderful results have been achieved. It was a long time before the fertilisation of this plant was well understood, owing probably to the very long and unusual distance between the stigma and the ovary, the pollen threads possibly becoming partially absorbed before reaching the ovules. The exceedingly long beak-like form assumed by the apex of the ovary often exceeds 6 inches in length, whereas in the majority of the species with which *L. digbyana* has been crossed the ovary commences practically from the base of the column. This curious feature has been the chief cause of our Orchid authorities again separating the species under mention from *Lælia* and returning it to *Brassavola*, in which genus it was originally placed by Lindley.

There are hybrids of *Lælia digbyana* in which it has been used as a pollen parent, but up

to the present time there are no authentic records of progeny in which *L. digbyana* was the seed bearer.

A list is appended at the end of this note showing what fine hybrids have been obtained by the influence of this plant, every recorded hybrid of *Lælia digbyana* up to date will be found recorded here. I know that hybridists have plants that may be expected to flower in a short time, in which *L. digbyana* has been the mother plant, and the flowering of these is looked forward to with much interest to see what differences there may be in structure, colouring, and character of the plants.

RECORDED HYBRIDS FROM LÆLIA DIGBYANA.

Pollen Parent.	Seed Parent.	Name of hybrid.
<i>Lælia digbyana</i>	<i>Cattleya gaskelliana</i>	<i>Lælio-Cattleya Thorntonii</i>
<i>L. digbyana</i>	C. "	<i>L.-C. Thorntonii</i> var. <i>superba</i>
"	" <i>Mendelii</i>	" <i>Imperatrice de Russie</i>
"	" "	" <i>digbyano-Mendelii</i>
"	" "	" " <i>Tring Park</i> var.
"	" <i>Mossiae</i>	" <i>digbyano-Mossiae</i>
"	" <i>Trianae</i>	" <i>digbyano-Trianae</i>
"	" <i>Schroderae</i>	" <i>digbyano-Schroderae</i>



LÆLIA DIGBYANA. (About three-quarters natural size.)

evident that unless a plant has the necessary growing conditions afforded it in the growing season it cannot possibly flourish long. In the winter in Britain most of our Orchid houses that contain plants which naturally make their growths at that season are kept too dry, in consequence of giving more fire-heat to keep up the necessary temperature. This excessive fire-heat dries the very life out of the Orchids, and, unless there is an ample command of heat, a careful and good grower knows it would not be wise to saturate his houses with moisture, but the *Lælia digbyana* needs heat and moisture for its development, and it needs it in Britain in winter when it is growing.

In the south of France, and also in Italy, this *Lælia* flourishes much better than in Britain, by reason of the necessary high temperature which it is possible to maintain in those countries in the plant's growing season. With a good circulation of air, the necessary moisture is very easily supplied by frequently hosing the floors and stages of the houses with water. I think it worth mentioning here that the opinion of the majority of orchidists has been that *Lælia*

Pollen Parent.	Seed Parent.	Name of hybrid.
L. digbyana	C. Harrisoniae	L.-C. Groganica
"	" Warscewiczii	"
"	" var. imperialis	" Mme. Charles Maron
"	" Warneri	" Marie
"	" labiata	" Mme. Marguerite Fournier
"	" quadricolor	" Mrs. Chamberlain
"	" aurea	" Mrs. J. Leemann
"	L. cinnabarina	Laelia Mrs. M. Gratrix
"	" purpurata	" digbyana-purpurata
"	"	" Edward VII.
"	" tenebrosa	" Helen
"	Laelio-Cattleya	Laelio-Cattleya Edgar Wigam
"	Aphrodite	"

GARDENING OF THE WEEK.

KITCHEN GARDEN.

WATCH must be kept on the Broccoli plants, and any that are forward should be protected either by heeling over to the north, or, better still, by lifting them with some soil attached to their roots and placing in pits or sheds. On light rich soils the growth made by Broccoli is generally gross, hence the greater necessity for proper protection than on heavy land where they make firmer growth. Although quite hardy, the

WINTER SPINACH

will repay for some kind of protection. A layer of Bracken worked among the plants with the hand is as good as anything; this protects the top growth as well as the roots and stems. Failing this some soil should be placed against the stems with a draw-hoe. This crop is generally one of the first to burst forth into new growth in spring, and it is then highly appreciated, as green vegetables are often scarce. The present is a good time for applying a heavy dressing of farmyard manure to the

ASPARAGUS BEDS

if not previously done. Old beds on well-drained soils will also be benefited by the application of the drainings from pig yards, for it will be found that the old matted roots are none too wet, in fact, on lifting some for forcing quite recently we found the soil about them dry.

SALADING.

Although much variety cannot be expected at this dull season, yet the demand should be met by making frequent sowings of Mustard and Cress, and if the supply of Lettuce or Endive wintered under glass is short, a box of Lettuce seed should now be sown. The plants may be used in the salad-bowl when about 2 inches or 3 inches high. If grown quickly these will be found very tender. Chicory is another useful addition to the salad-bowl in winter, and is easily forced by putting a few roots in a pot of soil every ten days and placing them in the Mushroom house or the cellar. Watercress grown in pots or pans and placed in pits or cool houses near the light should now provide welcome salad. If a flavouring of young Onions or Chervil is liked, then a little seed should be sown, and the seedlings raised in heat and drawn as required.

EARLY POTATOES

are sometimes grown in pots, and in such cases the haulm must be supported with sticks and the plants top-dressed with a mixture of loam and old Mushroom bed refuse. When the pots are full of roots weekly applications of liquid manure may be given with good results. To follow these, the main batch in pits or frames should now be planted. It is a good practice previously to lay out the tubers in boxes containing some rough leaf-soil, placing them in a Vinery or Peach house that is being forced. Rub off all sprouts with the exception of one or two of the strongest at the apex of the tuber. When planting retain as much of the soil adhering to the roots as possible, and plant carefully with a trowel. The soil should be at least 12 inches deep, and a hot-bed with a frame thereon in which Asparagus has been forced

answers well for Potatoes. Mona's Pride and Ashleaf are both excellent well-tried varieties for under glass culture.

Stonleigh Abbey Gardens. H. T. MARTIN.

INDOOR GARDEN.

PELARGONIUMS.

OLD cut-back plants of the large-flowered and show varieties that were repotted in November or early in December will require but very little water at the roots at this season, but when water is applied give sufficient to moisten the whole of the soil contained in the pot; see that the plants are so placed as to receive the maximum of light and sun. An occasional fumigation with tobacco in some form will keep the plants clear of aphids. Where large specimen plants are required the points should be taken out of the young shoots as soon as three clear joints can be left, and the old shoots be got into position to facilitate future training. A temperature of 40° to 44° should be maintained by night, with an increase of 5° by day. Zonal Pelargoniums for pot culture, if not yet cut back, should have attention in this respect as soon as they cease to bloom: place them in any light airy position where a temperature of 38° to 40° is assured, and water must be entirely withheld for a few weeks. Where required the points of the prunings may be used for cuttings if those three joints long can be secured. Insert these in well-drained 3-inch pots, filled firmly with sandy loam, with a little sifted leaf-soil added; if placed on a light shelf or stage, but not in a draughty position, they will quickly make roots.

AZALEA INDICA.

These plants will require fumigating to keep thrips in check. All large specimen and half-specimen plants should have the shoots cut loose from previous training. Some of the shoots will be found to have become weak and should be cut out, selecting younger and more vigorous wood to fill in. Thoroughly cleanse the plants of all insect pests. Old plants which have not been repotted for two years or more will benefit by a top-dressing of sound hard peat and sand with a little fine charcoal intermixed, first removing with a sharp pointed stick all surface soil that is not thoroughly permeated with fine fibrous roots. Then add 1 inch or 2 inches of the top-dressing material as required. It must be made firm. Water the soil thoroughly with a fine rose watering-can.

CAMELLIAS IN POTS OR TUBS.

Plants having finished blooming should be cleaned of scale by scrubbing the stems and stronger branches with an approved insecticide, afterwards carefully sponging the leaves; then place the plants in an inclined position and thoroughly syringe them with tepid water. Such plants as require it should be repotted in a compost of good sound loam and peat in equal parts, with an admixture of bone-meal and sand, an 8½-inch pot full of the former to a barrow-load of soil. Drain well, as Camellias require plenty of water at all times, and pot firmly; place the plants in a temperature of 50°, syringing them in the morning unless dull weather prevails. Next season's blooming depends entirely upon the attention given the plants during the next few months.

Look over the tubers and corms of such plants as Calla elliptica, Gloxinias, Caladiums, Tydas, Gesneras, &c., now stored under stages or in store sheds to see that they are not shrivelling by a too prolonged absence of moisture. Should such be the case, damp the material in which they are stored and replace them until required for starting.

Wendover.

JOHN JACQUES.

THE FRUIT GARDEN.

HARDY FRUIT TREES.

THE mild damp weather which has been so favourable for pruning and nailing will have held out inducements to many to postpone such work as top-dressing and mulching until walks and borders are in a better state for wheeling manure, &c.; but so important a work must not be long

delayed. Where Pear trees are grown on the Quince stock and the roots have not been disturbed, the annual top-dressing of good rich manure may be wheeled out on frosty mornings as soon as the nailing is finished. It is well known that the successful culture of Pears on the Quince stock greatly depends upon rich top-dressings. Exhausted soil may be removed to the vegetable quarters to make room for the new. After a few years heavy cropping puts an end to extension of growth, blossom buds only are formed, and as many people are quite unable to thin the fruits the annual removal of old spurs at pruning time should be practised.

MELONS.

Where early Melons are required and a light, well-heated pit is at command, a few seeds of some free-bearing early variety may be sown at once in small well-drained pots, two seeds in each. Plunge the pots in a bottom heat of 80°, which can be maintained by the aid of hot-water pipes running beneath the bed. The great drawback to Melon culture at this early season is want of light, a difficulty which may be diminished by keeping the young plants close to the clean glass, and by covering with bell-glasses rather than mats on cold nights. Immediately after the seeds are sown set about the preparation of suitable materials for making up the bed in which the plants are to be grown. Well fermented Oak leaves produce the best results, as the moist heat from decaying vegetable matter is more favourable to growth. Another important item in successful Melon culture is a good supply of strong loam from an old pasture, which should be cut some months before it is wanted for use and stacked in an open airy shed or in long narrow ridges out of doors, with some kind of covering for throwing off heavy rain and snow. If this is not at hand lose no time in securing enough for the season, and expose it to the air, as wet crude soil is sure to lead to disappointment if not to complete failure. As soon as the young plants have made two or three leaves beyond the seed leaves they will be ready for transference into 6-inch pots; for the compost use turfy loam previously warmed, the pots, drainage, and everything required should be previously warmed by bringing them into the house.

POT MORE FIRMLY

than before, as the Melon loves a firm-rooting medium. Loose soil is apt to hold too much moisture, and often causes plants to canker. In potting always keep the plants well elevated in the new pots, and endeavour to preserve the seed leaves intact as long as possible. Stake the plants as required, and when it is quite clear which of the two seedlings is taking the lead destroy the weaker. Pot on as often as required until the fruiting size is reached; 15-inch or 18-inch pots will produce the very finest Melons, and they should be stood on brick pedestals, well surrounded with fermenting leaves, occasionally turned over and fresh added as the bottom heat declines. The Melon enjoys a high, moist, day temperature, and the atmospheric moisture should be in proportion. For very early forcing we are still conservative enough to grow those two old varieties, Easton Castle (green flesh) and Blenheim Orange (scarlet flesh); whenever we have trusted to "Somebody's new" we have been disappointed.

WILLIAM CRUMP.

Madrishild Court Gardens.

FLOWER GARDEN.

CHIMONANTHUS FRAGRANS (WINTER SWEET).

AT this dull season of the year how much poorer our gardens would be without this sweet-smelling hardy Japanese shrub. It deserves a place in every garden where fragrant flowers are in demand, and lasts well during winter in the open air. If planted against a south wall and sheltered a little from the north and north-east winds, the flowers last from December to February. Nothing will stand cutting better than this; in fact, the more it is cut the better it flowers. It will thrive in almost any soil, but prefers a mixture of loam and old mortar rubbish. It may be procured from almost

any nurseryman and is usually kept in pots, and may be planted now with perfect safety.

PLANTS IN COLD FRAMES.

Plants that are wintered in cold frames should now be well looked after. It is astonishing how much can be accomplished by judicious management in this way. Plants struck early in the autumn and well exposed to the open air before being placed in the frames will now be in condition to withstand the cold. Some loose material, such as hay or straw, should be in readiness for covering in the event of severe frost, and some of the same material should be packed round the sides of the frames. When thick coverings over the glass become necessary the material should, if possible, be perfectly dry, and shaken on loosely, as the more loosely it lies the better it will be for keeping out frost. If over this material some light covering, such as strong oiled calico, can be thrown it will prevent cold winds penetrating and keep the hay or straw dry. When it becomes necessary, owing to severe and continuous frost, to keep the glass covered up for a few weeks at a time, great caution is necessary in uncovering and exposing the plants to light and air when the weather changes suddenly to a thaw. To uncover suddenly under such circumstances exposes them to such a reaction as would prove far more destructive than a degree or two of frost. All watering should be avoided beyond what is necessary. It is much better for the plants to droop a little than to have them in the least degree too wet. Give air on all favourable occasions, and close the frame early in the afternoon.

HERBACEOUS BORDERS.

Should the weather prove favourable these will need immediate attention. All the old foliage of Asters, Delphiniums, Galegas, &c., may be cut away; in fact, neatness in this department should be a golden rule. Be careful not to remove the leaves of any plant which needs such natural protection. One often sees the Hepatica and the German Iris almost stripped of their leaves just for the sake of neatness, and one scarcely knows which to be the more sorry for, the plant or those who make such mistakes. If the plants in the border were lifted and rearranged last year it will not be necessary to do so now, as once in three years is quite often enough. Many plants during the past season made extraordinary growth, and consequently impoverished the border proportionately. These should now have a good top-dressing of well-rotted manure. It can be wheeled on in frosty weather and spread evenly over the border, and will be ready for forking in later on. When the Hepaticas are well grown it would be well to place hand-lights over some of the clumps. This will cause them to flower at least a fortnight earlier than those unprotected, and thus prolong the flowering season.

Those who are fortunate enough to possess a stock of single white Hepatica should take great care of it; it is now rarely seen. T. B. FIELD.
Aswellthorpe Hall Gardens, Norwich.

EDITOR'S TABLE.

Mr. Burbidge sends from the Trinity College Botanic Gardens, Dublin, flowering specimens of a New Zealand shrub,

OLEARIA FOSTERI.

The flower is not showy but deliciously fragrant, especially in the evening or at night. The plant is quite hardy at Dublin. It is a feature in the garden of Mr. George Vaughan Hart, K.C., at Woodside, Howth, the promontory just outside Dublin Bay.

FLOWERS FROM DEVON.

I send you what an old botanical friend assures me is a great rarity—the ripe fruit of the major form of the common white Jasmine, which has matured this last autumn on the wall of this garden. The plant is on the east side, but its head is on the top of the wall.

Ficus repens grows and fruits abundantly on the wall of Collaton Church and Vicarage near Paignton. This is also rare, I believe. I have still in bloom *Solanum jasminoides*, *Roses*, *Diplacus*, *Clianthus puniceus*, *Aubrietia*, *Coronilla*, *Wall-flowers*, *Primulas* of sorts, *Abelia*, *Hepaticas*, *Forget-me-nots*, *Evergreen*, *Candytufts*, &c., bursting their flower-buds, also *Roman Narcissus*. C. M. B.

We shall illustrate the Jasmine fruit.

MISCELLANEOUS.

FRESH ROSES IN WINTER.

UPON the fore part of the head the gentlewomen wear a border of pearls, and all other from the highest to the lowest, commonly wear garlands of Roses which they call Crantzies. For they keepe Roses all the winter in little pots of earth, whereof they open one each Saturday at night and distribute the Roses among the women of the house, to the very kitchen maid; others keep them all in one pot, and weekly take as many Roses as they need, and cover the rest, keeping them fresh till next summer.

And the common sort mingle gilded Nutmegs with their Roses and make garlands thereof. Only women wear these garlands in winter, but in summer time men of the better sort wear them indoors, and men of the commoner sort wear them abroad. They keepe Roses all winter in this sort, they choose the closest and thickest buds of all kinds of Roses, but the Damaske Roses best keepe the smell; and other kindes the colour. Then they take a pot of earth and sprinkle some bay salt in the bottome, and lay these buds severally, not very close, one to the other, which done, they sprinkle the same, and wet all the buds with two little glasses of Rhenish wine and again sprinkle them with bay salt in greater quantity, yet such as it may not eat the leaves.

In like sort they put up each two rows of the buds till the pot be full, which they cover with wood or leade, so as no air can enter, and then lay it up in a cold cellar where no sun comes. When they take out the buds they dip them in luke-warm water, or put them in the oven when the bread is taken out, which makes the leaves open with the turning of the buds between two fingers; then they dip a feather in Rhenish wine and wipe the leaves therewith to refresh the colour, and some doe the like with rose-water to renew the smell. I observed women at Leipsig in like sorte to keepe Cherries all winter. They enclose Cherries in a glasse, so as no air can enter, and then fasten the glasse to some low shrub or bough of a tree, so as the glasse may hang in a brooke runing gently.—From "German's Apparell," in the "Itinerary of Fynes Moryson," 1617.

THE GARDENER PER SE.

SHOW me a man who, in his habit as he lives, is almost perfect in character, and I will venture my last half-crown upon it he is a gardener! The finest testimonial to the art that deserves far better than that of hook and line to be called "gentle," is that it has the most extraordinarily beneficial effect upon character, or possibly the sweetest characters are those with a natural bent towards gardening. Where do you find among the garden's true lovers the detestable jealousies, the fermenting acidities, the detraction, and the unwholesome rivalry

that other "fancies" seem inevitably to breed? If there exists a dog breeder who will take me round his kennels, tell me all his secrets, and help me along with half a dozen of his best puppies I will accept the dog line of business, but I have never met him. The stamp or coin collector may possibly make an exchange with me, but I somehow or other do not get the best or as a rule an even share in the transaction, and there is left a smart not conducive to continued or initiated friendship. Even the other amateur photographer does not write and tell me how he managed to improve upon me to such an extent as to win everything I went in for in our last competition; he will not, indeed, even disclose his latest favourite in developers. My rivals in the poultry world go so far in the opposite direction as to waylay my bantams and prune their feathery unmentionables on the way to exhibition; as for my rabbit friends—to sink to the lowest depths of "the fancy," for the innocent bunny, though quite as sporting as a fowl, has, since the reported defection of a certain Marchioness or something equally grand, no aristocratic



OLEARIA FOSTERI (HOOK F.). (Half natural size.)

supporters at all—they only ask for half a chance, either to convict me of illegitimate improvements deserving of the Society for Prevention of Cruelty to Animal's attention, or to execute them for me upon my exhibits.

Someone at the bird show squeezes my canary, which expires after a graceful interval sufficient to cast a shroud of mystery round the incident; wherever I go, in short, in emulous pursuit of glory among the ambitious of the animal world, I find someone able and willing to do me a bad turn, and those who want to help me are few and far between—though there *are* angels in all alleys. About gardening, however, there must be some charm that raises its lovers, and the more they love it the better they grow. The cleverer the gardener the kinder is he (or she), the more patient with ignorance, the readier in generosity. Looking back upon my greenest infancy of horticulture I see people who must have thought me what I was, the being a dog fancier most utterly despises, an utter novice, taking real trouble to help a complete stranger only known to them by pen and ink. From several well-known gardens came beautiful

assortments of well-chosen plants that meant time and personal trouble to the giver. I had only to put my difficulties in print and they were solved. Even the general run of garden advertisers, even those among them who appeal to the greenhorn, do not carry such sharp shears for his fleece as do the too knowing that lie in wait for the live stock or collecting beginner. Three or four times I have been handsomely cheated, but what is this out of hundreds of successful and agreeable transactions? One gentleman's profitable idea of *Pæony* "roots" evolved itself in chopping up a single sausage-shaped tuber into inch lengths and calling each "one root." Another was unable to perceive the difference between "plants" and "cuttings" in the case of mule Pinks, while two or three were afflicted with a strange inability to count twelve. But, taking it altogether, after many years' experience, I never now hesitate to send money for anything I see advertised by private persons in the way of plants, for the chances are all in favour of the perfect genuineness of the description given, and the quantities sent are almost always good, and in some cases so liberal as to confer a positive obligation upon the recipient.

One has not far to seek for the ideal gardener; at this instant I could name many well known to all THE GARDEN readers. By what appellation to describe him is, however, the puzzle. A man—but just as frequently a woman—who combines all the skill and knowledge of the professional, with the ardour and enthusiasm of the amateur, though this latter word has been so abused by association with the utterly ignorant that it no longer conveys the pure meaning of "one who gardens for love of gardening." The connoisseur of the garden world is still waiting to be adequately christened. Meanwhile, this appreciation, imperfect as it is, is dedicated to all those kind and clever folk whose words and ways remind us that the first of all gardens was an Eden. Adam in his time of innocence would doubtless have been patient even with the seeker after advice, who writes twice a month—always at a busy time—to say that he has not done what was suggested in reply to his last, as he thought the opposite course preferable, but the event having proved unfavourable—"the frost has killed them all"—would Mr. Philanthos kindly advise him what to do next? M. L. W.

CHARLOCK IN CORN CROPS IN 1902.

THE Charlock season of 1902, though cold and wet at times, did not appear to be unfavourable to the growth of the plant, for later in the year unsprayed fields of its golden flowers were visible from almost all points between Inverness and the south of England. Several farmers have suggested to me that a good time to spray the Charlock is when it is just coming into flower, or actually in flower, because they have succeeded admirably in destroying it at that stage by using a large quantity of copper per acre. This suggestion is not on sound principles. It is now thoroughly proved that the Charlock can be destroyed at any period of its growth by copper sulphate, and that whilst the plant is young and in soft fibre a smaller quantity will effect the purpose than when the plant is older. This has an important bearing on the economical side of the question. Fifty gallons of 3 per cent. solution favourably applied to young



CRASSULA COTYLEDON AND AGAVES IN SIR THOMAS HANBURY'S GARDEN NEAR MENTONE.

plants will destroy 95 per cent. of the weed in an average infested crop; in fact, it will destroy all except those few plants that are shaded by other leaves from the spray, and this quantity and strength will affect the Corn crops so slightly that an increased yield of Corn more than sufficient to pay all the expenses of spraying may with confidence be looked for. On the other hand, if the weed is sprayed when much older, more copper is required, and this gives a shock to the Corn plant which prevents the likelihood of any material increase in the yield, besides which it must be remembered that the older the weed the more it has robbed the soil and shaded the sun from the Corn. For successful working the chief points to remember are to have everything in readiness well beforehand and the labourer trained so that it is only necessary to give the order to start when the weather is fine. The material must be pure and correctly measured and the spray fine so as to cover every plant. Successful spraying should result in average increase in yield of Corn from 4 bushels to 6 bushels per acre, and the destruction of 95 per cent. of Charlock, but when the weed is in dense mats, one plant overlapping another, a smaller proportion will be killed, but the increased yield of Corn will be greater. The increased yield of Corn by the destruction of Charlock leaves a profit, after all the expenses of spraying have been defrayed, and the annual value of all Charlock-infested land will increase until the extermination of the weed is complete.—G. F. STRAWSON.

IN A LAND OF SUNSHINE.

EITHER by accident or design harmonious combinations may be frequently seen, and often the least studied detail is the most effective. The illustration here given is of a delightful little nook in the gardens of Sir Thomas Hanbury at La Mortola, the major portion being occupied by the old South African *Crassula Cotyledon*, known also as *Crassula arborescens*, which is thriving and flowering in a way unknown to us in this country, while equally at home and harmonising perfectly with it, are the new world representatives in the shape of several different Agaves. Such plants

as these, which are here usually confined in pots, are, when seen growing so luxuriantly out of doors, apt to arouse a feeling of dissatisfaction with one's attempt at their culture under glass.

THE ROSE GARDEN.

PEGGING DOWN ROSES.

MANY of our best garden Roses are materially improved by being pegged down, thereby blooming longer than those not so treated. The old-fashioned plan of pegging down the current season's shoots, simply cutting of the tops and the old growth, is done with advantage in many places. I saw several good examples of this work last season, and now the growth for pegging down is vigorous and bold. C.

NEW CONTINENTAL ROSES.

MR. PETER LAMBERT, of Trier (Germany), whose success as a raiser of new Roses has been considerable, intends distributing this year several pedigree seedlings. These he regards as very fine novelties. Two of these—Hybrid Teas—will be distributed this spring. Their names and the raiser's description may be of interest:—

Frau Lilla Rautenstrauß.—Buds long and erect, held up singly on long stems, colour coppery yellow; expanded flowers reddish yellow in the centre, tinted deeper on the outer petals, which are edged with creamy white, very sweetly scented; petals broad, round, and slightly reflexed. The plant is hardy, of bushy growth and branching habit, with thick, glossy leaves. (Caroline Testout × Goldquelle).

Gustav Grünerwald. Long-pointed, solitary buds of a yellowish red colour, held up on long stems; flowers well built, full, high-centred, and cup-shaped; colour bright carmine with yellowish centre, outer petals of a lighter shade; growth erect and sturdy; wood smooth, almost thornless; leaves of a dark glossy green. A first-rate Rose for exhibition or cutting. (Grossherzogin Victoria Melita × Janne Bicolor). A. R. G.

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NEW TREES AND SHRUBS OF 1902.

EXCLUSIVE of the one Tree Pæony and the Roses that have been dealt with previously in *THE GARDEN*, the hardy trees and shrubs to which either first-class certificates or awards of merit have been given by the floral committee of the Royal Horticultural Society during the year 1902 are eight in number, two only gaining the certificate. In 1894 the trees and shrubs thus recognised numbered thirty. Taking those of 1902 in alphabetical order they are as follows:—

Rhododendron (Azalea) rustica flore-plena Ramona.—The double-flowered forms of Ghent Rhododendrons (Azaleas) to which the term rustica has been applied have received many additions during recent years, one of the latest being Ramona, which at the Temple show received an award of merit. The well shaped flowers are of a creamy white tint, suffused with pink. It is a beautiful shrub and shown by those well-known growers Messrs. R. and G. Cuthbert, Southgate.

Buddleia variabilis veitchiana.—The typical *Buddleia variabilis* is a very beautiful member of an interesting genus. It is at present far from common, and is in Messrs. Veitch's catalogue included in the list of choice and new deciduous shrubs. As indicated by the specific name this *Buddleia* is decidedly variable, some forms being far more vigorous than others, while the flowers vary from pink to pale lilac, but always with an orange throat. An excellent coloured plate is given in *THE GARDEN* of June 17, 1899. The shrub itself is 5 feet to 8 feet high, clothed with lanceolate leaves, dark green above, and on the undersides with white felt-like substance. During winter the branches often die back, but young shoots are produced freely from the old wood, and they grow and flower the same season. The individual flowers are small, but borne in large terminal branching panicles, and a succession is kept up from July to autumn. This species is a native of Western China, and seeds of it were first sent to Europe by M. l'Abbe Soulié in 1893. Some of the plants raised therefrom flowered in the following year. The variety *veitchiana*, to which a first-class certificate was awarded on August 19, represents a very fine form, with rich lilac-coloured blossoms, which will doubtless be distributed in due course. Shown by Messrs. J. Veitch and Sons.

Ceanothus Indigo.—Many of the *Ceanothus* are remarkable for their beautiful blue flowers. Apart from the original species there are many garden forms, nearly all of which have been raised on the continent. The variety *Indigo* which received an award of merit on September 2 is, we think, the finest coloured form that has been shown, the clusters of blossoms being of

a rich indigo blue. It was raised in the extensive and well-known nurseries of MM. Barbier frères at Orleans, whose predecessor M. Transon achieved a world-wide reputation for select hardy shrubs. It was shown by Mrs. Burns (gardener, Mr. Fielder), North Myms Park.

Dimorphanthus mandshuricus argenteo-marginatus.—The typical form of this *Dimorphanthus* has been long known in this country as a large shrub or small tree, plentifully furnished with sharp prickles, while the large wide-spreading compound leaves are remarkable. Towards the end of the summer or in early autumn appear the small creamy white blossoms which are borne in large branching terminal panicles. If cut almost to the ground each winter, and a single shoot only allowed to develop in the spring, it looks quite subtropical, and is in this way quite as effective as *Ailantus glandulosa* and *Paulownia imperialis*, which are often grown in this way. The variety *argenteo-marginatus*, which received an award of merit on April 22, is a counterpart of the type, except that the leaflets are clearly margined with white. It was noticeable at several of the exhibitions last year, and will doubtless soon become generally distributed. The award of merit was given to Mr. Russell, The Nurseries, Richmond.

Fagus sylvatica Paul's gold-margined Beech.—This should prove an admirable contrast to the Copper Beech, as the leaves are of a bright green tint, broadly margined with yellow. Judging by the specimens exhibited on June 10, when an award of merit was given to it, this Beech does not look as if it would scorch by full exposure to the sun, which is the bane of many variegated leaved trees and shrubs. In August, however, one might form a better idea of its sun-resisting powers than in June. From Messrs. Paul and Son, Old Nurseries, Cheshunt.

Libocedrus macrolepis.—Decidedly the most interesting tree or shrub of the year, though whether it will prove suitable for our climate is at present open to conjecture. The opinion of Dr. Augustine Henry is that it is doubtful if it will prove hardy except in warm corners of south-west Ireland and in Cornwall. This *Libocedrus* was figured in *THE GARDEN*, page 183, last volume, and accompanying it was a most interesting and exhaustive article from Dr. Henry. He says: "There are now known eight species of *Libocedrus*, the geographical distribution of which is remarkable, showing that in early geological times the genus was widely spread; indeed, a fossil species has been found in the Isle of Sheppey. Two species now occur in Chili and Patagonia, two species inhabit New Zealand, one species is peculiar to New Guinea, and another to New Caledonia; one species occurs in Oregon and California, and another in China." This last named is *Libocedrus macrolepis*, for which Messrs. Veitch were awarded a first-class certificate on August 5. Concerning the origin of their plants, Dr. Henry says: "*Libocedrus*

macrolepis, Bentham, has recently been introduced into cultivation in England by Messrs. James Veitch and Sons, from seeds collected at Szemao, in Yunnan, by Mr. E. H. Wilson, when he was paying me a visit at that station in the autumn of 1899." In its native country it is said to attain the height of 100 feet, but as it is likely to require protection here we shall probably not often see it beyond the juvenile stage.

Rhododendron Lady Clementine Walsh.—A very pretty hybrid *Rhododendron* with fine well-shaped flowers borne in large trusses, and of a delightful shade of pink, marked with white. Award of merit June 24. From Messrs. John Waterer and Sons, Bagshot.

Thuja ellwangeriana pygmæa aurea.—A very pretty dwarf conifer of a golden hue, which thirty or forty years ago would have aroused a good deal of enthusiasm, but nowadays conifers do not occupy the position they once did in popular favour. *Thuja ellwangeriana* has been long known as a dwarf or undeveloped form of the American *Arbor-Vitæ* (*Thuja occidentalis*). The variety *pygmæa aurea*, to which an award of merit was given on September 2, forms a dense pyramidal bush of a pleasing rich yellow tint, suggesting at a little distance a golden *Retinospora*. Shown by Mr. Charles Turner, Royal Nurseries, Slough.

NOTES OF THE WEEK.

FORTHCOMING EVENTS.

January 27.—Royal Horticultural Society's Meeting.

February 3.—National Amateur Gardeners' Association Meeting.

February 7.—Société Française d'Horticulture de Londres Meeting.

February 10.—Royal Horticultural Society's Meeting.

February 11.—East Anglian Horticultural Club Meeting.

February 13.—Royal Gardeners' Orphan Fund Annual General Meeting, Cannon Street Hotel.

Royal Horticultural Society.—The next fruit and flower show of the above society will be held on Tuesday next in the Drill Hall, Buckingham Gate, Westminster, 1 to 4 p.m. A lecture on "The Cultivation of the Blue Nymphaea," will be given by Mr. James Hudson, V.M.H., at three o'clock. At a general meeting held on Tuesday, the 13th inst., ninety new Fellows were elected, amongst them being the Countess of Dudley, Lady Clayton East, Lady Brooke, Lieutenant-Colonel H. W. Apperley, and the Hon. Mrs. Bourke.

National Dahlia Society.—The schedule of prizes to be offered at the next annual exhibition of this society, to be held at the Drill Hall, Buckingham Gate, Westminster, on September 1 and 2, will include a new departure of considerable interest to exhibitors. As the result of a general subscription amongst members, three silver challenge cups will be offered for competition, namely, a ten guinea cup in the premier Cactus

Dahlia class for nurserymen (eighteen varieties, in bunches of six blooms each), a ten guinea cup in the premier Cactus Dahlia class for amateurs (nine varieties, in bunches of three blooms each), and a five guinea cup, in the premier class for show and fancy Dahlias, for amateurs (twenty-four blooms distinct). In addition to the above, Messrs. Dobbie and Co., Rothesay, will present a gold badge, value three guineas, for twenty-four blooms Cactus Dahlias, distinct varieties, for amateurs, the gift to be repeated at the two following exhibitions of the society in 1904 and 1905. The prize money in this class (class 24, which is altered from eighteen blooms to twenty-four) and in that for nine varieties, in bunches of three blooms, has been increased, and three new vase classes have been added. The annual report and schedule for 1903 will be issued to members in the course of the next few days.

Pea Edwin Beckett.—Seeing the illustration of this Pea on page 29 of THE GARDEN, I should like to add what a splendid variety it is. I had one row last season quite 30 yards long, grown on the exhibition system, and it was a grand sight to anyone interested in the cultivation of exhibition Peas. This variety is very free, of good colour, and excellent flavour. When exhibited without being touched by the hands, but cut off with scissors and placed in shallow boxes on Parsley, it cannot fail to attract the judge's attention. I exhibited it in the single class at Sandy last August, and in a keen competition, where many large varieties were shown, its fresh appearance and fine flavour easily placed it first.—J. BARSON, *Hinchbrook*.

Coleus thyrsoides at Feltham.—This beautiful winter-flowering plant is now flowering well at Messrs. Veitch and Sons' Feltham nursery. No doubt it will be seen again at the Drill Hall, but nowhere in London, even in the most favourable light the Metropolis can provide, will the long spikes of flowers show that beautiful blue tint which is seen in the clear light at Feltham. The plants are from 30 inches to 36 inches in height, each one finely leaved and carrying several spikes 7 inches to 8 inches long, the colour of which runs that of *Salvia patens* very hard. It certainly is for the time of year and for the conservatory the most beautiful blue-flowered plant we have. Plants can be propagated by cuttings or from seed, and seem to be just as easy to grow as are those of any *Coleus*. Happily the leafage is of a good green self. May it be spared from any crossing with the summer-foliaged section.—A. D.

It is obvious that Messrs. Veitch have speedily acquired a knowledge of the way to grow this fine plant. The splendid group at the Drill Hall on Tuesday, the 13th inst., both in numbers and development, made this clear to all. Of course it is a *Coleus*, and such things are not infrequently described as weedy, but *C. thyrsoides* is different. Doubtless the plants have been liberally grown during the season to attain such fine proportions. They were 4 feet high, and many would have been nearly as much through had the shoots been tied out to sticks. But if liberally grown, the plants, judging by their firm leaves, had been given also a season of warm dryness such as may be theirs possibly in a natural state. What Messrs. Veitch, with so much expert knowledge at command, have so promptly discovered, may now be followed by all good gardeners who care to grow to perfection the finest of all blue winter-flowering plants, as undoubtedly this *Coleus* is.—E. J., *Hampton Hill*.

Chrysanthemum Mlle. Therese Panckoucke.—This late-flowering Chrysanthemum was at one time highly esteemed for its large size and usefulness for late exhibitions. In some of the older catalogues, a year or two subsequent to its introduction from the Continent, it was "compared to a white Etoile de Lyon." Since that period, however, its real value has been fully appreciated. Like many Continental and other Chrysanthemums it was, for show purposes, lost sight of after a year or two, but during the interval a certain market grower ascertained its undoubted value for late market work and made the most of

his knowledge. At length its original name was discovered, with the result that stock was freely distributed, till at length many growers were sending in handsome bunches to market. The flowers are of a useful size, with long fairly broad florets, and of the purest white. A few days ago I saw a large house full of this one variety. The plants were between 5 feet and 6 feet high, and the flowers were from terminal buds. For cutting at Christmas and during succeeding weeks it is specially suited, good prices being obtained for the blooms.—D. B. CRANE.

Moschosma riparium.—Some charming examples of this comparatively new winter-flowering Labiate in Messrs. Veitch's nursery at Chelsea show well what a desirable plant it is for the greenhouse at this season, for it is quite unlike any of our old favourites that are usually grown for winter blooming. Out of flower the general aspect of the plant suggests a *Salvia*, with leaves about 2 inches long, deeply toothed at the margins. The individual flowers are small, but in large, erect, much-branched panicles, so that they make a good show. In colour they are white, with purplish anthers. It can be

propagated and grown as easily as a *Salvia*, so that we shall doubtless meet with it before long in most gardens where winter-flowering plants are in demand. It was, I believe, first introduced into the Royal Gardens, Kew, where *Coleus thyrsoides* also unfolded its charming blue flowers for



COREOPSIS TENUIFOLIA.

the first time, while to add to the coincidence both plants are natives of Africa, the *Moschosma* from the southern portion of the continent and the *Coleus* from the more central part. Both, too, belong to the order Labiate.—H. P.

Coreopsis tenuifolia.—The perennial *Coreopsis* are among the brightest of summer and autumn garden flowers. After the annuals are over they are still showy, bearing blooms until autumn. *C. tenuifolia*, of which we give an illustration, is one of the prettiest; it has very elegant foliage, and bears a profusion of golden-yellow flowers during late summer and early autumn.—T.

The Penzance Briars on Manetti stock.—An obliging Reigate correspondent, to whom I have previously been indebted on the subject of Roses, has written me regarding my note on the above. From his note I gather that Messrs. Keynes and Co. sent these out on the Manetti, and that plants my correspondent purchased from them in 1894 have flourished, including Lady Penzance. He thinks that the Manetti roots will by this time have perished, and that these Briars are now upon their own roots. On

the other hand, a friend to whom he gave a Lady Penzance in 1894, which has done well, has since purchased others from the best houses, but perhaps on the Briar, which have not flourished. It is not at all unlikely, as I have suspected, that the stock on which they are budded has a great deal to do with the matter. It is surely desirable that the subject should be cleared up in the horticultural press, so that those who have to purchase the Penzance Briars may be able to secure plants which will succeed.—S. ARNOTT.

Tomato Holmes' Supreme.—All who have grown this very fine Tomato must agree that the three marks awarded by the Royal Horticultural Society were never better bestowed, for after trial with the best varieties in cultivation last season it came out of the test with flying colours, and must indeed become a prime favourite either for market or private growers. For pot culture it is admirable, the growth being very stout, whilst the heavy short-jointed bunches of fruit—as many as eight or nine to the bunch—are as freely produced as anyone could wish. Not over large, they are just the right size, and of so perfect a shape as to find a ready sale.—A. B.

Obituary.—We much regret to learn that Christina, youngest daughter of Mr. John Forbes, Hawick, died on the 19th inst., in her twenty-first year. The funeral took place at Wilton Cemetery on Thursday, the 22nd inst. The many friends of Mr. Forbes will sympathise with him in his trouble.

An agricultural post wanted.—Mr. Rider Haggard, in his recently published book about "Rural England," strongly advocates "an agricultural post, to be worked as a branch of the present Post Office, and as nearly as proves practicable upon the lines of the existing Parcels Post." He recommends this and road traction as a means of competing with railway rates which entirely stifle all the small farmers' chances of success. Mr. Rider Haggard, in support of his plea, gives a practical illustration of the present difficulties: "The other day in my own garden I saw some hundreds of particularly fine Cos Lettuces which were beginning to go to seed. I told the gardener that he had better sell them, to which he replied that there was no local market, and that they would not pay to send away by train. If an agricultural post had existed those Lettuces might have been delivered on the following day in London, Lowestoft, or Yarmouth, where they would have fetched a good price. As it was, they rotted and were thrown to the pigs."

Late yellow Chrysanthemums.—Seeing that Mr. E. Harriss so greatly esteems Golden Gem as a late yellow sort (page 18), it would be interesting to know why he so regards this variety. Golden Gem bears quite small flowers at best, and with me was so extremely varied and inconstant that some years ago I discarded it altogether, after having grown it by the hundred for some years. Has Mr. Harriss tried Golden Dart or H. W. Rieman among the late yellows? I do not mention the first as a January bloomer, that is, not late in that month, though I believe Mr. G. Wythes at Syon, and Mr. Burrell of Claremont have both flowered it quite well in January. In any case, it is much better than Golden Gem, and beautiful when grown for home use. In respect to the other one named, I have some blooms now expanding that at the present rate of progress will take a fortnight to open fully, while in respect to colour it is among the finest of all yellows. This, like Golden Dart, is a naturally late yellow, a fact that should be kept in mind so as to avoid too late stopping. Where late stopping goes hand in hand with a rather late season there will most certainly be a larger proportion of flowerless shoots than one cares at all times to admit. The flowers of both the varieties named keep well, have long stems, and should, like all decorative sorts grown for their lateness, be on terminal buds. The stems of H. W. Rieman will be 2 feet 6 inches long, longer than the entire plant of Golden Gem so late struck as June. As the foliage is quite good, such blooms will be of value in tall vases especially.—E. JENKINS, *Hampton Hill*.

The "Orchid Review."—The January number of the *Orchid Review* commences the eleventh volume of this publication. Mr. Charles C. Hurst in a leading article makes the following remarks, with which we agree: "The single numbers as they arrive each month in their familiar covers are apparently a simple monthly review of Orchid lore, giving us the current news of the Orchid world, and all the new and up-to-date information that we require, both cultural and scientific. But when the December index number arrives, and we bind up the twelve single numbers into one volume, we begin to realise that the work is a permanent one of great value, with its accurate records of facts and critical observations, based upon patent and original research. Now that the single volume has grown into ten, the realisation of the permanent value of the work has also increased tenfold."

Kidderminster and District Horticultural Society.—The next lecture of this society will be given on February 12 by Mr. E. H. Maskey, head gardener to Peter Adam, Esq., Cairndhu, on "The Culture of Annuals." Arrangements for 1903: March 12, Mr. D. R. Dixon, "The Culture of Onions and Leeks"; April —, Excursion to Midland Daffodil Show; May 14, Mr. W. Allison, "Pansies and Violas"; June 13, Excursion to Arley Castle and Arboretum (by kind permission of R. Woodward, Esq.); July 18, Conference and show at The Elms, Blakebrook (by kind permission of Col. Goodwin); July —, Excursion to the Midland Carnation Society show at Birmingham; August 15, Excursion to Madresfield Court Gardens (by kind permission of Earl Beauchamp); September 10, Show, Mr. A. R. Goodwin, F.R.H.S., "Hints on Growing Tea Roses"; October 8, Show, Mr. H. Bulmer, "A Chat about Celery Growing"; November 12, Mr. J. Duncan Pearson, "Dutch Bulb Farms, and a Peep at some English Ones" (illustrated with lantern slides); December 10, Rev. G. F. Eyre, F.R.H.S., "My Vicarage Garden." N.B.—The meetings at the Masonic Hall will commence at 8 p.m.

Scottish Horticultural Association.—The annual statement of this flourishing society just to hand shows a membership of 1,160 and funds amounting to £978 12s. 3d. Financially the results of the Chrysanthemum show were even more satisfactory than anticipated, for though the expenditure amounted to the big total of £1,039 2s. 5d., the receipts were £1,130 10s. 11d. But the association exists primarily for the mutual improvement of its members in horticultural matters, monthly meetings being held at Edinburgh throughout the year, when papers are read and discussed and interesting plants and flowers exhibited. The syllabus of these meetings for the current year is a very strong one, the names of Messrs. F. W. Burbidge, M.A., Dublin; R. Dean, Ealing; R. Mair, the Scotch Gladiolus expert, Prestwick; Gibson, Danesfield Manor, Bucks; and Webster, Gordon Castle, being of the number. Mr. Peter Loney, 6, Coulton Street, Edinburgh, is the secretary, and the annual subscription is only half-a-crown.

American blight.—I was rather astonished the other day to find colonies of American blight established on the branches of Apple trees hitherto unaffected by that dread parasite. It is the more unaccountable as so far as could be discovered other affected trees, hitherto clean, had been treated during early autumn. It is most unsatisfactory that in so many cases bought in young trees develop American blight, but as the pest had been hardly seen on any of our trees for several years, it is all the more strange that it should have become all at once so prevalent this winter. Whether the affection is general or not I cannot say, but gardeners would be wise to look for the insect when tending their Apple trees for the season. While the leaves are on the trees I have always found washing with an emulsion of soapsuds and petroleum an efficient remedy; petroleum is both penetrating and deadly, and the woolly envelopment under which the insect exists is not easily penetrated by any ordinary insecticide. If colonies are noticed during summer they should

at once be destroyed before eggs are hatched, and probably the present visitation is largely due to a successful egg season on the part of the insect. Treatment at present will consist in syringing with an extra strong petroleum emulsion, thereafter cutting away portions of the bark underneath which the insect has effected a lodgment. Hot oil applied with a brush might be equally good in its results, but whatever the means taken they must be of a nature to reach the insect.—B.

"Kew Hand List of Trees and Shrubs."—A second edition of this invaluable work of reference has been published, the first edition of this list of trees and shrubs grown in the Kew Arboretum having been exhausted. It is now republished in one volume, after having been carefully revised and enlarged by the addition of the names of numerous species which have been added to the collection since the first edition was prepared. The number of hardy trees and shrubs now enumerated amounts to about 4,500.

Chrysanthemum Mme. Louise Leroy.—This variety has generally been regarded as a semi-early flowering one, but during the past season the plants have flowered much later than usual. Though the terminal buds were thinned out in the middle of September the flowers were not fully expanded until Christmas week. The plants were purposely kept in a cold house, and during the moist weather and an occasional spell of frost hot water was turned into the pipes. Not the slightest trace of damping is to be seen.—D. B. CRANE.

Early Tomatoes.—No Tomatoes are more appreciated than those of the first gathering, and no effort should be spared to obtain them as early in the year as possible. To have ripe fruits in March the plants which were raised last autumn should now be ready to be potted into the fruiting pots. But on no account should they be potted till well rooted and the first flowers can be seen. Nothing is gained by doing so; on the contrary, the plants will be encouraged to make a lot of useless growth before commencing to flower, which will considerably postpone the fruiting season, and potting space should be left for a top-dressing of some rich soil, when a good set of fruit is ensured. If possible the pots should be plunged in a bed of leaves of moderate warmth. This will greatly facilitate root action, which would otherwise be slow at this time of the year. Fertilising the flowers is a matter which should receive close attention. A simple and sure method is to secure a well-developed flower, shake the pollen on the finger (this can easily be done with the point of a budding knife), then fertilise each flower individually. A night temperature of 60° will suit the plants, and plenty of air should be admitted on all favourable occasions until a good set of fruit is secured; then the temperature may be increased. Frogmore Selected and Winter Beauty are two varieties which may be relied upon.—E. HARRISS.

Botanic Garden, Calcutta.—In the annual report for the year 1901-2 we read:—A severe storm visited the garden on November 26, 1901, and did much damage by uprooting a number of valuable trees and greatly disfiguring many that were not completely destroyed. With this exception the weather during the year was of a normal character and not unfavourable to vegetation. The investigation of the dye-yielding *Indigoferas*, noticed in the last annual report, has advanced considerably during the past year. The opportunity afforded by a visit to Europe was utilised in a careful comparison of examples of the *Indigoferas* cultivated in South-Eastern Asia with the authentic material preserved in the Herbaria of London and Geneva. The results have been in some cases unexpected. The belief that at the time of the early intercourse of Europe with India, there were two centres of Indigo export, if not of cultivation, has been confirmed. One of these centres was Surat, where the Indigo grown was a form of the Egyptian Indigo, *Indigofera articulata*, which still persists in various parts of India, notably, in Scinde and Rajputana, where even now this plant alone receives the name "Nil" applied in Tirhut and Bengal to quite a different species.

The other centre was Ceylon and the Coromandel Coast, where the Indigo was obtained from Indian Indigo, *Indigofera tinctoria*, the produce of which was even in these early times held in less esteem than Surat Indigo. It was recorded in the last annual report that during the excessive floods of September, 1900, this East African Indigo came by no harm when all the Indian and American kinds were practically destroyed. It has now to be recorded that in 1901 the experimental plots were attacked by an insect blight which destroyed all save a few plants of every Asiatic and American *Indigofera* under cultivation without affecting in the least this East African species. Among other economic operations for the year it may be noted that the efforts to extend the cultivation of *Paspalum dilatatum* have been continued, and that the difficulties regarding its cultivation in Bengal have been successfully overcome. These difficulties have not yet been surmounted in other provinces, and the reports that have been received from correspondents are somewhat conflicting. In Southern India it is found that the drought-resisting qualities claimed for this grass in Australia have not been over-estimated, but in Western and Northern India it is stated that though an excellent fodder grass where irrigation is available, it is as a drought-resisting species distinctly inferior to some well-known native grasses. The number of named specimens distributed from the Herbarium to other botanical establishments has been 8,500. The number of specimens received has been 8,749, the chief contributors being the director, Royal Gardens, Kew, 1,051 specimens; and the director, Royal Gardens, Berlin, 1,134 specimens. The number of plants distributed during the year was 35,134, slightly below the usual figure, the demand for Rhea having been very small. The number of plants received was 8,521; these include some very interesting contributions, the most notable of which are a small collection of authentically named *Sansevierias* (Bow String Hemp plants) from the director, Royal Gardens, Kew; 389 bulbous and tuberous plants from Uganda, presented by F. J. Spooner, Esq.; 305 Orchids of remarkable interest, presented by Rev. L. Cardon, S.J., Chota Nagpur; collections of a very interesting nature from Madagascar, presented by M. Em. Prud'homme and from Dar-es-Salaam, presented by Herr Stuhlmann. During the year 1,206 packets of seeds were received and 4,083 packets distributed.

Broccoli Superb Early White.—In December and January good Cauliflowers and Broccoli are very scarce in most parts of the kingdom, and any variety that is reliable is a great boon in private gardens where small heads of good white Cauliflower or Broccoli are in demand. For the past few seasons I have grown Sutton's Superb White largely for the supply at this season. During December and the early part of January it was very good indeed, and the heads, though not large, were much appreciated. This variety much resembles the old Snow's Winter White, but with me the Early White is much preferable to Snow's, as the plants are more reliable, hardier, and the heads are well protected by the foliage. I am aware, no matter what the variety is, that the Broccoli is not frost-proof, but if the Superb Winter White is planted sufficiently early in summer and when the heads are formed the plants are lifted and given protection at the approach of frost, a supply may be maintained for some time. This variety is one of the best to remain firm and good when housed after removal from its growing quarters. I have kept plants in frames from January to March, a period of the year when the supply is most irregular.—G. WYTHES.

Hibbertia dentata.—With two or three exceptions all the *Hibbertias* are natives of Australia, and though the genus is an extensive one, only about half-a-dozen species are in general cultivation. In habit they vary from a vigorous climber, as in *H. volubilis*, to the dense twiggy bush of *H. Readii*. The best of the entire genus for the garden is *H. dentata*, which has been more than once referred to in THE GARDEN, but it is such a delightful greenhouse climber throughout winter that its merits in this respect must be my excuse for again alluding to it. *Hibbertia dentata*

is excellent for clothing the rafter of a greenhouse, as it is a slender climber of moderate growth, while the oblong-shaped leaves are very handsome, being deep green in the adult stage, but when young are tinged with bronzy red. The flowers, which in general appearance suggest an affinity to a *Hypericum*, are from 1½ inches to 2 inches across, and bright yellow. In *H. volubilis* they have a most unpleasant odour, but this is quite wanting in *H. dentata*. This last strikes readily from cuttings of the young growing shoots put in sandy soil and kept in a close propagating case. They grow quickly when rooted, in proof of which mention may be made of some cuttings I put in at midsummer, which were potted off when well rooted and are now thriving plants from 15 inches to 2 feet long. The fact that this *Hibbertia* will often flower from December to May is also in its flavour.—H. P.

Senecio macroglossus.—The genus *Senecio* with its 800 or 900 species contains some forms remarkable for the way in which they mimic plants they are not in the least related to. That referred to by this note, *S. macroglossus*, is a puzzle to many, and though introduced from South Africa a little over twenty-five years ago it is little known in this country at least. It is a free-growing climber, just the thing for the roof of a warm greenhouse, and the evergreen leaves exactly mimic those of the Ivy, hence it is sometimes called German Ivy; why German I cannot say. Its handsome foliage is by no means the only claim to recognition, for the flowers are borne more or less throughout the greater part of the year, but are perhaps most appreciated during winter. The flowers are from 2½ inches to 3 inches in diameter, and composed of eight to ten ray florets of a pale yellow tint, the disc itself being more of a greenish tinge. Its rapid growth is greatly in its favour as a pretty summer climber out of doors; cuttings strike root readily, and the young plants make rapid progress. In South Africa it is said to clothe the trunks of lofty trees far more rapidly than our native Ivy does at home.—T.

THE FLOWER GARDEN.

BEAUTIFUL GARDEN LAWNS.

AT this season, when we are beginning to think of the lawn and turf generally, the following notes may be useful. The lawn has been well described as the heart of the garden, but it is frequently so carelessly made that the results are disappointing, and sometimes remaking is necessary.

From want of knowledge or care, and occasionally local or other reasons, many people, thinking that any rough preparation will secure them a good sward, merely trench and turf the ground; others think that turf will come of itself; but such people are often rudely disappointed, and therefore some instructions as to the best way of laying down turf, where the work has to be done from the beginning, and also for repairing it when out of order, may be useful to some readers.

FORMATION OF GOOD TURF.

Should the spot chosen be on heavy soil, such as clay, take the levels and fix them 16 feet apart around the outside of the piece intended for a lawn. Take some levels across the piece, then take 12 inches of the clay out below the levels. Should any of these 12 inches contain good soil, wheel that to the outside of the piece, removing all the clay to a place near and burning it into ballast. This can be done by using slack coal. Find the natural fall of the ground and place pegs 16 feet apart in lines from top to bottom the way it falls, then dig out the soil in the line of pegs with a draining tool, 12 inches deep at top end, bottom end 18 inches deep. This will give a fall of 6 inches. Then lay in 2-inch drain pipes, with at the bottom end a 3-inch pipe for a main to take the water that drains from the subsoil. See that this main is

taken to some outlet. Cover the pipes with 3 inches of burnt ballast, and spread 3 inches of burnt ballast all over the piece of ground. Dig the ground over 12 inches deep, at the same time mixing the 3 inches of burnt ballast with the clay, taking care not to disturb the pipes or dig below them. After treading all over firmly, place on the surface 2 inches of burnt ballast, filling to the level with loam mixed with the good soil you have laid on one side from the surface. If you have no good soil, fill up with loam mixed with coarse gravel, brick rubbish, and burnt ballast. Tread all over again as before, making it level with a spade, pressing in any lump or stone that appears level with the ground. No rake should be used. You have now 2 feet of trenched earth. Do not dig down deeper in one place than another. A stick cut 2 feet long by the worker's side is the best. He can, with the stick, test his depth from time to time. In laying the turf keep the joints of each piece half an inch apart. When it is all laid down, pat it gently all over with a turf beater. It is better to take up the turf that is a little higher than the rest and take out a little of the soil than to beat it down to the level. Then spread some burnt ballast, ashes from the burnt refuse of the garden, and the top 2 inches of soil from a wood, sifted through a half-inch mesh sieve and mixed well together, all over the grass. Move it about until all the joints in the grass are level. Wait for rain, then go over the lawn and take out all weeds. Give another dressing of the soil as before, adding to this a little road grit and old mortar. If no old mortar is available, slaked lime will answer. Move this about until all is level again. In the month of March or the first week in April, if the weather is fine, sow all over the lawn some of the best grass seed. Get some fine Thorn bushes, lace them together in the shape of a fan heavy enough for two men to drag about the lawn in various ways. Roll with a light roller. Keep off the lawn until the grass has grown 3 inches, then cut it with a scythe, and roll with a light roller the first season. When mowing with the machine is commenced see that the knives are not set too close to the ground.

Should the spot selected for a lawn not contain clay so much the better. Dig holes here and there 2 feet deep in the winter months. If no water appears at the bottom of the holes, this shows it will not want draining; if there is water, drain as on heavy soil. In trenching the ground, if the subsoil be bad, take 3 inches of this away, filling up to the level with good soil to which have been added half-inch crushed bones in the proportion of four tons to the acre, fine brick rubbish and ballast in the same proportions as for the heavy soil. Turf and treat as on heavy soil. If you have a good grass field, take the turf for your lawn, remove the top spit, replace with rough soil, and place 3 inches of the loam that has been dug out upon the rough soil you have put in, then sow, bush harrow, and lightly roll.

TREATMENT OF OLD LAWNS.

Weeds, Moss, and bare places on lawns show that they are worn out. To renew these take off the turf in rolls 3 feet long, 1 foot wide, and 1 inch thick. If the turf cannot be rolled, take 6 inches of the surface away, then trench 2 feet deep, keeping the good soil on the top as you proceed. Tread firmly all over, and fill up to the level with good soil; mix with the loam, burnt ballast, old brick rubbish, half-inch crushed bones, and road sidings or sweepings. Then turf and treat as in the case of new lawns. On old lawns there are very often handsome deciduous trees too close to which it would be dangerous to trench. To get grass to grow under these, take away 2 inches of the exhausted soil, replace with good, and sow thereon grass seed thickly. Rake the seed in gently, roll it lightly, and water when necessary. This may be repeated in the same way as often as the soil under the trees becomes bare. In some cases where turf is scarce, a roll of turf 3 feet long and 1 foot wide may be taken and cut in half lengthways. With this form the outlines of the bed which have been staked out previously, beat down to the level required, and bring up the inter-

vening spaces to the level of the turf with good soil. Make this firm, rake it level, and on this sow some good grass seed. Rake it over, roll lightly, and protect from birds where these are troublesome. Cut the grass when 6 inches high with a scythe and keep it well watered during the summer if the weather is dry. In this way a beautiful lawn may be had at little expense as compared with turfing it completely over.

LAWNS ON PEATY AND SANDY SOILS.

In some parts of Hampshire where peat and sand abound seeds are by far the best to use to form a good turf. Remove all peat from the site you want for a lawn, pile it on the outside of the work and cast plenty of water upon it. Then take out 2 inches or 3 inches of the dark sand that is under the peat, cast this also over the pile of peat. Take out 12 inches of the sand, dig all over 12 inches deep and tread it firmly. Get all the road scrapings and road trimmings you can with a little clay and stiff loam and cast upon the peat pile. Having got together the quantity you think will fill up to your level, then cut up small the peat you have in the pile and mix all well together, fill up to the level, tread firmly all over, then give a good coating of cow manure, turn this 3 inches under the surface, and tread firmly again. In the month of March sow thickly. Do not let the surface get dry the first summer, and cut the grass when 6 inches high with a scythe.

Attention should be paid to keeping all lawns free from weeds. Dress lawns once a year with one bushel of salt mixed with fourteen bushels of wood ashes not too much burnt. When you see the wood is consumed, spread the ashes abroad and cover with good soil. Break the charcoal small, mix all well together, do not sift, spread upon the lawn, and roll it in.

HEMEROCALLIS OR DAY LILIES.

(Continued from page 38.)

HEMEROCALLIS × *LUTEOLA* (*aurantiaca* major × *Thunbergi* and *vice versa*) embraces a very graceful lot of hybrids, with broad leaves midway between the two parents. The growth is tufted, 2 feet high and 2 feet through. The spikes are much branched, erect in growth, 4 feet in height, and bear on an average five to eight flowers on the summit of each branch. They are coloured a pure golden-yellow, and average 7 inches in length and 6 inches in width. The flowers have the elegant bearing of *H. flava*, but are much longer in the tube and altogether larger. The type of inflorescence varies somewhat, some leaning to *H. aurantiaca* major, others most resemble *H. Thunbergi* in the tall imposing stems and pale-coloured flowers. It was raised by Messrs. Wallace, of Colchester, and sent out in 1900, and simultaneously by a continental firm, who raised identical plants from the same parents. It is a splendid border plant, producing several spikes from one tuft, the long-tubed flowers of much substance, though not so large as *aurantiaca* major, mark a distinct advance on any others in purity of tint and elegant shape. It flowers in June, July, and sometimes in August.

H. Middendorfi makes a compact and dense tuft of narrow leafage 18 inches high, and produces quantities of spikes bearing deep orange flowers flushed on the outside with reddish brown, agreeing with those of *H. Thunbergi* in size, but arranged in a very close umbel of five each, and poised just above the mass of foliage. It is a good garden plant of neat habit and moderate growth, free flowering, but inferior to the hybrid *Anreole*. The flushing of colour on the outside of the flower varies in different seasons, being mainly dependent upon strong sunshine for proper and full development. It flowers in June and July.

H. Dumortieri (*rutilans* = *Sieboldi*) is a plant of still smaller growth, making graceful little tufts 1 foot high, and producing soft yellow-coloured flowers on spikes 1 foot to 1½ feet high in umbels of four and five. They average 2½ inches in length and width, and are heavily flushed with reddish brown on the outside of the outer segments, and they do not open to the fullest possible extent.



CAMPANULA FRAGILIS AT HOME.

(The plant is growing in a wall at Ravello, Italy, its native country. Each flower is over an inch across.)

and bear umbels of cupreous red flowers 4 inches across and of greater length, the petals of which are rather thin but very shapely, and the margins are crimped. The spikes are carried high above the foliage, and the plant is on this account of value for effective massing. It grows in all kinds of soil, but prefers a strong loam, whilst it reaches its greatest dimensions on the banks of a small stream or pond where the tips of the roots alone could reach the water. Its varieties are all fine plants for border planting, particularly *disticha* and its semi-double form; this latter is a plant bearing magnificent flowers, shaped like those of a double *Petunia* and coloured a variable shade of orange-crimson.

H. f. var. Kwanso fl. pl. fol. var. is a capital decorative plant, the leafage being quite as bold as that of *H. aurantiaca*, and pleasingly but irregularly variegated. In some specimens the variegation is *vittate*, in others *marginate*; in others, again, it is *parti-coloured*, one side of the leaf being green the other white. Its flowers are double and of a bronzy red tint, and they are much above the standard of the flowers of most garden plants which show a full and really good variegation. The Japanese use the flowers of *Hemerocallis* as a salad, and it is mainly

owing to this use that *aurantiaca* major found its way to British gardens. An English bulb merchant travelling in Japan had the flowers served to him as salad, and after—to use his own expression—partaking of the best salad he had eaten in his life he bargained with the host for the purchase of all the plants, which he found were growing among beds of *Iris Kämpferi*. There is a cultural detail in this latter sentence that speaks for itself—*Iris Kämpferi* being, as all the world knows, a water-loving plant. I can speak with some certainty of the value of *Hemerocallis* flowers as salad. I have eaten (judiciously) of the flowers of all the species, and they all taste alike, resembling Lettuce mainly, with a suspicion of salad oil and Endive, and more than a suspicion of Spring Onions, a complete salad, in fact, without the trouble of mixing.

GEO. B. MALLETT.

CAMPANULA FRAGILIS.

CAMPANULA FRAGILIS (Cyrill), syns. *C. Cavolini* (Ten.), *cochlearifolia* (Vahl. non Lam.), *crassifolia* (Nees) is a native of the southern Apennines and Sicily, where it grows in cracks of walls and rocks. Nyman assigns it to Dalmatia, but I think wrongly; at any rate, it seems extremely doubtful, for I have never seen a dried specimen from that region. It is not named in any flora of Austria that I have,

and the "Index Kewensis" confines it to Italy. It is a dwarf plant, with spreading, branching shoots that hang downwards; leaves dull green, thick—those of the base rounded, cordate, bluntly toothed, those of the stem small. As they ascend, they become reduced to simple ovate-lanceolate bracts; flowers large, wide open, from four to eight at the ends of the shoots; the corolla is expanded, over an inch across, and deeply divided into five even lobes. It is of a fine light blue colour, with a very long white style in the centre. It flowers from June to August. This plant is not quite hardy with us, requiring a winter shelter of cold frame or cold greenhouse. It likes a place in rock in full sun, but it can be very well grown in a pot like other cold greenhouse plants. Often in the windows of our small Swiss towns, or on the outside galleries of mountain chalets, one sees enormous tufts of *C. fragilis* grown as window plants or in hanging baskets. The many branches hanging over the pot hide it completely, and are covered with flowers for several months; indeed, the plant is one of the most popular among those that are grown for rooms. It can be grown from seed, and is also easily increased by cuttings and division.

C. fragilis var. *hirsuta* (A.D.C.) is the same as *C. Barrelieri* (Presl.); frequent in gardens. Dietrich, in the "Encyclopedie der Gartenkunst," describes a variety *grandiflora* of Van Houtte, which I have not yet seen. The illustration shows it growing wild.

Geneva.

HENRY CORREYON.

THE ROSE GARDEN.

BOLD EFFECTS WITH CLIMBING ROSES.

SOME years ago the following notes were written in THE GARDEN by that excellent rosarian, the late Mr. T. W. Girdlestone, and we reproduce them as likely to interest those who are unfortunately deprived of his invaluable advice:—

The making of effective Rose pillars and arches is simply a question of the selection of suitable varieties, and perhaps the best of all Roses for the purpose is the *sempervirens* *Félicité Perpétue*. This magnificent plant, which is capable of covering a large house in a few years, is absolutely hardy, grows with a vigour and freedom unparalleled, is practically evergreen, its handsome dark foliage making a fine background for its immense trusses of pure white flowers, each one of which is a perfect rosette, and it will grow and flower profusely in practically any soil or situation. A great arch covered with *Félicité Perpétue* is a beautiful sight in June, and indeed looks well at any time by reason of its abundant and persistent foliage, which clothes the plant to its very base, and no Rose is better adapted for covering the pillars of a verandah—a task it will accomplish in a single season—soon running along the edge, too, from pillar to pillar, and framing the whole structure in a wreath of foliage and snow-white blossom. If this or any other really vigorous Rose be planted to make an isolated Rose pillar it is a good plan, instead of the usual single pole, to put in three poles triangularly 4 feet apart and to plant the Rose in the middle; the tops of the poles should be inclined towards each other, but not allowed to meet, being held apart by cross pieces 1 foot or 18 inches long, making a small triangle at the summit. The height of the pillar must of course be regulated by circumstances and surroundings, but poles of from 10 feet to 12 feet out of the ground make an effective height.

Another Rose that makes a fine pillar is the beautiful Japanese species, *Rosa multiflora* (syn., *R. polyantha*). The flowers, though single and individually small, are nevertheless produced so abundantly and in such immense trusses that the

The pedicels are very short and are clasped and completely hidden by the short boat-shaped bracts. The leaves are linear, slender, and grass-like; the spikes are not erect, but stand out at several angles from the main growths, and the flowers are not raised above the foliage. It is a highly coloured and very neat little plant, well worthy of a place in the choice plant border. It flowers in June.

H. x Aureole (Hort. Wallace) is doubtless a hybrid between *Dumortieri* and *Middendorffii*, though sent from Japan to this country as a new species. It has linear-lanceolate leafage 1½ feet long in dense tufts above 1 foot through. The flowers are coloured a deep shade of orange-yellow, averaging 4½ inches in length and 4 inches in span, and they are arranged in umbels of five with large clasping bracts surmounting the stiffly erect spikes. The outer petals only are coloured a warm brown on the outside, the extreme margins being orange. It is a pretty and very free-flowering plant and a great improvement on its parents. It flowers in June.

H. minor (Mill.) = *H. graminea* (Hort.) is a very small plant bearing pale yellow flowers 1 inch across in umbels of three or five. The plant makes a neat tuft 6 inches high, and is better adapted for a position on a rockery, especially as it is fond of a light free soil and warm position. It flowers in July.

H. fulva is a distinct though very common plant, with sea-green leafage of varying height and rambling habit. The spikes are produced in July,

plant when in bloom appears a mass of white, and the flowers, moreover, are deliciously fragrant. The garden variety *grandiflora* is even more vigorous than the species, but is not so effective when in blossom, as, although the individual flowers are larger, they are not produced so freely nor in such large trusses.

The most valuable of the multifloras, however, for the making of Rose pillars or arches is the more recently imported *Crimson Rambler* (Turner), a variety that is likely to compel a revival of this mode of Rose growing, since everyone must needs grow it, and the plant, magnificent in the open, will not flourish against a wall. I have only seen one fine plant of it on a wall, and even in that case the plant was quite bare at the base and was only in good condition at the top, where it had got above the wall. In the open, however, the effect that can be produced by a single plant of this Rose must be seen to be believed. The variety grows with all the vigour of the species and produces similarly immense trusses, but of double crimson flowers, which last an unusually long time when fully expanded, so that the display, in addition to being most profuse, is also exceptionally prolonged. There is no other red Rose at all approaching *Crimson Rambler* in its qualities of vigour and freedom of flowering, and it is therefore the more valuable; for otherwise white and pink are the prevailing colours of the very vigorous and free Roses, amongst which, to obtain anything like a red, it was necessary formerly to go to the Boursalts — uninteresting plants with dreary flowers, which everyone may be strongly urged to avoid planting. [A true prophecy.—Ed.]

Most of the Ayrshires are fine climbing Roses, but some have insignificant-looking foliage, and some a not too pleasant fragrance. Alice Gray, however, which has white flowers, and Ruga, flesh-tinted, are both beautiful and valuable Roses, while the hybrid Musk, The Garland, with its nankeen buds expanding into pure white blossoms, is well worth growing if only to show how immense a Rose truss may be, for every truss of bloom is a posy in itself.

All the Roses so far mentioned are somewhat early flowering, being generally at their best in June, but there are some varieties of a species indigenous to the Western States of America, namely, *Rosa setigera* (formerly called *Rosa rubifolia*, a descriptive name, as the foliage strongly resembles that of the Blackberry, but now, happily, discarded, for it used to lead to confusion with *Rosa rubrifolia*, a very different species), which, in addition to being perfectly hardy and vigorous, are well worth growing on account of the lateness of their flowering—quite at the end of July. Perhaps the best of these Prairie Roses, as they are called in America, are Queen of the Prairies (pink) and Baltimore Belle (white), both having quite double flowers of good size. *Rosa Brunonis*, though, of course, single, is a species that should be grown where it can have plenty of room (it is immensely vigorous), for its great bunches of pure white flowers with their rich gold stamens are very beautiful and deliciously fragrant; and *Rosa macrantha*, with its large flesh-pink blossoms, should not be forgotten.

There are two new climbing Roses which seem likely to prove valuable additions: *Aglaiia*, with large bunches of canary-yellow flowers, and the Dawson Rose, with big bunches of bright pink flowers which show up finely against the dark green shining foliage; but it is as yet rather early to speak quite definitely about these.

In addition to the *Polyantha* Roses already enumerated there is a variety that was raised in France in the days before the species was renamed *Polyantha*, namely, *Laure Davoust*, which is a splendid climbing Rose, producing the characteristic great trusses of perfectly double soft pink flowers, which are also amongst the most sweetly scented Roses that we have. There are, of course, some valuable climbers among the Hybrid Teas and Noisettes, though not many that can be confidently recommended for hardiness as well as for vigour and freedom. Of the Dijon race I should only recommend *Bouquet d'Or*, which is beautiful in foliage as well as in flower. *Gloire de*

Dijon itself gets too bare and leafless at the base ever to be an attractive plant. *Aimée Vibert*, with its great bunches of pure white flowers, and *Ophirie*, with its unique coppery coloured clusters, are both charming and valuable for the lateness of their blooming, and William Allen Richardson may be considered indispensable.

It is to the Hybrid Teas that we must turn for reds, and though some of the older varieties are sadly murky in shade, there are a few bright ones, namely, *Reine Marie Henriette*, perhaps still the best; *Reine Olga de Wurtemberg*, richer in colour, but only semi-double, though with glorious foliage: *Longworth Rambler*, crimson, and very vigorous; and *Marie Lavalée*, only semi-double, but of the most delicious shade of bright rose-pink.

[Of course several varieties have been raised since Mr. Girdlestone's death, but those mentioned are excellent.—Ed.]

TREES AND SHRUBS.

PLANTING NEAR THE SEA.

SOME are afraid of planting near the sea, and no wonder, considering the bleak look of things and the cutting winds on land near to it; but that arises rather from our own fault in cutting down trees in the past, and also from the great area of arable land which has hitherto been thought more profitable than woodland, so that in many wind-swept places evidently people have begrudged a break of trees, which, by the way, might often be worth while having for the sake of saving the crops from the prevailing winds; indeed, this has to be done in some countries, and it is interesting to see how well groves of hardy evergreen trees which thrive in a country will break the force of the wind. Yet even in places where the few trees that are planted are cut sharp off by the sea wind above the walls, as in Anglesea, we may see how soon good planting will get over difficulties that seem insurmountable. By the use near the sea of small-leaved trees like the Tamarisks, Buckthorn, and small Willows, we very soon get a bit of shelter, and by backing these with the close-growing conifers like our common Juniper and some of the sea-loving Pines like *Pinaster*, and in mild districts the Californian Cypress and the Monterey Pine, we soon get shelter and companionship, so to say, for our trees, and 50 yards away we might walk in woods as stately as in any part of the country. Having got our shelter in this way, the culture of the hardy Pines of the northern world seems as easy by the sea as anywhere: indeed, more so, because if there is any one place where the rather more tender Pines of the north are grown well it is near the sea in places around our coast, where, if the soil is good, one has not to be so careful about the trees we select as we have to be in inland places.

We have always noticed the evergreen Oak taking the lead among trees near the sea, and it ought to be largely used; but as it is not very easily transplanted from nursery-bought plants, it is just as well to raise it on the place and plant it young. Even seeds might be scattered with some advantage in places we wish it to grow in, as it grows freely from seed. But perhaps it is more suited for shelter in groups on lawns and in parks than for planting in a broad wood, for which purpose we had perhaps better go to the larger trees.

In addition to the common evergreen trees of Europe, the Scotch Spruce and Silver Firs, &c., we have the noble Corsican Pine, which, from its habitat in Calabria and in Corsica, can have no objection to the sea. The Pines of the Pacific coast, too, are well used to its influences, and hence we see in our country good results from planting them near the sea, as, for example, *Menzies' Spruce* at Hunstanton, the Monterey Pine at Bicton, the Redwood in many places near the sea, and the Cedar of Lebanon at Goodwood. One good result of planting in such places is that we may use so many evergreen trees, from the

Holly to the Cedar, and so get a certain amount of warmth as well as shelter.

Though our country generally is not perhaps fitted for the growth of the Cork Oak, it is here and there in southern and sheltered parts on warm soils, as in certain parts of Devonshire and on the warm side of the Sussex Downs, seen in good condition. This Oak naturally inhabits the southern parts of Europe and the northern parts of Africa, and it is most interesting to know that it can attain the size of a stately tree in our own country. At Goodwood there is a striking specimen of the Cork Oak. The girth of the stem at 3 feet from the ground is 12 feet 9 inches, and without doubt the trees at Goodwood owe something of their health to their good neighbour, the sea.

SOME REMARKABLE BUDDHIST TREES.

NATURE has provided many wonderful trees, but human imagination has increased the number. Both combine, no doubt, to produce the most wonderful of all—the tree of species beyond identification; beyond conception, indeed. We are told that in the fourteenth century a great Buddhist reformer died at Kounboun, and from his hair, for reasons and by process unexplained, this tree arose. Though between 500 and 600 years old it was not more than 8 feet high, but, on the other hand, three men with arms outstretched could scarcely reach round the trunk. The branches spread like plumes of feathers, bushy and evergreen; scarcely any seem to have died from the beginning. It produces large red flowers extremely beautiful in summer. The wood has an exquisite scent like Cinnamon—at least, so wrote M. Huc in his book after he and some reverend companions had visited Kounboun. From this description botanists will, no doubt, recognise a new species. But here comes the marvel. Each leaf bears well-formed characters of the Thibetan alphabet, some in dark green on a lighter ground, some light on a darker ground. On one leaf they are at the apex, on another at the base or in the middle. Commonly a sentence is inscribed on the foliage of every twig, but sometimes the bark must be perused in order to make out the context, for this integument also bears its crop of literature. Moreover, if the bark be removed, upon the soft wood beneath appear young inscriptions, still incomplete—the “i's” are not dotted, as one may say, or the “t's” crossed, but, as seemed specially to M. Huc, when these inchoate sentences could be read, often they did not repeat those upon the bark removed; in fact, a new revelation was preparing underneath the old and out of sight. We have not the comfort of supposing that there was any misapprehension on this account. The travellers examined everything most closely, until, in fact, between awe and scientific curiosity, we are told that “the perspiration ran down our faces.” They even made a sketch, which appears in the first edition of M. Huc's work, showing the tree and the silver umbrella put over it by the Emperor Khaug Hi.

The Buddhists have another wonderful tree—in fact, they have several—but the one at Anmadhapura, Ceylon, possesses historic interest. If the record be true—that is, if the original stem has not been replaced by a seedling or a plant altogether new—it must be 2,145 years old. That a Bo-tree was set in this spot by a daughter of the famous King Asoka is certain. She and her brother inherited the paternal zeal for spreading the doctrines of Buddha throughout the world, and when the latter resolved to go to Ceylon as a missionary Princess Sanghambhatta accompanied him. With her she took a cutting of the Sacred Bo-tree, under which Buddha sought refuge from a storm. This was laid in the earth at Anmadhapura, and we are invited to believe that the noble trunk still flourishing there is the very same. Everyone will hope it is true. Sir Emerson Tennant was convinced, and he had special advantages for investigating the case. “Its age,” said he, “is a matter of record; its conservancy has been an object of solicitude to successive dynasties, and the story of its vicissitudes has been preserved

in a continuous series of chronicles among the most authentic that have been handed down to mankind." We only hope it is all true; any way, it is very refreshing
W. N. BROWN.

NATURAL GARDENING IN SURREY WILDS.

A NOTE ON FERNS.

It is interesting to notice that some of our most beautiful Ferns will not only grow but flourish under careful treatment in poor sandy soils, and on banks which in summer usually get terribly dry and unfit for moisture-loving Ferns.

A *Blechnum boreale* or Spicant (see illustration), which is now probably thirty years old, and which I have watched for twenty years, is still in excellent health and has gradually increased, and now measures 4 feet in diameter. The fronds are well formed, the bright green barren ones being about 2 feet long and 2½ inches in width, the erect spore-bearing fronds 26 inches or more high. This specimen has not been moved for twenty years. It is in shade, about 3 feet from a wall nearly 6 feet high covered with Ivy, and looking due east. It gets no drip, has this year been little damaged by the weather, and up to December 25 the tall fertile fronds only showed signs of decay, the others retaining their bright colour and shiny healthy appearance.

Few Ferns like being moved. A good place should be selected in the first instance, and the plant allowed to remain, care being taken that, if planted on dry banks, a hollow depression should be made behind the Fern to catch the water, and a small tunnel made with a narrow spade slanting downwards so as to conduct water towards and well below the roots.

The fronds of Ferns generally should not be pulled off in autumn or winter, and I am sure it is better to leave them alone, though they may look somewhat untidy in winter; but when the new fronds appear they have the advantage of growing through the moist and partly decayed old ones, and particularly in the case of this old *Blechnum*, they push their new fronds upwards in the spaces they find, and as they grow they take far more natural positions than if attempts are made to facilitate their emergence, and they certainly retain their healthy appearance for a longer time if thus treated, even in mid-winter or later, if in sheltered nooks.

The secret of getting good healthy, evenly-grown fronds of healthy colour and firm consistence, so that they may well stand the winds and cold weather of our springs as well as the heat of summer, is to take care to leave at least the lower part of the last year's fronds attached to the crown. By this means the young tender fronds will be well protected and kept moist, and are thus encouraged to make their steady gradual growth without interruption.

In the case of *Filix-mas* and all the Ferns with long spreading fronds the best plan to adopt is the following: As the fronds get soft and begin to decay in late autumn, collect them together in one hand, and with a slight twist draw them several times round the base of the plant as near the earth as possible, and then tuck in the ends so that they retain their

place all through the winter, leaving the new head in a pretty deep cup. The new fronds are thus well protected in early spring, and make their own way, one after the other, through any slight obstruction far better than they do if we attempt to help them. In many cases I have left a collection of the old stems still attached, forming a deep circular depression perhaps 5 inches or 6 inches deep, at the bottom of which may be just seen the new fronds making their appearance. This system I have now followed for several years, and have not yet discovered any objection to it. The decayed and decaying fragments near the growing young fronds do not obstruct their growth or cause them to die and rot. These observations apply only to a dry sandy soil, from which water drains away only too freely, and it is seldom that I find fragments of Ferns rotting or forming a nidus for the growth of mildew or low fungi and vicious bacteria. In very dry weather this plan may save the life of many a good Fern in very light and porous soil in gardens in the drier parts of Surrey and on Surrey hills.

January 10, 1903.

F. R. S.

RIVIERA NOTES.

THE other day in an old garden belonging to a friend I came across an archway completely covered with

CLEMATIS BALEARICA

of many years' growth, and in the very fullest flower imaginable. The difference between a weakly plant that thinly covers a trellis and has but a few thin flowers, and this solid canopy of finely cut foliage with countless milk-white bells, is so great that for the first time I realised the beauty of this old but not much grown plant. It is certainly as well worth planting as a Banksian Rose, and is about as hardy, save that it flowers in the winter months. The hum of the bees in its myriad bells was in itself a reminder of summer,

and the mass of flower overhead recalled the beauty of the Banksian Rose very curiously, for there is not the least real likeness save in colouring. A walk lined with tall purple Iris flowers and the first pale pink Almond blossom beyond added to the charm. Lemoine's new hybrid *Habrothamnus corollinus* is a decided gain; its colouring is brilliant, the flower heads large, and the habit vigorous, so that it is a desirable shrub for winter blooming, but nothing equals the brilliance of *Bignonia venusta* on a wall for January and February. The

SEEDLING FORMS OF IRIS STYLOSA

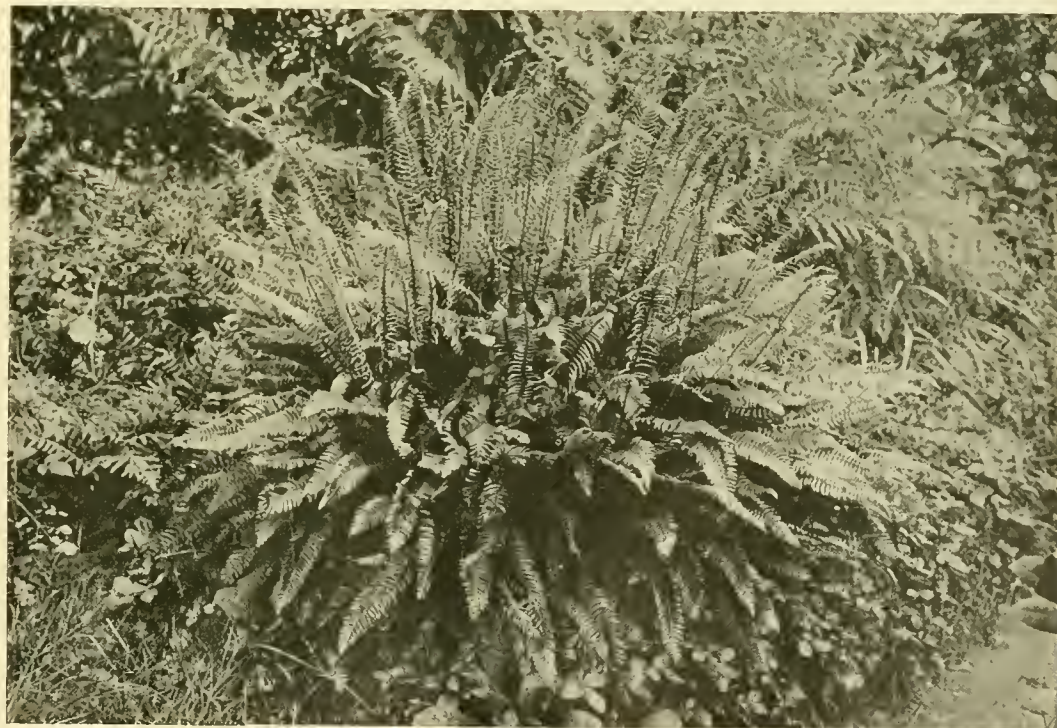
are very delightful this year. It is surprising how many shades of colour and size of bloom appear in a good batch of seedlings sown from seed of the white and magnifica forms. So far I have not seen one white reproduced by seed, but shades of pale grey are not uncommon, while deep purple striped forms also appear. They are not as beautiful to my eyes as the selfs, but they find favour with some folk, and the variety as a whole is really very taking.

COLEUS THYRSOIDEUS

is just hardy enough to struggle on through the winter and produce short and stunted spikes of its bright blue flowers, but *Moschosma riparium* promises to be much hardier, and will, I think, when grown to a good size prove a very useful winter-flowering plant here; its sprays of light grey, purple-anthered flowers are very decorative. There are now three varieties of the pretty *Lopezia miniata* that are to be seen—one lilac, one pink, and one very brilliant rose-red, with a touch of orange in it. For cutting in long sprays it is very ornamental among white flowers of more solid substance. The

CULT OF THE CYPRIPEDIUM

(must I say *Paphiopedium*?) is at last arriving on these shores, and I was much pleased to see how well the varieties of *insigne* and *leanum* will thrive in pots out of doors,



NATIVE HARD FERN (BLECHNUM SPICANT) IN A SURREY GARDEN.

edging groups of taller plants under the shade of trees or shrubs; but they do not thrive really well when planted out, as they require such deep shade and moisture to carry them through the summer, while in winter they prefer a drier and sunnier spot. They are now florists' flowers as in England, a proof of their popularity. The

VARIEGATED OLEANDER

is the green that suits them best, as the Crotons naturally will not grow out of doors here during the winter, and when cut it is difficult to tell a good spray of the golden variegated Oleander from a Croton spray.

Tropeolum lobbianum is flowering most profusely this winter. I have found that French gardeners destroyed it in summer, and until the plants are more than a year old they do not show their full beauty, but by dint of much persuasion the old plants have been allowed to remain, and consequently reach to a far greater height, with an increase both in flower and in general beauty.

The wild starry Anemones are now appear-

ROUND ABOUT A GARDEN.

THE PROCESSION OF THE BULBS.

WHEN the Snowdrops flower winter seems to have ended, because the Snowdrops are only the vanguard of a procession of blooms—Scilla, Chionodoxa, Crocus, Daffodil, Narcissus, Jonquil, Hyacinth, and Tulip—which march on in growing glory until May without a break in their ranks, and when it snows and freezes they merely "mark time" till it thaws again. You cannot draw any dividing line between the season of the white Snowdrop and that of the blue Scilla and yellow Crocus, and when the Crocus flowers you can already see the Daffodil buds. Even now all the bulbs are in evidence, standing like well-drilled squadrons with green blades all in line of companies thrust above the earth, and it would be absurd to call this winter when every square yard of the garden shows new springing growth from day to day.

WINTER PLAYS HIDE AND SEEK.

Besides, counting backwards from the Snow-

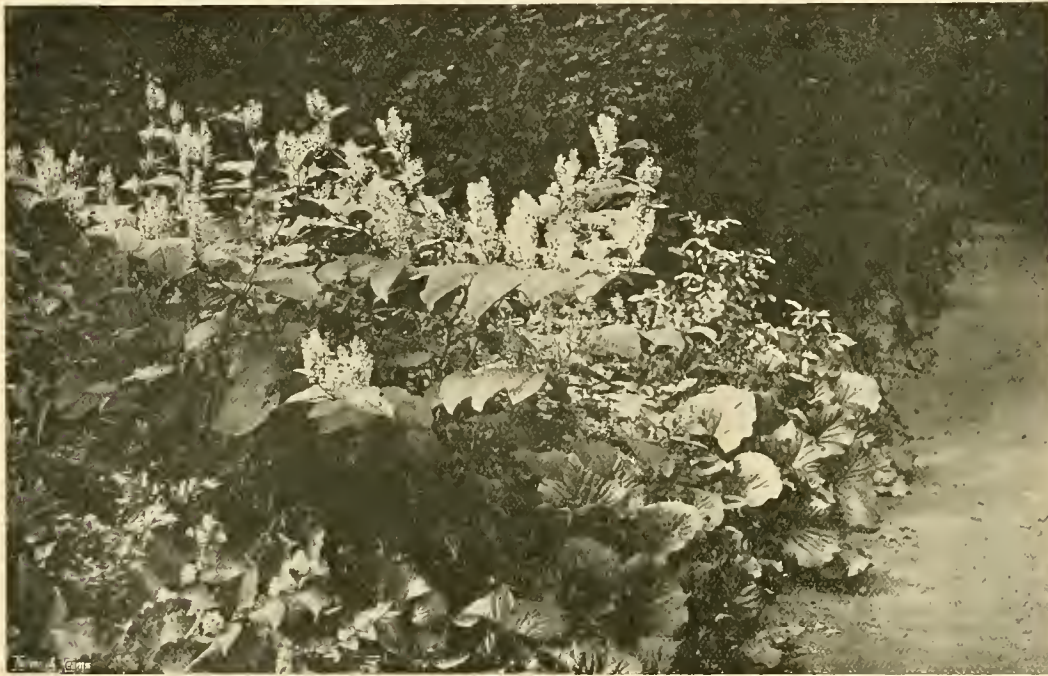
hard winters in plentiful crops of berries, and no winter at all to speak of afterwards. The wild geese have been coming to the East Coast, and the seagulls have been coming inland, year after year, in increasing numbers; but still the cycle of mild seasons continued. A little more scientific were those prophets who, noting that the northerly winds of summer were very cold, concluded that they must have blown over unusual amounts of ice in the northern seas, and deduced from this the prediction that north winds in winter would bring bitter cold. Perhaps they would have done so, but the winds of winter remained persistently in the south and west, blowing over no icebergs.

THE MOON AND THE WIND.

There is plenty of time for cold weather yet, however, and a third class of prophets tell us that the end of this month and the beginning of February will bring much frost and snow. The middle of February is to be warm, with snow at the end again. March is to be a trying month of varied weather, April typical, and May horribly inclement. June will be an indifferent month, and a common characteristic of all the five months will be thunderstorms. These predictions are based upon scientific grounds, and if they are not fulfilled it will be because the savants have made errors in their calculations. For this new science of the weather recognises that the inconstant wind is the governing factor, and that the wind is an air-wave, caused, like the tide of the sea, by the moon when she pulls in conjunction with the sun. The irregularity of the moon's movements, compared with those of the world, prevent the same cycle of weather from repeating itself except at such long intervals that no weather records exist as guides for us to-day; so the prophets have to search such records as exist for partial and temporary resemblances in the positions of sun, moon, and earth which may have occurred at shorter intervals. In time to come, no doubt, the weather for any month, week, or day of the future will be calculated as easily and more exactly than we reckon the tides to-day, and although this system of weather prophecy is still in its crawling infancy, it is an infant that deserves to be treated with respect, because one day it will rule the world's affairs.

GARDENING BY CERTAINTY.

Gardening will be a more exact science, too, then. We—or, rather, those who come after us—will know to a day when to sow seeds, when to prune Roses, when to stake Dahlias, and when to put out bedding plants. There will be no unpleasant weather surprises then, and week by week *THE GARDEN* will be able to tell its readers on what days to cover their glass houses against hail, and when it will be waste of labour to water the garden, because rain will fall. Thus our successors will be saved many unpleasant experiences, though they may be no happier for it. The glorious uncertainty of gardening, as of cricket, is a large part of its charm, and even the joy of very early blooms in midwinter is enhanced by the tantalising doubt whether frost and snow may not come and spoil it all to-morrow. What pleasure could one take in a great flush of fruit blossom if one knew that a devastating hailstorm was due next day? Thus every advantage has its drawbacks and every evil its



POLYGONUM COMPACTUM BY PATHSIDE.

ing, and the golden heads of the yellow Tazetta Narcissus are out where not nipped off for the market or gathered for the house. What a pity that a flower should be so fatally attractive! E. H. WOODALL.

POLYGONUM COMPACTUM.

THE illustration shows this species, at one time regarded as a variety of *P. cuspidatum*, happily placed. It is an excellent plant, not unruly, and not excessively "compact," but with a certain charm that comes from the somewhat rigid stem and wealth of upright masses of flowers. It is shown grouped with broad-leaved Saxifrage, and no edging, so to speak, is handsomer where a bold effect is desired. *P. cuspidatum* is better known than *P. compactum*, but no good gardener allows this graceful plant unlimited freedom, else it becomes a weed difficult to get rid of. In rough places or grouped by water *P. cuspidatum* is very welcome.

drops of to-day, through the Winter Aconites, which were yellow with hardy bloom on New Year's Day, and the early Irises which flowered in mid-December, while the Roses were still glorious on the walls, it is not easy in years like these to locate "winter" as a season anywhere. Yet it should have been, according to many weather prophets, a season of "exceptional severity," in preparation for which some of us took extra precautions with our tender shrubs. Rather ridiculous some of these have looked, swathed like mummies, while week succeeded week of weather milder than last May or even parts of June! No wonder that weather prophecies are falling into disrepute.

OLD WEATHER PROPHECIES.

But there are weather prophets and weather prophets. The old-fashioned kind who looked at large upon the face of Nature, and foretold therefrom her coming smiles and frowns have been proved to know nothing. For six years running we have had the familiar presage of

compensations; but that is no reason for neglecting such advantages as we possess. And among these the increasing accuracy of scientific weather predictions must be counted. In a work just published on "Natural Law in Terrestrial Phenomena," Mr. Hugh Clements, the weather prophet, is quoted as saying that, in one year, "Mr. Inskip, a gentleman farmer, living at Shefford, Beds., observing that I had forecasted a dry September, and noticing that I was correct up to July, planted Cauliflowers in abundance, knowing that in September they would meet with a remunerative and ready sale in Covent Garden—as they did!" E. K. R.

THE PHYTEUMAS.

(Continued from page 41.)

The third division embraces the species proper to pastures and woods, and therefore those that are easiest to grow in gardens. They are comprised in the following section:—

P. austriacum (Beck.).—From the Alps of Austria and the Tyrol. This species is distinguished from the type *orbiculare* by the basal leaves being longer than their petiole, by the upper leaves, which are ovate-lanceolate, and, above all, by the flower-bracts being carried erect (in *orbiculare* they are spread out or reflexed), usually longer than the flowers. May and June.

P. betonicifolium (Vill.).—From the Alps and the Pyrenees. A rather tall plant; leaves lanceolate and heart-shaped, carried on long petioles. Flower-stem nearly 20 inches in height; flower-spikes blue, short, and oval, lengthening towards the end of the flowering season; at their base are one or two narrow bracts. May to July.

P. canescens (W. K.).—From the Carpathians, Balkans, and the Caucasus. Whole plant of a grey-green colour. Leaves sessile, ovate-elliptical, crenate; flowers violet-lilac, in closespikes. June and July.

P. Halleri (All.).—From the Alps, Pyrenees, Carpathians, &c. A tall, stout plant, leaves ovate-orbicular, serrate-dentate, with stout flower-stems 2 feet to 2 feet 6 inches high; flowers very dark blue in a long, close spike, with two long drooping bracts. June and July.

P. limonifolium (Sibt. and Sm.).—From the mountain regions of Asia Minor. A tall plant with branching flower-stem 1 foot 8 inches to 2 feet 4 inches high; flowers pale blue, quite open, and arranged along the stalk so as to form a long, narrow spike. July to September.

P. Micheli (All.).—From the mountains of Southern Europe. An erect plant; leaves ovate-lanceolate or narrowed at the tips; flowers deep blue, in spikes that lengthen as the flowering season advances. June and July.

P. orbiculare (L.).—The most generally distributed species, for it is found in all mountain pastures throughout Europe and even in the East; 1 foot to 2 feet high; leaves ovate-elliptical, crenate; flowers very dark blue, in orbicular heads. May to July.

In the *jardin alpin d'acclimatation* we obtained a dwarf variety that comes well from seed. There is also a white variety, but it is very delicate.

P. scorzonrifolium (Vill.).—From the mountains of Central Europe. Leaves polymorphous; flowers pale lilac or blue, arranged in long narrow upright spikes. June and July.

P. spicatum (L.).—Forests of Central and Southern Europe. A shade-loving plant, frequenting woodland. Leaves ovate-elliptical, serrated, often with a brown blotch at the base; flowers white or blue in a close spike. May to July.



PHYTEUMA BETONICEFOLIUM (NATURAL SIZE).

All the kinds that thrive in the open ground require a soil rich in humus, such as a mixture of leaf-mould and loam, and for the last-named species a position in half sun or shade.

Phyteumas are not difficult to raise from seed, that is to say, they germinate quite freely, but they are apt to go off as young seedlings. They require great care at this time to counteract their inclination to rot off.

Floraire, Geneva. HENRY CORREYON.



PHYTEUMA SPICATUM.

(NATURAL SIZE.)

THE INDOOR GARDEN.

WINTER-FLOWERING CARNATIONS.

STILL wanting a more definite term is that group or section of Carnations known as "Winter-flowering" or "Tree." Any designation descriptive of the season, as also the flower, is fraught with considerable difficulty, and until some one provides a better name the above will doubtless answer for a few years yet, as it has also sufficed in the past. Any such designation, however, as winter-flowering must be open to sharp criticism when we find the border Carnation—and therefore summer-flowering—Germany in several lists of tree or winter-flowering varieties. There is no greater

mistake made, and none calculated to bring good true winter-flowering ones into disrepute, than the obvious swelling of the lists, instead of the endeavour to raise good and suitable sorts. But because a border Carnation now and again may give a few blooms in winter it is at once designated a "tree" or "winter-flowering," and this very often by known florists. It is a mistake, however. A good, naturally flowering winter Carnation is valuable in any collection of plants or in a private garden, and it is no gain to the reputation of a florist to foist on the gardening public a variety that may have in some accidental way produced a few blooms in winter. The most notorious border Carnation may at times so forget itself and do this, and the point is to endeavour not only to get the same variety to repeat the flowering, but even to induce the same plant or cuttings from it to do so. Such instances, therefore, of winter-flowering are the merest accident, and where a large number of plants are grown a few will produce a very late or a very early growth that happens to come into flower at a useful time. Such growths, however, are akin to latent or even retarded buds in other plants, differing in the essential item that it is not possible with certainty they will ever appear or be reproduced again.

These, therefore, are the so-called "winter-flowering" Carnations that all interested in the right article should expose or discourage. Not that there is much fear of imposition, for it is too well known how impossible it is to flower the border Carnation in the depth of winter. Late autumn blooms may appear occasionally, and early flowers from early layers, but if you want half-a-dozen blooms between December 1 and the end of February it will be quite easy to prove how useless is the attempt to obtain them; indeed, the experiment has been tried and failed utterly. A friend of mine anxious to obtain some really good winter-flowering sorts placed an order with a grower of new winter Carnations with a request for blooms at any time between the end of November and the beginning of March. After receiving nothing but very frail excuses instead of the blooms expected for two years my friend gave up in despair, and believed that I had originally told him, viz., that he would "never get them."

There are winter-flowering Carnations, however, and these are worthy every encouragement. No flowers are more serviceable. No flowering plant requires to be grown with greater care. No forcing by artificial heat will compensate for late propagation or other failures or drawbacks. To say that a plant should receive no check is quite another matter; indeed, it is only possible when the plants are grown at home. A few years ago I ordered a few hundred "rooted plants," that came to me perfectly packed and quite fresh. More than this I cannot say. Obviously long ago rooted and transferred to 5-inch pots the plants had awaited orders; they were either torn out of the pots just mentioned or were cut out in squares as with a knife. The fresh young plants gave one the latter impression. Needless to say all freshly formed root fibres had been ruined in the process; as a result two-thirds of the lot perished. My neighbour fared even worse. Hence my advice is, propagate at home or purchase small plants nicely established in 2½-inch or 3-inch pots. No harm attaches to the purchase of young freshly-rooted cuttings. When the points of the roots in a Carnation become broken there is delay naturally enough in the forming of lateral rootlets.

This is not desirous in the infancy of the Tree Carnation, nor does it in any way assist in the future development of the plant; indeed, it is a check that is hardly recoverable. Hence the greater need for home propagation or the purchase of young plants just established in small pots; the latter have much to commend them.

With regard to propagation at home this has great advantages over all others. A choice of cuttings selected from the healthiest plants is not the least of these; in fact, while a large number place their faith upon mixtures of soils and the temperature, in so far as these relate to successful propagation, they are to me of only secondary importance to the state of the cutting — its

freshness and moderate vigour, combined with cultivation in a cool airy house. What the Carnation cutting dislikes, and at this season especially, is too much top heat. Cuttings from plants grown in any airy structure with a temperature of 50° may be quickly rooted at this season on a brisk bottom heat in a low house without any top covering at all, such as hand-lights, bell-glasses, &c.; in fact, the cutting, as the growing plant prefers a comparatively cool condition overhead, and this should be combined with



PHYTEUMA HALLERI.

(NATURAL SIZE.)

(See page 57.)

moderate dryness. Where a bottom heat of not more than 70° is available make up a 3-inch bed of pure sand and insert the cuttings in this. One good watering and, during January, no more for nearly a week; then another good watering, and, if the cuttings are the firm, hardy ones I have in mind, three weeks will see the majority of them rooted.

Great stress is laid by some on the size of the cutting and where it is taken from. Given the conditions I have named I do not mind whether the cutting be 3 inches or 6 inches long, whether it comes from the ground level or from high on the old flower-stem. A cutting with a broad

base has a much greater chance than one with a narrow base. Not a few split the stems of the cuttings. It is not necessary, and those who do so hardly realise, I think, where the roots emerge from. New roots in the Carnation cutting, in the case of one cut to a joint, form immediately inside the epidermis, hence the greater opportunities of the cutting with broader base.

The only possible advantage of stem splitting would be in the case of a small cutting form in assisting to expose its greatest possible basal surface. It is important, I think, to realise the principle of rooting in such plants, and, to the careful, it cannot fail to be an unerring guide.

The other most important item in this matter of propagation is the material employed; any material having a tendency to lie cold is dangerous, as compared with material of comparative warmth. For example, soil compared with sand is cold, therefore bad. To make it better we add sand. The more sand we add the better it is, because warmth and moisture are more rapidly dispersed. It is in this way we come presently to sand alone, and there is nothing better. No material more quickly conduces to quick rooting. Warmth more quickly permeates the entire mass, and water is so rapidly dispersed that, as far as may be, an uniform warmth is maintained at the base of the cutting. These conditions combined are most favourable to quick rooting.

Hampton Hill.

E. JENKINS.

CORRESPONDENCE.

(The Editor is not responsible for the opinions expressed by correspondents.)

THE NEGLECT OF WHITE.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Under this heading in THE GARDEN of October 18 Mr. Kay Robinson deals with a subject which has for years occupied the thoughts of the present writer, and whilst in full agreement with what has been said, one may be permitted to add an additional point or two of some possible value. White lights up, increases the size, and accentuates the shape of the garden as no single or combination of colours can do. Nor is there anything to equal white in dull aspects and seasons. In order to give a true or artificial idea of distance place some strong white-foliaged or flowering plant in the most remote shade, and all the intervening space at once becomes animate and attractive. Where one is accustomed to walk in the garden in the late evening (and what true garden lover does not?) when all the bright colours are indistinguishable, save as black masses, the white flowers are prominent and pleasing as ever. Mr. Robinson does well to plead for a larger space for white, but it is to be hoped that neither he nor others will desire to see it confined to regular lines and figure work. To our thinking it is seen at its best when alone or forming patches and splashes amid rather sombre surroundings. Large white plants demand such a strong high background as the woodland border affords, whilst in the garden of dwarf plants proximity to coarse rather than delicate foliage shows up the white and improves the neighbouring colours.

Melbourne.

C. B. L.

CULTURE OF THE LENTEN ROSE.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I have a dozen good clumps of the Lenten Rose on a south border in rather light and dry soil, but the flowers have not been so plentiful the last year or two, during which time the plants have been going back. They have been five or six years undisturbed, although top-dressed every spring. I am thinking of removing them to another part of the garden, and would like to know the best time to do this and the soil and situation most suitable for them.

J.
[Provided our estimate of the present condition

of your plants is correct, viz., that they are in a somewhat sick or weak condition at the moment and the present flowering of but little worth, we would most certainly take the plants in hand at once.

On the other hand, if the flowers are sufficiently good and plentiful to deserve it, it may be well to wait till flowering is over. By carefully regarding your letter, however, seeing the plants have been going back for a year or two, the wisest course will be to discard the flowers now for the sake of the future well-being of the plants, as it is quite clear that they have not only exhausted the soil, but that the annual top dressing fails to sustain the plants in your case. We would most certainly advise you to replant them, and in doing so to select a different aspect. "A south border" would, in the majority of cases, be too hot and dry in summer, and we imagine this has been so in the present instance, as five years are by no means an abnormally long time for these plants to remain in one position; indeed, well planted at the start, they should be now, after five years, splendid specimens. The treatment best calculated to make them a complete success is as follows: Select a partially sheltered position free from tree roots, where the plants would not feel the hottest sun and be likewise free from cutting winds in spring, the latter even more important than the former. A bed of soil at least 2 feet deep should be given and thoroughly enriched. These Lenten Roses often send their roots to a depth of 3 feet where opportunity offers, and should therefore be catered for accordingly. As your soil appears rather light, we would suggest a very liberal addition of well-decayed cow manure, working it well into the soil 18 inches from the surface, and if possible a few barrowfuls of rather heavy loam or clay to render the whole more holding. If this is not possible use the manure with a liberal hand, keeping it of course free from the roots and avoid burying it in solid lumps. This special depth of soil and preparation are always the more necessary where the soil becomes too dry in summer, an item to be avoided where these handsome plants are to be made a success.

In removing the plants these will be greatly benefited by division, and under no circumstances is it well to transplant large clumps intact. Clumps of the age you describe should make four and probably six good plants fully large enough to successfully transplant. Even if space is limited, we must still urge the division of the clumps, as the division may be replanted to form groups in sheltered spots on the side of the lawn or shrubbery. A capital implement to break up the plants is a small hand fork, thrusting the point of the prongs sideways into the clump and then wrenching it asunder. This is far better than a knife, which cuts and destroys many roots. In replanting do not for convenience sake shorten the roots unless there is disease or decay present, in which case the shortening becomes a necessity so far as the decay reaches. It will also be well to retain all the old foliage; even should this be shabby or disfigured, it is still of assistance in promoting root action, and when the young foliage springs forth the old will die a natural death.

Avoid huddling the roots in a mass in a small hole, and plant them straight down. Frequently these plants suffer through want of moisture in summer, and in the event of a dry season a few liberal soakings of moisture or liquid manure will be well repaid. Take care also with the freshly-planted subjects that they do not suffer from the same cause in the coming spring, but once they take to a well-prepared bed, as above suggested, these Lenten Roses will not readily turn back, and another year should see them fully recovered and flowering again.—Ed.]

WORKERS AMONGST THE FLOWERS.

MR. HENRY CANNELL.

AMONG the diligent horticultural workers whose labours extend over many years, Mr. Henry Cannell, of Swanley, is one of the best known, and his work is reflected in the gardens of the world through his successful efforts to raise new races and develop those already in existence. Mr. Cannell went to Swanley about thirty years ago, but before then his name was identified with many good new flowers which have now passed into the list of those familiar in garden and greenhouse. We wish to draw attention to Mr. Cannell's work now for the reason he has recently received the gold medal



MR. HENRY CANNELL, V.M.H.

of the Royal Horticultural Society (V.M.H.), together with Mr. Bennett-Poë and Mr. George Masseur. Those who remember the old days of the Royal Horticultural Society in the Chiswick Gardens and at South Kensington will recall with pleasure the brilliant groups shown by Mr. Cannell. It was at South Kensington that this diligent plantsman showed the Juarezi Dahlia, the forerunner of the beautiful Cactus group, which we treasure for their sumptuous colouring in the late summer days, and about this period Mr. Cannell showed the single variety Paragon, and encouraged in every way possible the single-flowered group which we now prize for their grace and usefulness in many forms of decoration. Well we remember the beautiful Fuchsias raised at Swanley, the Cinerarias, that broad-flowered crimson variety March Past, which was a great advance upon those then in existence, and

the large-flowered Chrysanthemums, of which Edwin Molyneux was introduced by this renowned florist.

It is interesting to know that Mr. Cannell comes from Swardstone, near Norwich, and obtained much of his practical knowledge in horticulture in the nursery of Messrs. Massey and Stewart near that city. This was in 1852. Then he ventured to London, and began in what were then the rural districts of Clapham and Brixton, quickly making his influence felt in the neighbourhood, and exhibiting with success at the shows held in the Regent's Park Gardens and at the Crystal Palace. Heaths and New Holland plants were the chief features of the exhibitions, and they were grown by Mr. Cannell with conspicuous skill, and Grape growing, in which he excelled, was also attracting much attention. In 1864 a move was made to Woolwich, and it was in that year this skilful grower took to the great international show at South Kensington the six specimen Fuchsias which made at that period no small stir in the world of flowers.

A great work has been accomplished at Swanley, and is being continued there, and on the sunny slopes at Eynsford, where Mr. Cannell established a seed farm many years ago. We remember with delight the houses of tuberous Begonias and immense masses in the open air, the Cannas, zonal Pelargoniums, and the many other flowers Mr. Cannell improved and cultivated with such marked success. The brightest exhibits in the Drill Hall at Westminster in winter have been the zonal Pelargonium flowers, and the work of raising new varieties and growing the plants have been undertaken with an enthusiasm that young men of the present day should emulate if they would succeed in the great business of life.

We might write more of the acres of China Asters, hardy flowers, vegetables, and fruits at Swanley and Eynsford, but as our readers know, we are not forgetful of the good things produced there and note them when occasion arises.

Mr. Cannell, though of advanced years, is a sturdy specimen of his race, and by unflagging industry and keen perception has done much towards advancing the horticultural industry in these isles.

BOOKS.

A famous book.*—The scope of this botanical book is thus stated in the author's preface: "It has been my endeavour to produce a book which shall supply to residents at Simla, interested in botany and acquainted with the rudiments of that science, the means of identifying the trees, shrubs, and herbs they see in their walks about the station roads and paths in the neighbouring valleys." . . . Sir Henry Collett, gallant soldier and careful botanist, whose military career of forty years began with the Indian Mutiny and included much distinguished service, did not live to see his book published. He left it in the care of Mr. W. Botting Hemsley, F.R.S., the keeper of the Herbarium, Kew, who had already read the whole of the manuscript and had supervised the making of the illustrations.

Mr. Hemsley has also written an important

* "Flora Simlensis." A handbook of the flowering plants of Simla and the neighbourhood. By the late Colonel Sir Henry Collett, K.C.B., F.L.S. With an Introduction by W. Botting Hemsley, F.R.S., F.L.S., Keeper of the Herbarium and Library, Royal Botanic Gardens, Kew. Published by W. Thacker and Co., 2, Creed Lane, E.C., and Thacker, Spink and Co., Calcutta and Simla.

introduction, embodying descriptions of the position, area, and climate of the district, a map with detailed explanation, tables of genera and species of the flora of Simla, with one of the related flora of the British Isles, lists of the trees and Ferns botanically classified, aspects of vegetation, a glossary—an important item in a book that is partly addressed to amateurs—and a bibliography. The book should be of much use and interest to the many residents at the favourite hill station. Some botanical study or training will enable the reader to profit by it all the more readily, though in the clear and plainly worded text, where none but the simplest botanical terms are used (all noted in the glossary), there is nothing that cannot be apprehended by any reader of ordinary education and intelligence. It would be well if army officers in general had their attention directed to botanical study; well both for science and for their own advantage. Active service must often take them to places where perhaps no botanical traveller has ever penetrated, and there must be numerous occasions on foreign service in out of the way places, in small, perhaps almost isolated commands, where an interest in plants and trees and Ferns may make the whole difference in a man's life; one who has a little botanical knowledge finding in the study of the vegetation about him a pursuit of inexhaustible interest, while another, who might be without such a resource, finding the same place, apart from his necessary duties, intolerably dull and wearisome. The book has a quantity of admirable illustrations in line, drawn by Miss Smith, partly from dried specimens and partly from growing plants in the Kew collection.

Sir William Thiselton-Dyer, Director of the Royal Gardens, Kew, in a sympathetic "In Memoriam," records his impression of this work, the progress of which he has watched with "sympathy and interest," and we quote the following words from his kindly review of a life of devotion to his country and the cause of science: "He spent his life strenuously and with distinction in the service of his country and in the interests of science, and the end came with the simple exhaustion of his physical powers. Almost his last enquiry was as to the progress of his book. This fortunately had been left in a state which enabled Mr. W. B. Hemsley, F.R.S., the keeper of the Herbarium, to see it through the press with little difficulty. I think Collett felt no real anxiety as to its fate. He hoped that it would stimulate an interest in a subject which he himself had found a pleasant recreation in the midst of official duties. Those who use it will speedily discover that it is no mere compilation, but the outcome of conscientious and independent work. Collett had the true scientific temperament. He had no respect for scientific authority, and distrusted text-books. He was never content without verifying the facts for himself. He described his plants fresh from the field, and at once entered in his note-books copious memoranda and excellent drawings, and these he constantly used in working up his material at Kew. At first sight there may seem something anomalous in a distinguished soldier devoting his years of retirement to botanical studies, still more perhaps in prosecuting them in the midst of his professional duties. As a matter of fact, the obligations of botanical science to the army are very great; it is sufficient to recall the names so familiar to botanists of the late General Munro, C.B.; of the late Colonel Grant, C.B., C.S.I.; and of Lieutenant-General Sir Richard Strachey, G.C.S.I. The flora of Tibet would be hardly known to us but for the collections made by military officers, of whom Captain Deasy, the late Captain Welby, and Captain Malcolm, D.S.O., may more particularly be mentioned. Nor is it easy to estimate the position our knowledge of the Indian flora would occupy without the labours of a long series of officers of the Indian Medical Department. And among Russian officers the name of General Przewalski will always stand out pre-eminent for his botanical work in Western Asia. The fact is that the qualities that make for success both in the soldier and the botanist are largely identical; they are quick observation and the power of rapidly drawing correct observations

from minute facts. When Collett discovered his giant Rose through his field-glass he was using his eyes and his reasoning powers precisely as he would have done in a military reconnaissance. . . . In many ways he reminded me of the late General Gordon." We have seldom reviewed a book with so much pleasure as "Flora Simlensis."

GARDENING OF THE WEEK.

THE FRUIT GARDEN.

STRAWBERRIES IN POTS.

WHEN the earliest plants begin to throw up their flower-stems place them in the lightest and most airy part of the house, where they can have plenty of warm air; this will prevent the leaf-stalks becoming drawn, and to favour fertilisation of the flowers when they begin to open. Let forcing be carried on by daylight, followed by complete rest at night, when the temperature may be allowed to fall to 40° in severe weather, and 45° or more if this can be done without having recourse to strong fire-heat. Syringe with warm water when the day temperature begins to rise, and again when it is sunny, shutting up the house early; damp the walls and other surfaces instead of overhead syringing when the flowers begin to open. Bring plants into the forcing pit fortnightly, the number of plants being regulated by the stock in reserve, and a light shallow pit may also be filled with such mid-season sorts as Sir Charles Napier, President, and Sir J. Paxton, these plants to be used as wanted. In a pit of this kind the Strawberry will make good progress, as it will emit fresh surface roots into the top-dressing, and develop before being taken into the forcing house. Late plants from which fruit is to be gathered in April and May must be fully exposed to the elements unless the weather is wet—when the lights can be tilted—or very severe, when a few Fern fronds may be spread over the crowns in preference to covering the glass with mats. If well plunged in leaves or tan, water will hardly be needed, but drought must be regarded as most inimical to the Strawberry from the day it is potted until its fruit is ripe.

CUCUMBERS.

Where provision has not been made for economising fire-heat by the use of good fermenting material and covering at night, it is more than probable that red spider, and possibly mildew, will have attacked the plants. For the destruction of the first, the best remedy is light cropping, good feeding, and regular syringing with a weak solution of soft soap and Gishurst compound or clear sulphur water. The second, unless the ventilation is imperfect, may be kept in check by use of dry sulphur applied to the foliage with a fine dredger, and syringed off again with warm water after an interval of twenty-four hours. If these troublesome pests do not quickly give way to the above treatment it may be due to a cold border, insufficient water, or an impure, stagnant atmosphere. In some places canker is very troublesome, and it frequently happens that the sudden collapse of the plant is the first intimation that anything is wrong. The usual remedy is quicklime and sulphur, which should be well rubbed into the parts affected, but prevention being better than cure a liberal admixture of old lime rubble, charcoal, and rough fibrous turf should be used in the compost; the stems of the plants should not be buried, and last, but not least, the admission of fresh air near the level of the bed will have a beneficial effect in purifying the atmosphere. It is of no use trying to force the plants too much; a minimum of 68°, with a rise of 10° to 15° from sun-heat by day will therefore be sufficient for the present: a slight increase may be made upon these figures as days increase in length and brightness. Let the bottom-heat range from 80° to 85°, add fresh, well worked Oak leaves and short stable manure to the beds as the heat declines. Give atmospheric moisture by filling the

evaporating pans with diluted liquid manure and damping all available spaces at short intervals in preference to direct syringing. Keep succession plants steadily progressing by the maintenance of heat and moisture. Avoid close stopping until the trellis is well covered with foliage, and regularly remove male and female blossoms until the time arrives for allowing the plants to carry fruit, but beware of over-cropping young plants.

Mudresfield Court.

W. CRUMP.

INDOOR GARDEN.

THE forcing of Roses in private establishments is, by lack of suitable convenience, often attended with only partial success. For early flowering I prefer plants grown in pots; these, kept dormant by a dry cold atmosphere since October, and not too dry at the roots, if pruned a week or two ago, may now be introduced to the forcing pit, plunged in a bed of leaves slightly fermenting, but not to exceed a temperature of 55°, will soon begin to make growth. Other forcing plants for successional blooming, such as *Azalea indica* in approved varieties, *A. mollis*, *Deutzias*, *Spiraeas*, *Staphylea colehica*, *Dicentra spectabilis*, *Solomon's Seal*, *Lilacs*, &c., should be placed in a forcing house periodically. Selected crowns of *Lily of the Valley*, twelve to eighteen crowns potted in a 5-inch pot, and plunged in a bottom heat of 60° to 65° in small enclosed cases in any stove or forcing house and allowed only a subdued light, come quickly into bloom. *Lilium longiflorum*, *Harrisii* and *thunbergianum* which force well should now be placed in a bottom heat of 55°, and as growth is made fumigate occasionally.

INCARVILLEA DELAVAYI

also claims attention as a forcing plant.

Ixoras recently pruned hard back should be cleaned of all scale by a thorough washing with soft soap dissolved in water, 4oz. to the gallon and a quarter of a pint of XL All added. Syringe the plants with tepid water one-hour after the washing. *Dipladenia amabilis*, *D. brearleyana*, and others may now be pruned back to one-third, or perhaps less, of last year's growth; clean the old wood of scale and keep the plants in the stove, but avoid undue excitement for a few weeks longer. *Dipladenias* will not withstand so low a temperature as *Allamandas*, *Clerodendrons*, and some other stove climbers. All occupants of stoves should be thoroughly cleaned before the re-potting season commences, so that there may be no delay in that important work. Old plants of *Euphorbia pulcherrima* that may be required for propagating should have the wood well matured before being stored away.

THYRSACANTHUS RUTILANS,

Euphorbia jacquiniæflora, *Justicias*, *Eranthemums*, and *Coleus thyrsoides* that have done blooming must be cut back to two or three joints of last year's growth, and well exposed to the light at the cooler end of the stove to induce them presently to make young growth for cuttings. *Centropogons* and *Reinwardtias* require similar treatment with a lower temperature.

FERNS.

Where the old fronds are not required for spores remove them. Also clear the old plants of damp and decaying fronds, giving them all the light possible. Young plants raised from spores must be kept clean and in a position near the glass until repotting is necessary. Prepare fresh soil of light loam, leaf-soil and peat, two parts of the first to one each of the latter, with a good admixture of coarse silver sand and charcoal, this stored in a warm shed or house will be in good condition for use when required.

SEEDS SHOULD BE SOWN

as soon as they arrive from the seedsman in any light, fine sandy soil of *Gloxinia*, *Tydea*, *Gesnera*, *Streptocarpus* (the *Achimeniflorus* varieties are very attractive), *Asparagus plumosus*, *A. Sprengeri*, *Begonia*, *Browallia*, *Celsia Arcturus*, *Canna*, *Clerodendron fallax*, *Cobæas*, *Cyperus*, *Exacum macranthum*, and *Myrsiphyllum*. These may be sown in 5-inch pots half filled with drainage, then



JASMINUM NITIDUM IN MESSRS. WILLIAM BULL AND SONS' NURSERY AT CHELSEA.

filled to within half an inch of the rim with soil, placing a little finely sifted on the surface; then press the whole down firmly with the base of another pot. After sowing, cover very lightly indeed with a little of the soil passed through a fine sieve; water gently through a fine rose, and place the pots on a shelf in the stove or propagating house, cover each pot with paper fitting lightly over the rim, which if kept damp will render any more watering of the soil unnecessary until the seeds germinate.

Wendover.

J. JAKES.

THE FLOWER GARDEN.

THE RANUNCULUS.

This flower has long been a favourite with those who take an interest in the flower garden. For effectiveness in beds the Turban varieties are to be preferred to the Persian varieties, but for compactness, symmetry, and individual beauty the latter

must be admitted to be better; they are rivalled by few other spring-flowering plants.

The time to plant must be regulated by the time they are required to bloom. In good seasons, and in dry and favourable situations, the middle of October will be found a good time to plant. If required to bloom in April and May the end of this month or early in the next will be found sufficiently early. To grow them to perfection the soil requires to be good, rich, and loamy. The soil should be trenched to a depth of 18 inches, and plenty of well-rotted manure mixed with the soil. Manure of a cool nature is best suited for the Ranunculus, and where the soil is light cow manure is preferable. The tubers should be planted about 6 inches apart each way, and covered to a depth of 2 inches; place them firmly in the ground with their claws downwards. It is a good plan to cover them with a little sand before levelling the soil over them. To protect from severe frost cover the bed over with litter or half-decayed leaves; this, of course,

must be removed as soon as the plants begin to come through the ground in spring. As they make their roots near the surface they are more liable than almost any other plant to suffer from drought in the spring months, and careful attention in the way of watering is necessary, or their blooming season will be very short.

THE HOLLYHOCK.

Those who wish to have this old-fashioned but favourite flower looking healthy and flowering well towards the end of summer should now sow some seed in gentle heat, and if grown on with careful regard to the fact that the plant is hardy and cannot well endure a strong heat, the seedlings may be planted out in May, and will bloom well the same season. Care should be taken to procure seed from a good healthy stock, and also from a strain that has the character of producing a large percentage of double flowers.

THE FUNKIA.

This group of liliaceous plants with their handsome foliage will need well looking after in gardens where snails abound. Leaf-mould or cocoon fibre placed round the crowns of the plants, with a little soot sprinkled over occasionally, will prevent the snails and slugs doing them harm. Some of the most distinct, such as *F. sieboldiana* and *variegata*, should only be grown in pots and wintered in frames, and here they will require well looking after, for if the snails find them out the owner will soon lose them.

THE CALCEOLARIA.

Where plants are wintered in cold pits and frames they will now require attention. Give air on all favourable occasions, remove decaying leaves, and keep them scrupulously clean. When the plants begin to grow pinch out the points with the finger and thumb; this should always be done in the early stages of their growth. If left to get 3 inches or 4 inches high before this is done the plants are never so satisfactory as we like to see them at planting time.

T. B. FIELD.

Ashwellthorpe Hall Gardens, Norwich.

NURSERY GARDENS.

MESSRS. WILLIAM BULL AND SONS, CHELSEA.

FOR many years the late Mr. William Bull had an almost world-wide reputation for new and rare plants and Orchids, and one is glad to see that there is no likelihood of this reputation being allowed to lapse. A visit to Messrs. Bull's establishment recently proved to us that new and rare plants are still cultivated there as largely and with the same skill as before, despite the unfavourable conditions which prevail at Chelsea; the various houses are full of stove and greenhouse flowering plants, Palms and Orchids in the best of health. At the present time there are few Orchids in flower of course, yet all of them have that dark rich green foliage that signifies good cultivation and promise an abundance of flowers.

Some few *Cypripediums* were, however, brave enough to open their flowers, and of these we noticed *C. lecanium giganteum*, Bull's variety, and other good varieties of *C. lecanium*, *C. pavonium*, *C. nitens*, *C. Swinburnei*, and *C. selligerum*. In the Cattleya house are numerous plants bearing seed pods, the result of careful and systematic hybridisation, each of which may contain the germ of some hybrid *Cattleya* or *Lelio-Cattleya* of startling beauty. The most disappointing period (disappointing because it is responsible for so many failures) has yet to be passed through, however. The greatest difficulty lies not in the propagation of Orchids nor in obtaining the seeds, but in raising and cultivating the seedlings. *Cymbidium elegans* and *C. Mastersii* were in bloom, and a number of *Odontoglossums*; the *Miltonias*, potted in the new and now much

recommended leaf-soil, were a picture of rude health.

The collection of stove plants contains many remarkable both for their brilliantly coloured and beautifully marked foliage and bright flowers. Among the former, *Dracæna Queen Victoria* is conspicuous; its drooping creamy yellow and green leaves are very handsome. This *Dracæna* has been awarded a first-class certificate by the Royal Horticultural Society. *Hydrangea speciosa nivalis*, whose white centred leaves, with broad green edges, are singularly attractive; *Deyenia elegans fastigiata*, with prettily variegated erect grass-like leaves; *Maranta picta*, *M. insignis*, two of the best of these old and worthy, yet neglected, stove plants; and *Nepytithis picturata*, which has beautifully marbled sagittate leaves, are others of much value. The collections of hot-house climbers and of economic plants in Messrs. William Bull's nursery are exceptionally comprehensive. There are probably few other establishments where the enthusiast could so well replenish his collection, should his Cocoa, Pepper, Tea, Coffee, or other plant of economic value be lost. In this Chelsea nursery they and many others are growing, one can hardly say in primitive luxuriance; but they are evidently quite at home and happy in their surroundings.

Ardisia primulæfolia is another plant that one cannot fail to notice: the green leaves form a pretty setting to the bright red berries, very pleasingly disposed in small bunches. *Epiphyllum delicatum* (given a first-class certificate in 1898 under the name of Princess) is a plant that should not be lost sight of. *Ceropegia Woodii*, of which a drawing was given in THE GARDEN last year, is a delightful little plant for growing in suspended pans. The long slender drooping stalks with their uniquely pretty grey leaves are most ornamental.

Ficus radicans variegata and *Ficus repens variegata* are valuable varieties of valuable species. Every one knows the value of *F. repens* for covering bare walls in warm houses, so that its variegated form is sure of a warm welcome. *Aralia trilobata* is a most distinct plant that should also be mentioned. Of course, in addition to those we have noted, there are hundreds of Palms, Ferns, and the better-known stove and greenhouse plants. Several pits are full of seedling Palms only a few

months old. There must be many thousands of these alone that before long will become marketable plants. These few remarks will serve to show how plants notoriously difficult of culture may be successfully grown within the metropolis.

THE FRUIT GARDEN.

HARDY FRUITS IN SEASON.

APPLE LANE'S PRINCE ALBERT.

FEW Apples are more useful than this. Although excellent for cooking at Christmas, it is even more valuable for dessert during April and May. This variety bears excellent crops of fruit in most parts of the country. In the North the fruits do not colour so well, but they are more acid and keep longer. The best fruits seem to be produced by bush and standard trees; the former must not be hard pruned. When grown as a standard there should be plenty of room between the branches, for owing to its heavy cropping the weight of fruit often makes the branches droop.

APPLE ADAMS' PEARMAN (NORFOLK PIPPIN).

I AM sending you a few specimens of this useful dessert Apple. This is one of the best varieties we have, and worthy of general cultivation. It does well in this neighbourhood, rarely failing to bear. Last season we had good crops of fruit, and although we had but little sun the fruits are of good colour and flavour. The tree is a free and healthy grower and easily distinguished from other varieties. It is an excellent bearer even when young, and succeeds well as an espalier, but as a standard it is very ornamental and has but few equals.

COX'S ORANGE PIPPIN.

We had good crops of this Apple last season; the colour is good (rather better than the flavour). Many of the market growers in this neighbourhood planted largely of this variety a

few years ago, but owing to its fickleness in bearing have ceased to do so, but those who have kept their trees were rewarded last season with an abundant crop of well-coloured fruit.

Ashwellthorpe, Norwich.

T. B. FIELD.

[Excellent fruits of two of the best winter Apples. As Mr. Field says, Cox's Orange Pippin is not first-rate in flavour, but the fruits of Adam's Pearmain were delicious.—Ed.]

APPLE LADY HENNIKER.

This variety is classed as a kitchen or dessert Apple, and if kept late in the year is very good for table. The fruits, though large, are very handsome. For cooking in the autumn I do not think we have any variety to surpass it. Another good point in its favour is its free growth; it makes a good bush, a handsome pyramid, or does well as a standard in a sheltered orchard, and the fruits, given cool storage, may be kept well into February, but it is at its best in December. The trees when grown in good land are of upright growth, and owing to the size of the fruits are soon injured by gales. I prefer what are termed dwarf standards or bush trees. I recently saw a splendid lot of fruits of this variety in heavy soil in an exposed position in the eastern parts of the country. Lady Henniker is a favourite exhibition Apple.

PEAR NOUVELLE FULVIE.

This is by no means a handsome fruit, as even the finest or best grown are somewhat uneven, and when quite ripe of a dull green colour on the shaded side. For many years I have relied upon this variety for February and March supplies. Last year the fruits were ripe much earlier (at Syon). Doubtless in the North they would be later, and the longer we can keep good fruits of the Pear the more useful they are. My reason for sending a note is on account of its usefulness for dessert at this season, and in most years it may be had good even later. Few Pears in winter are of better flavour; it is rich, with melting flesh, and is very juicy. I have never found Nonville Fulvie fail to crop. Doubtless that is on account of its late flowering. The tree makes a handsome pyramid, and in the northern and eastern counties is well worth wall space. It is advisable to allow the fruits to remain on the trees as late as possible, as if gathered early they do not keep well and shrivel badly.

PEAR BEURRE PERRAN.

There are few really good Pears at this season, so that any variety better than others is well worth noting. The above is not much grown, though it is only fair to add that I have seen it exhibited on several occasions earlier in the season during the last year or two, but of course at that date one could not tell what were its qualities. So far I have only small trees, but even these crop freely, and any Pear which crops well in a young state may be relied upon. With us this variety makes an excellent cordon. The flavour is delicious for a late Pear, and the fruits are juicy and rich. The tree grows freely and the fruits are in season from December to February. Last season the fruits were ripe a little earlier, but I remarked that was usual with most varieties last year. It recently received an award from the Royal Horticultural Society for its excellence as a winter Pear, and certainly it has proved worthy of the same. With regard to crop and quality I can only note its merits from a southerner's point of view, and in a light soil, anything but a good Pear soil, it is very good. It also keeps well.

G. WYTHES.

OLD ORCHARDS OF ENGLAND

THE old fruit orchards of this country present ample food for quiet reflection. The history of many of them is obscure, their origin unknown, but the hands that planted them did something for



APPLE LANE'S PRINCE ALBERT. (Three-quarter natural size.)

posterity, and the present generation is still reaping the benefit of the forethought and labour of those who have long since died. To many of the gnarled old trees in home orchards there is a sweet sentiment attached. Trust the average schoolboy for knowing which specimen produces the most palatable Apples, and in years to come when he revisits the scenes of his boyish frolics the old Apple tree presents itself in the light of a close acquaintance. If the old orchard should eventually become his, the associations of the ancient trees are precious, and this doubtless is why so many decrepit specimens remain.

But there is a practical side to the question as well. We reap the benefit now of the work our fathers did in planting orchards, and is it not our duty also to continue the work, so that future generations may live to bless us in their turn? We should not think too much about dwarfing stocks and quick returns in the shape of fruit in two or three years. Not that I would be disloyal to Paradise stocks and dwarf Apple trees; but they have their place in gardens and plantations, and should in no way affect the establishment of permanent orchards, that will not only be profitable to the planter if he adopts the right methods at the beginning and has patience to wait, but also to those who follow him.

We may learn something also from the varieties found in old orchards to guide us in the work of selection. I do not suppose there is an old orchard in the country but that contains certain favourite varieties. The reason is not far to seek, they are good ones; but the same orchards also contain other trees that have been bidding for favour for a lifetime, but have never found it. Why not? Because they are undeserving, being seedling forms, no doubt, inferior in size or quality, or both.

Do not be in too great a hurry to blame the planter for encumbering the ground all these years with worthless Apples amongst the good ones, because in all probability he had no first-class nursery to go to, and had to rely on seedlings for his stock. Remember also that some of our best Apples have been nothing more than chance seedlings, found in out-of-the-way orchards, and owe their origin entirely to Nature. We bless the old planter for the good Apples he has left behind him, and blame him for the presence of the poor ones. This is human nature all over, but instead of finding fault it is better for the present day planter to make the most of the improved facilities of the times and plant only varieties of proved merit. It has been said that we have too many varieties of Apples, but this is a matter of opinion. One thing is certain, however, we have far too many poor varieties, and if these could be done away with and be replaced at once with the best only, Apple growing would be a more profitable undertaking than it is. This is asking too much, however, because few men have the heart to do away with a tree, no matter how poor the variety is, so long as it bears, and until the inferior varieties, with which home orchards are studded, wear out in the ordinary course of Nature their presence will be felt. But in the future we may expect to get more good and less bad Apples, for no man nowadays who has any thought for his own interest, and that of those who follow him, would think of planting any but approved varieties.

INITIAL MISTAKES.

Many a man has set out to establish an orchard with the best intentions in the world, but has failed absolutely through some blunder at the outset. Perhaps he never considered the site, and planted the orchard just where he wanted it, instead of in the aspect where the trees would do well. Situation is obviously the first thing to consider, and it is wrong to expect fruit trees to grow and flourish in the face of every stinging east wind that blows, unless measures are adopted for providing some means of shelter. "Why don't they grow?" says the man who has spent time and money in planting standard trees, and after a few years is disappointed with the result. Ah! why not? Examine the ground. Perhaps it is water-logged and has no natural means of drainage. There is the cause at once, and the spending of a few pounds in labour and drain-pipes at the

beginning would have made all the difference between failure and success. There is nothing imaginary about such a case as this. It is a stubborn fact, and one need not travel far to find instances of both hopes and orchards wrecked through planting trees in cold undrained soil.

G. H. H.

(To be continued.)

THE KITCHEN GARDEN.

THE CABBAGE UNDER GLASS.

WHILE agriculture in England has been suffering from severe depression during the past twenty or thirty years, so much so that in the opinion of many agriculturists, under the present condition of free imports of cattle and grain from all parts of the world it can only escape further depression by the enactment of some law for its preservation, it is pleasant to reflect that one aspect of horticulture—market gardening—has made immense progress during this time, and that in the face of the same stern and ever-present competition. There is scarcely an article grown by our market gardeners that is not imported in immense and increasing quantities free from abroad, and at all seasons of the year. The increased development not only in the culture of fruits and vegetables, both under glass and out of doors, but also of cut flowers and plants for market, has been immense during this same time. Whether this is due to the greater energy and enterprise of the market grower, or to the greater demand for the produce of the soil in which he deals, we will not stay to consider, but the fact is patent that this aspect of gardening has grown from an insignificant industry into one of great importance and value to the nation.

As regards vegetables alone, it is not too much to say that at the present day hundreds of acres of land in this country are covered with glass and devoted to the cultivation of such vegetables as the following: Potatoes, Peas, Broad Beans, Runner Beans, French Beans, Vegetable Marrows, &c., with satisfactory results to the grower; but few I think are aware of the considerable area of glass-covered land which is devoted to the culture of the sometimes despised and lowly Cabbage in some districts around London. I have been intimately associated with the cultivation of the land for the past forty years, and certainly to me it was a surprise when, some few months ago, on visiting one of the large market gardens I came upon an immense number of glass houses covering a matter of five acres of land, and that land cropped with Cabbages! These houses were divided into ten sections, each section covering half an acre. The roofs were supported by iron rafters resting on pillars, the only bricks used were for the building of the outside walls, so that viewed from inside the whole scene presented to me an extraordinary appearance—a colony of sturdy little Cabbages snugly housed under glass!

The time of my visit was in the month of April, and then the Cabbages were turning in rapidly, beautiful, crisp, hard heads, with scarcely a "bolter" amongst them. They were marketed every day in large quantities. Those of us who know too well the dearth of good vegetables in gardens at that season of the year, after a prolonged and hard winter, do not need to be told of the value of

such a crop as this. The seeds were sown about August 20, and the young plants put out at the end of September, 15 inches apart each way. A narrow alley is left in the centre of each section for the purpose of watering, which is done by means of a hose attached to hydrants, the water being applied by boys at small cost. The houses (which are unheated) during summer yield heavy and remunerative crops of Tomatoes. Immediately the crop of Cabbages is cleared early in May the Tomatoes are planted, and they again turn out in September to make room for the former. It goes without saying that the ground is heavily manured and well cultivated, sometimes with the spade and sometimes with the plough. There is little or no expense attached to the culture of this crop in the way of labour, most of which is done by women.

OWEN THOMAS.

MUSHROOM GROWING IN GARDEN, FIELD, AND COTTAGE PLOT.

(Continued from page 13.)

MUSHROOM GROWING IN OPEN SHEDS.

The culture of the Mushroom in the open shed is had recourse to more in the private perhaps than in the market garden, with the object of securing crops in hot weather from the end of June to the end of September, when they cannot be well grown in the Mushroom house proper. Any outbuilding will do that has a roof over its walls, but preference should be given to that part which may face the north. Here let a bed be formed, exactly on the same lines as advised for the house (only it should be 12 inches deep), and spawned as directed, as soon as the conditions are favourable, the surface soiled, smoothed, and made firm. It must be covered over to the depth of 5 inches or 6 inches with the long littery straw shaken out of the manure when preparing for the Mushroom bed. I am presuming that every precaution has been taken in preparing the beds as directed for those in houses. In that case the grower need not trouble to examine the bed again at least for a month, unless he anticipates trouble from rats, mice, or other pests, against which, of course, the beds must be protected. In about a month, or five weeks at the latest, the straw covering may be removed and the bed given a good watering with warm water, as previously recommended, when the covering should again be placed on the bed as before. In about ten days or a fortnight after this the grower should be rewarded with a heavy and remunerative crop. When these beds are in full bearing pick the Mushrooms about three times a week. It is not desirable to uncover the beds more often than is absolutely necessary, as the fact of often having to remove the straw, however carefully the work may be carried out, is attended with more or less damage to the crop. The treatment for the second crop must be the same as that advised for beds in houses.

OUT OF DOOR BEDS.

This is the system most favoured and almost exclusively practised by our market gardeners in the suburbs of large cities where manure is plentiful, especially round London, and where large sums are said to reward the growers for their skill and labour.

By this method of culture it is possible to have Mushrooms every day in the year, and that without the protection of a building of any kind, and where the cultivator is expert in his business, and especially when he can couple with it the trade of spawn making this branch of market gardening is without doubt very remunerative. The out of door



FLOWER BORDER AND OLD SUNDIAL AT FYFIELD MANOR.

beds are formed in the shape of wedge-shaped ridges, and measure when built, rammed, and completed $2\frac{1}{2}$ feet wide at the base, the same in height, and the ridge 6 inches wide at the top. The material for these outside beds should have a larger proportion of short straw in its composition than advised for indoor beds, for the reason that the heat would be retained longer and also that rain would be more effectually thrown off during winter. As soon as the beds are formed in condition to receive the spawn insert this, taking care that the temperature is not above 82° and on the decline. These conditions being secured, the beds must be earthed up in a similar way to Potato clamping. When this operation is completed the bed should receive a good

watering with warm water and afterwards be beaten with the back of a spade until the surface is of a pasty consistency. This will conserve the heat of the bed much longer than if left rough. During warm summer months the amount of necessary covering will be comparatively small, and the best material to use is the straw shaken out of the Mushroom bed material. As winter advances a heavier covering will be necessary. Indeed, the condition of the weather must govern the amount of protecting material to be applied, and as long as this is sufficient to keep up a temperature of from 45° to 50° on the surface of the beds it is possible to have Mushrooms from these even in the coldest weather.

During winter these beds will require little or no water, but in spring and summer it must

be applied liberally two or three times a week. After the best of the first crop is over a good soaking of manure water from the cow or stable yard often works wonders in securing a good second and successional crops. In the spring and summer the grower must be on his guard against allowing these out of door beds to become dry, because once allowed to become so it is most difficult effectually to saturate them afterwards.

(To be continued.)

MISCELLANEOUS.

A WIND-SWEPT GARDEN.

IT was on the top of a Surrey hill, 800 feet above the sea-level, being the resting-place of rooks as they flew from valley to valley, the nesting-place of larks, and the happy hunting ground of hedgehogs. Instead of walls a double row of trees and shrubs had been planted round it. They made slow growth, and before they could give much protection the experiment was tried of growing Roses. Two large pens were made with hurdles, and four beds were dug in the enclosed turf. The natural soil consisted of a stiff yellow loam filled with flints. The flints were taken out and Rose bushes, chiefly French Roses and Austrian Briars, were planted. This was in the autumn, and all straggling shoots had to be cut back or the bushes would have been uprooted by the wind. The hurdles broke the force of the wind, and the bushes thrived and flowered well the next summer, and profusely the summer following, giving splendid flowers from the middle of June until late autumn.

Flowers were wanted in other parts of the garden where hurdles would have been unsightly. Bulbs such as Daffodils and Scillas and plants like Scabious grew well, but the more choice kinds were cut off by the wind until the following plans were adopted—to grow everything from seed without transplanting, and to sink the flower beds slightly below the level of the turf. Then the plants grew sturdy and the pure air made the flowers brilliant. A bed of Pansies looked like a mosaic of beautiful colours set in the grass, for all the flowers turned their faces to the sky, their stalks and leaves being hidden beneath the edge of the turf.

WINIFRED SPURLING.

APPLE PIE.

THE following lines on the antiquity of the Apple pie as a national dish, written about 1710, will probably be interesting to many readers, be they Apple growers or otherwise:—

“When first this infant Dish in Fashion came,
The Ingredients were but coarse, and rude the Frame;
As yet unpolished in the Modern Arts,
Our Fathers ate Brown Bread instead of Tarts;
Pyes were but indigested Lumps of Dough,
Till Time and just expense improved them so.
King Cole, as Ancient British Annals tell,
Renown'd for Fiddling and for Eating well;
Pippins in homely Cakes with Honey stewed;
Just as he Baked, the Proverb says, he Brewed.
Then greater Art succeeding Princes show'd,
And modell'd Paste into a neater mode;
Invention now grew lively, Palate nice,
And Sugar pointed out the way to Spice.
But here for Ages unimprov'd we stood,
And Apple Pye was still but homely Food;
When Godlike Edgar, of the Saxon Line,
Polite of Taste, and studious to Refine,
In the Desert perfuming Quinces cast,
And perfected with Cream and rich Repast.
Hence we proceed the outward Parts to trim,
With Crinckumcranks adorn the Polish'd Brim,
And each fresh Pye the pleas'd Spectator greets
With Virgin Fancies and with new Conceits.”

The writer proceeds to give instructions on the creation of an Apple pie, on the use of brown sugar, clove, and candied peel, on the conduct of the crust, and the choice of a baker; but these particulars would possess no interest for our readers, and are therefore not reproduced.

W. N. B.



THE GARDEN

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[JANUARY 31, 1903.

THE HORTICULTURAL HALL.

IT is rumoured—though we have no authority for stating it as a fact—that the building committee have accepted the scheme that is so generally and deservedly condemned, because it has not money enough to do better. If this is the case it would explain the thoroughly cheap appearance of the design as to the Hall itself, though it would not account for the mean and undignified style in which the front is conceived. A building may be absolutely plain, a great deal plainer than the proposed façade, and yet may have some qualities of repose and dignity. Many a large warehouse, factory, or mill building, without an atom of ornament or any intentional thought of beauty on the part of the designer, has good qualities such as are here absolutely wanting.

We wish this money were for the establishment of the good garden in unpolluted air and soil that is so sorely needed. In a few years such a garden would probably become self-supporting, and meanwhile it would be doing splendid educational work—the *true work of the society*. The proposed building, so unattractive for various letting purposes, can never earn its keep, as a better one might do, and will burden the society for ever with the whole train of rates, taxes, and upkeep that would not be greater for a worthier building.

But as we have stated before the Hall has been decided upon, and therefore we support the council, though we hope it is not too late to determine upon a more worthy scheme. We notice that many who clamoured for the Hall, and apparently forced the hand of the council, have not given that substantial financial assistance one might be led to expect from their noisy demonstrations.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.

THE annual general meeting and election of pensioners on January 22, once more brings this institution into prominence, and provides an opportunity of again recommending to our readers the beneficent work which it accomplishes, and of urging its claim for support. There are now 202 persons receiving pensions from its funds, and this represents an annual disbursement of some £3,500—a heavy liability. There were forty-six candidates for election last week, yet the funds of the institution would admit of seventeen only being elected.

The remaining twenty-nine were disappointed, doomed for another year to live in such distress as only dire poverty can occasion. All the forty-six candidates are known to be in needy circumstances, for each case is thoroughly examined by the committee before being placed upon the voting paper.

The apathy of the British gardener, so far as his support to this most deserving charitable institution is concerned, was strongly commented upon by Mr. Harry J. Veitch at the afternoon meeting, and by Mr. Alfred Watkins in the evening. Among the subscribers to the institution, which exists solely for the benefit of gardeners and their widows, the percentage of gardeners is very small. This is certainly not as it should be; even if he were actuated merely by selfishness, the British gardener might be expected to subscribe, for in old age he might confidently reckon upon receiving a pension of £20 a year. This institution, however, is not a self benefit society, but a benevolent one, and to all with a spark of kindly and charitable feeling in their hearts it will appeal as such. If gardeners throughout the United Kingdom (for, as Mr. Watkins aptly said, this institution knows neither creed nor country) would but do their duty towards the unfortunate members of their craft there would not now have to be recorded the sad news taught by the recent election, of the bitter disappointment of twenty-nine distressed gardeners and their widows, two of whom have had the same bitter experience six and seven times respectively. In this world all cannot be successful, so if gardeners will not subscribe in the cause of charity and benevolence, they should do so for themselves, if they are not short-sighted, that should they in their turn one day be losers in the battle of life they may not be altogether without some means of sustenance.

The very generous gift of Mr. N. N. Sherwood of five guineas to each of the unsuccessful candidates who were formerly subscribers, together with donations from the Victorian Era and the Good Samaritan Funds, will bring gladness and relief to the recipients during 1903, and were the gardeners of the country to subscribe as they are able that gladness and relief would still be greater. There is no excuse for those not giving who can afford small sums only, for as Mr. Peter Veitch told those present at the dinner the country auxiliaries are always very glad to receive small amounts.

Mr. Alfred Watkins outlined a scheme to increase the income of the institution that we think to be capable of much good. Briefly it is this: Head gardeners throughout the kingdom should endeavour to persuade the young men under their charge to give one penny each on certain days of the week, or once a week, as may seem best, to the institution, the money to be collected by the head gardener. This is quite a simple plan, yet if thoroughly

and systematically practised in gardens throughout Great Britain and Ireland, its results would prove of incalculable assistance to the Gardeners' Royal Benevolent Institution.

KEW NOTES.

INTERESTING PLANTS IN FLOWER.

Temperate House.

ACACIA ACINACEA, *A. baileyana*, *A. dealbata*, *A. linearis*, *Aloe platylepis*, *Cestrum elegans*, and *Senecio grandifolius*.

Palm House.

Brownea coccinea and *B. grandiceps*.

T Range.

Aphelandra nitens, *Dædalacanthus macrophyllus*, *D. nervosus*, *Eranthemum albitorum*, and *Erica melanthera*.

Orchid Houses.

Aerides Vandarum, *Broughtonia lilacina*, *Bulbophyllum neilgherrense*, *B. Pechei*, *Calanthe vestita* var. *Regnieri*, *Cypripedium callosum*, *C. Morgania*, *C. nigratum*, *C. politum*, *Dendrobium atrovio-laceum*, *D. aureum*, *D. burfordiense*, *D. Cassiope*, *D. Curtisii*, *D. dominianum*, *D. fytchianum*, *D. nobile*, *D. primuminum*, *D. Rolfei*, *D. speciosum*, *D. superbienis*, *Epidendrum calamaricum*, *E. ciliare*, *E. Endresii*, *E. fragrans*, *E. kewense*, *E. nocturnum*, *E. xanthinum*, *Gomezia Barkeri*, *Lalia virens*, *Masdevallia melanopus*, *Maxillaria variabilis* var. *lutea*, *Oncidium splendidum*, *Otocchilus fusca*, *Phaius Blumei*, *Platyclinis arachnites*, *Saccolabium bellinum*, *S. gemmatum*, *Satyrium odorum*, *Selenipedium calurum*, *S. porphyreum*, *S. Rœzii*, *Seraphyta multiflora*, *Sophronitis violacea*, *Tainia latifolia*, *T. penangiana*, and *Vanda amesiana*.

Succulent House.

Agave Sartorii and *Cotyledon fulgens*.

Greenhouse.

Among other things, *Centropogon lucyanus*, *Darwinia fuchsioides*, *Jasminum confusum*, *Moschosma riparium*, forced bulbs, forced shrubs, and other things.

Herbaceous Ground and Rockery.

Adonis amurensis, *Crocus chrysanthus* varieties, *C. Imperati*, *C. Korolkowi*, *C. reticulatus*, *C. vernus*, *Helleborus caucasicus*, *H. orientalis*, *H. o. var. roseus*, *H. viridis* var. *intermedius*, *H. v. var. purpurascens*, *Iris Danfordiae*, *I. histrioides*, *I. maricoides*, *I. stenophylla*, and *I. Tauri*.

Alpine House.

Adonis amurensis, *Colechicum hydrophilum*, *Cop-tis trifolia*, *Crocus* (various species), *Cyclamen Coum*, *C. ibericum*, *Galanthus caucasicus*, *G. Elwesii* var. *robustus*, *G. nivalis*, *G. plicatus*, *Iris*—in addition to the species in flower outdoors: *I. alata*, *I. Haussknechtii*, *I. Histrio*, *I. reticulata* var. *Krelagei*, *I. r. var. sphenensis*—*Merendera caucasica*, *Narcissus bulbocodium* var. *mono-phyllus*, and *Primula megaseefolia*.

Arboretum.

Chimonanthus fragrans var. *grandiflora*, *Erica carnea*, *E. mediterranea hybrida*, *Garrya elliptica*, *Lonicera fragrantissima*, and *L. Standishii*.

NEW PLANTS OF 1902.

FLORIST'S FLOWERS.

If we except the Cactus Dahlias, of which quite a number have received the award of merit during the past season, the novelties in the other chief groups of florist's flowers is not great. Roses, Begonias, and Carnations, however, are each represented. The following list includes the whole of the varieties honoured by the Royal Horticultural Society. "A.M." signifies "award of merit"; "F.C.C." "first-class certificate."

Auricula Firefly (alpine).—A flower of exceptional size and merit. The colour is maroon-crimson, with a centre of quite clear pale yellow. Evidently of vigorous and compact habit. A.M., April 8.

A. Rosy Morn (alpine).—The chief colour in this flower is rosy or cherry-red, which is again separated from the creamy yellow centre by a thin circle of purple. A.M., April 8.

A. Wm. Herwood (show var.).—A green-edged kind, the creamy paste surrounded by a ring of blackish purple. A.M., April 8. This trio of good Auriculas was contributed by Mr. James Douglas, Great Bookham, Surrey.

A. Alexandra (border).—Strictly we imagine this is a border variety, with its large yellow blossoms appearing in great freedom in quite large trusses. It is scarcely a florist's flower, but a very vigorous and good garden plant. From the Misses Hopkins, Knutsford, Cheshire. A.M., April 22.

Begonia Erquisite (tuberous-rooted).—A large, beautiful, and well-formed flower, which is double, of a fine clear salmon tone, white towards the centre, and prettily fringed at the margin of the undulated petals. From Messrs. Cannell, Swanley. A.M., June 10.

B. Masterpiece.—A well-named variety, certainly in the self colours. It is tuberous-rooted, with very large crimson flowers. A.M., June 24.

B. Miss Dorothy Hardwick.—A tuberous-rooted Begonia, with flowers of great size. The colour is a very beautiful and pleasing soft pink. A.M., June 24. This fine pair were from Messrs. Blackmore and Langdon, Bath.

B. Agatha compacta.—This is a dwarf, compact, and densely-flowered B. Gloire de Lorraine, with rich or rose-tinted pink blossoms. The sturdy plant is less than 1 foot high and very attractive. As indicated in the name it is a dwarf form of B. Agatha. F.C.C., November 18. From Messrs. Veitch and Co., Limited, Chelsea.

Bouvardia King of Scarlets.—A large, handsome novelty. The flowers are rich in colour, while the division of the corolla is distinctly broader than in other red-flowered kinds. The variety is of vigorous habit and very free. A.M., December 9. From Mr. Robson, Altrincham, Cheshire.

Carnation Viscount Kitchener.—Briefly this is a white ground fancy variety of the Tree or winter-flowering type. The flowers are large, of good form, the petals striped freely with reddish scarlet. A.M., November 18. From Messrs. William Cutbush and Sons, Highgate.

C. Duchess of Westminster (Malmaison type).—This is, we consider, one of the finest varieties ever exhibited. The colour is exceptionally good—a full pink, with salmon shades on the inner surface of the petals. To its fine colour we are pleased to notice a powerful fragrance. Certainly a promising addition to this set. A.M., May 20. From the Duke of Westminster, Eaton Hall, Cheshire (gardener, Mr. N. F. Barnes).

C. Lady Hermoine (border type).—We single this out among Carnations of good form as an advanced type of the broad-petalled class. This, combined with the uniformly large size of petals right to the centre, stamps it as one of the best. There is, however, no reason why so good a flower in form may not be transmitted to other border kinds in the near future. The colour is salmon-red or rose, the variety as vigorous as it is good. A.M., June 10. From Mr. Martin Smith, Hayes, Kent (gardener, Mr. Blick).

C. Lady Carrington (border type).—This is from the same raiser as the last, and, like it, of very fine form and large size, while the colour is a delicate pink. A.M., July 8.

C. Bookham White Clove.—Pure white, well-formed, Clove-scented, and free. A.M., August 5.

C. Cedric.—A finely-formed yellow ground kind of large size. The petals are strongly marked with red at the edges and again through the centre with the same colour. A.M., August 5. The above pair were from Mr. James Douglas, Great Bookham.

C. Duchess of Portland.—A very pretty and welcome shade of pink in a Tree or winter-flowering Carnation of good habit. The flower is of the soft or pale shade of pink and sweetly scented; the habit bushy. A.M., November 4. From Messrs. William Cutbush and Sons, Highgate.

C. Louis Botha (border).—A nearly pure white kind, very full and showy, the centre petals faintly striped with white. A.M., August 5. From Lady Ardilaun, Clontarf, Dublin (gardener, Mr. A. Campbell).

C. The Shah.—A yellow ground variety, lightly striped with bright scarlet; indeed, one of the most effective of its class we have yet seen. The flowers are large and handsome and very showy. A.M., August 19. From Mr. Martin Smith, Hayes, Kent.

(To be continued.)

OBITUARY.

HERMANN WENDLAND.

WE regret to learn of the death of this distinguished botanist, who, as many of our readers are aware, was Director of the Royal Gardens at Herrenhausen. The following article about the late Herr Wendland appeared in the "Kew Guild Journal" of 1900:—

"He was born in October, 1823, in Herrenhausen, where his father and grandfather preceded him as Director of the Gardens, and where he received his early training. He left his father to study under Professor Bartling in the Botanic Gardens at Göttingen and Dr. Schott at Schönbrunn, proceeding thence to Kew. Here he was employed nearly two years as a gardener, leaving in 1849 to return to Herrenhausen, where he worked as assistant until his father's death, which occurred in 1870, when the son was appointed Director. In 1857 he was sent on a botanical expedition into Guatemala and Central America, where he collected many new and interesting plants and introduced many by means of seeds, &c., afterwards distributing them from Herrenhausen. One of his best-known discoveries was *Anthurium scherzerianum*, which he found in Costa Rica, and which flowered at Kew in 1862, when a figure of it was published in the *Botanical Magazine*, t. 5319, where it is described as 'a very singular little plant.'

"Herr Wendland prepared and published in 1854 a list of the Palms cultivated in European collections. This was followed by researches amongst the plants of this difficult Order with so much zeal and activity that he soon became the

recognised first authority upon Palms. Sir Joseph Hooker acknowledges his indebtedness to Herr Wendland's monographs, &c., in the preparation of the *Genera Plantarum*. He has also made a specialty of the cultivation of Palms, the collection at Herrenhausen rivalling that at Kew. There has always been a ready interchange of living examples between the two establishments.

"Orchids have also been objects of special attention with Herr Wendland, the collection he has formed and cultivated with exceptional success for many years being described by his bosom friend, the late Professor Reichenbach, as by far the richest in botanical species that had ever been formed. Until within the last few years, Herr Wendland visited Kew annually, spending several days amongst the cultivated Palms, Orchids, &c., and endearing himself to the officials by his urbanity. His knowledge of tropical plants and their cultural requirements is exceptional, and his readiness to impart this knowledge to others made his visits profitable as well as enjoyable.

"In 1891 Herr Wendland celebrated his fiftieth year of professional work. He was present at the Ghent Quinquennial in 1898, and officiated as a judge."

MR. JOHN S. MURRAY.

MR. JOHN S. MURRAY, the well-known and highly-esteemed pioneer florist of Montreal, passed away on the 31st ult. Some years ago he suffered a stroke of paralysis, from which he never recovered, but he was able to be up and around the house in an invalid chair and to receive friends. He appeared to be in his usual health until the last day of his life, giving no warrant that the end was near. Born at Alyth, Forfarshire, Scotland, sixty-nine years ago, he came to Montreal in 1854, where he worked as a private gardener for about eight years. He then started, on a very small scale, in the flower business, and soon built up one of the best in the city, being thus the pioneer among the florists there. He was a quiet, home-loving gentleman, attentive to his business and highly esteemed by the trade, who sent floral tributes in abundance and attended his funeral.—*The American Florist*.

MR. GEORGE RAWLINGS.

WE are sorry to hear of the death of this famous Dahlia enthusiast, who passed away at Pen-y-Van, Whitebrook, Monmouth, at the ripe age of eighty-three. With his death we lose a florist of the old school, whose work among Dahlias at Romford, Essex, will long be remembered. Many of the most beautiful of the show varieties were raised by Mr. Rawlings.

NOTES FROM SWANSWICK.

WEEDS.

A MAN'S daily task of digging in these parts is a "lug." What that obscure measure may be I know not, but if it is the amount our gardener gets through in a day, it is not to be recommended as a standard. Not that he is lazy; a Somerset man is seldom coruscatingly brilliant in mind, and cannot, as a rule, be called quick in his movements, but a good specimen of him is always industrious and thorough. It is the weeds that kill! "Crazy" is about the worst. This is Somerset for the wild *Ranunculus*, and no matter how deep you bury this hateful weed it never dies, but sends up a long feeler, with a sucker at the end, to the surface. Arrived there, it does not take the Crazy long to run in all directions, after the manner of a Strawberry, but far more firmly anchored at all its stations. In our heavy land you cannot pull Crazy out with fingers, but must follow it down with forks, a good part of the way to Australia. "Withvine" (obviously "Withy vine" by rights) is another delight, known outside our centre of the universe as Bind-

weed, and, I believe, known equally well everywhere, and with equal affection regarded. When it cannot get up to the surface it writhes and wriggles, and the long corkscrew twists of it that come up when you remove soil that has been thrown up out of a trench, and thus buried the *Convolvulus* deeply, are truly interesting an object-lesson of the greater vitality in

auction. Those which were planted in the beds are all up and mostly in bloom (and I am bound to say the auction ones, at about one-third the price, are much the finer): but of those in the grass not a single one has so far appeared, even by a leaf-tip, although their several situations are sheltered and apparently all that could be desired.

Daffodils, planted at the same time are coming up well. Possibly the Snowdrop in grass shares the elusive habits of the Winter Aconite, which has also made no show at all, and therefore, from all accounts, may be confidently expected next year. Other bulbs are much too forward, and will probably pay heavy toll for their foolhardiness, for although we are exceedingly well sheltered by trees and shrubberies, and feel the frost comparatively little, we have already had three severe spells of it, each lasting over a week, and still have the dangerous month before us.

SIMPLE PROTECTION.

Happy is he that cutteth down a Fir tree at the beginning of winter. Nothing is more useful or more handy as protection for most tender things than a moderately-sized Spruce bough. There is a natural arch or spring in it which

enables it to be laid over sprouting Lilies or Irises, or almost any bulbs and corms that have growth above ground likely to be hurt, without crushing them. It, or they, can also be laid against a wall over small tender wall shrubs and the lower parts of creepers. It is astonishing what an amount of damage such a trifling precaution sometimes averts. I have a number of cuttings of different shrubby Veronicas for which no frame was available, and as they were a gift from a beautifully warm and well-known garden in Devonshire, they might be expected to resent hardship, especially as they were rooted rather late, yet up to the present I have been fortunate enough to keep every one. They are enclosed by a bank or wall about 15 inches high of sods, and covered with Fir boughs at all times, except those of sunshine and brightness, which are at present extremely infrequent.

There is a pond—or rather there was a pond

before its water supply partially failed—in this garden, and it is a spot at which I fear my native obstinacy has displayed itself very frequently. On only one solitary occasion have I taken any visitor down there without being advised, more or less authoritatively, to make its extensive banks—since the water shrank there is almost nothing but bank to the affair—into a fernery. It is bad taste, of course, but I think Ferns very uninteresting in comparison with flowering plants, and to give up some eighty square yards, with a grand bog in the centre, to a race with which I have little sympathy seems to me waste. The desirability of Ferns is apparently always suggested to casual beholders by half the area being in dense shade, but it will now no more be so, for we have sacrificed an enormous variegated Sycamore from among the surrounding belt of trees, chiefly Firs, which it was hustling out of all shape. The brittleness of this tree when cut is very remarkable, and seemingly consistent, for we have cut down two and lopped a third, and they all snapped, whether it was a trunk 2 feet in diameter or a branch not 6 inches across, with equally disconcerting suddenness, before the saw was half-way through. The giant, indeed, contrived to precipitate a man from the height of a sizable ladder, by playing this trick, which the workmen who did the felling refused to believe likely or possible, having in mind the different behaviour of the ordinary Sycamore, which seems about as tough as the average. The variegated form is an extremely handsome tree, but in this soil detestably self-assertive, and most efficient in keeping off all light from everything within a wide radius round its trunk.

There are very few worms and fewer slugs in this place, a fact possibly to some extent due to the large number of snail-slugs. The gardener when digging at this season turns these latter useful individuals up constantly, and since his enlightenment as to their meritorious place in the scheme of creation, carefully digs a hole and replaces each one, after an admiring scrutiny of its rather repulsive pink body, with the curious air of being petrified and the weird rudimentary shell adorning the back. The first time I came across one of these things, many years ago, it had an inch of earth-worm hanging out of its mouth, and waving about, which I concluded in my haste must be part of a most remarkably unpleasant anatomy.

I have made the usual resolutions. Only a few really good seeds, no annuals, no tender things to need several shifts and make work, and no leaving seedlings too long in the pans. I hope these will be kept, but from past experience cannot hope with much confidence, but one resolve, at any rate, is firm—no German seeds—at least, not knowingly. Some people will tell us that we get them whether or no, and pay half-a-crown instead of sixpence for them, but I do not believe it, so far as my small experience goes, and last year especially I bitterly regretted saving eighteenpences and putting good British sixpences into Teuton Palms, for none of the German seeds did well, while those I got from—I must not say who—but he is *very* expensive—gave splendid results. After all, between forty and fifty absolutely first-rate single Pyrethrum roseum plants, with flowers of pure colour and well diversified in shades, and blossoms nearly 3 inches across the same season, or thirty odd fine strong Carnations, promising to be all doubles, is not a bad return for thirty pence, though half-crowns have a nasty trick of being so few to the pound, compared with sixpences and shillings.

M. L. W.



PAPYRUS ANTIQUORUM AND A JAPANESE BRONZE IN THE GARDEN AT LA MORTOLA.

the thing that is least wanted. Somerset weeds in general are "trumpery." "The ground is full of trumpery," expresses a thoroughly neglected parterre, such as not even the most enthusiastic worker would wish to enter upon. "Chronic" is, I believe, now a slang word in high company; hereabouts it is used to describe such conduct as that of our two graceful young duck-damsels, who, with their great bills, spooned up the food that their attendant, who favours the fowls, would rather have seen go down the biddies' equally ravenous, but less capacious, maws. "They ducks is just chronic" means, so far as I can discover, that "they ducks" behaviour deserves the most scathing reproach Somersetese affords.

PROGRESS OF SPRING BULBS.

In the early autumn we planted some Snowdrops, partly in the grass and partly in borders. They were *G. Elwesii*, obtained from two sources—a local one and from a London

NOTES OF THE WEEK.

FORTHCOMING EVENTS.

February 3.—National Amateur Gardeners' Association Meeting.

February 7.—Société Française d'Horticulture de Londres Meeting.

February 10.—Royal Horticultural Society's Annual Meeting, 3 p.m.; Horticultural Club's Annual Meeting, 5 p.m.; Annual Dinner, 6 p.m. (Hotel Windsor).

February 13.—Royal Gardeners' Orphan Fund Annual General Meeting, Cannon Street Hotel.

Horticultural lectures.—I observe in your report of the proceedings at the Horticultural Club on January 13. following on the reading of Mr. O. Thomas's paper, Mr. C. Pearson is stated to have said that in the experience of horticultural lecturers villages gave poor audiences and towns the greater ones. Oddly enough that is the reverse of my experience in Surrey, and I have during the past eleven years lectured in every part of the county, whether in populous districts or in small villages. Just now I am lecturing weekly in a very remote rural village close to Sussex, yet I have an average attendance of forty, and that is remarkably good for so small a place. It is so in other localities, whilst the towns always give the smallest attendances. That is in my mind only natural. Workers on land in Surrey are far from ignoring the benefits attached to cottage gardens or allotments. I can show some of both these in our county that worked by farm labourers would take a great deal of beating anywhere.

Calceolaria Burbidgei.—Mr. W. James has sent me from Woodside, Farnham Royal, a flowering branch of this very pretty hybrid *Calceolaria*, which Mr. Burbidge raised in the Dublin Botanic Gardens some years ago. Mr. James is surprised that a plant which blooms so persistently and freely through the winter in a temperate heat is not grown largely by gardeners for conservatory decoration. At Kew it does remarkably well, as there it reaches many feet in height. It does well in pots or planted out. No seed is produced, but the plant, which is fairly hard-wooded, will increase readily by means of cuttings. The flowers resemble those of *C. amplexicaulis*, but are of deeper colour. The parents were *C. fuchsifolia* and *C. Pavonii*. As in midwinter bright yellow flowers on tall shrubby plants are rare, this *Calceolaria* should be in great demand. It also blooms very freely in summer.—A. DEAN.

National Dahlia Society.—We notice the following changes in the 1903 programme of this society. The name of the Earl of Ilchester is added to the list of patrons, and that of Miss Willmott, V.M.H., to the list of patronesses. Mr. F. W. Sharpe has resigned his position as vice-president, and Mr. J. F. Hudson, M.A., has been elected in his place. Mr. Hudson thus retires from the position of hon. secretary, which he has so ably filled during the past six years, and Mr. P. W. Tulloch succeeds to the position. Mr. E. T. Cook has been elected to the vacant seat on the committee caused by Mr. Tulloch's appointment. The membership shows an increase of over 11 per cent., and the prize schedule for 1903 has been improved by the addition of four new prize trophies, as already notified. Negotiations are in progress for the holding of a special exhibition of Dahlias by this society at Manchester in September next, which it is hoped will shortly reach a satisfactory conclusion. Mr. P. W. Tulloch's address is Sterndale, New Church Road, Hove.

Acacia ovata.—A very pretty free-flowering *Acacia* has, under the above name, made its appearance in Covent Garden, and furnishes a pleasing variety to the forms usually grown. It is a free bushy plant, with the principal shoots of clean and straight growth, and clothed with small, roundish, ovate leaves of a deep green tint, and studded for the greater part of their length with a profusion of small yellow globular flower-heads. Not only do the individual

clusters remain fresh and bright for some time, but a continued succession is kept up, so that its flowering season extends over a lengthened period. While it is generally met with as *A. ovata*, it is, I believe, the same as *A. obliqua*, which is in its turn in the last supplement to the "Dictionary of Gardening" referred to as *A. rotundifolia*. Besides this, other species that may be successfully flowered in comparatively small pots are: *A. ornata*, *Drummondii*, *hastulata*, *platyptera*, and *pulchella*. They are all natives of Australia, and succeed in an ordinary greenhouse, but *A. Drummondii* and *A. platyptera* need rather more peat in the soil and more care in their culture than the others.—H. P.

Chrysanthemum Vivand Morel and its sports.—It only appears as yesterday when the above varieties were victorious in every direction, and when it was often freely expressed that the zenith of the *Chrysanthemum* had been reached and the day for new varieties was over. Few then could have realised that the advent of some of those now occupying the leading positions was so near at hand, and raisers were at the time advised to study quality and not quantity, with the result that we have had some decided acquisitions brought out, notably, W. R. Church, M. Louis Remy, and Mrs. G. Mileham as examples. Others will follow, but they must be only of the best. Much as one is grieved to part with old friends, such as the subject of this note, we must do so. For exhibition (other than as plants) it would almost appear as if their day were ended.—A. B.

Brussels Sprout Cambridge Champion.—I notice in Mr. Wythes' note on my new Brussels Sprout (Cambridge Champion) he says he lost his note and was unable to name the parentage of it. It was raised by crossing the Reading Exhibition with Sutton's Dwarf Gem, and by carefully selecting the best and firmest-buttoned ones for the last five years I have now got an ideal strain.—J. H. RIDGEWELL, *The Gardens, near Histon, Cambridge.*

Referring to the paragraph in your issue of the 17th inst., respecting Brussels Sprout Cambridge Champion, we beg to inform you that we have acquired the stock, and shall be pleased to supply it through the trade.—CHARLES SHARPE AND CO., *Slough.*

Exhibiting Carnation blooms.—All lovers of this beautiful and popular flower who have visited the recent meetings of the Royal Horticultural Society must have noticed the pleasing display made by Messrs. W. Cutbush and Son, of Highgate, owing principally to the graceful way in which they have arranged the flowers. Surely this is a step in the right direction, and the sooner this form of arranging cut flowers generally is adopted the better. There is nothing more unnatural than the way Carnations and many other cut flowers are exhibited at the present time. I am not aware who are the makers of the stands used by Messrs. Cutbush, but they are certainly neat and elegant. The colour is green, and the material used probably zinc, being sufficiently large at the mouth to hold several flowers and a suitable amount of foliage.—E. BECKETT.

Vegetables and frost.—The short severe spell of frost has proved the value of certain vegetables, and, of course, no matter what Cauliflower or Broccoli be grown, they are not hardy unless protected in some way. I find, however, that the plants with foliage well above the flower or head are greatly superior in this respect. The Kales, though a little soft owing to the wet growing season, are now most valuable, and will be in season for the next three months. Our system is to grow the Broccoli or Kales for the supply from now until May, and for this reason there are some really excellent varieties for flavour, such, for instance, as the finely curled Scotch Kale for present use, and the Arctic Curled for latest supplies. This latter is now getting better known for very late use, and I know of none so good for use at the late season named, as it is one of the last vegetables to run to seed in spring. I have found after a severe winter we have not lost one plant, and as this is in a moist low situation it shows how well it thrives. Doubtless its hardness is due to the low compact growth and short stems,

so that it is more readily protected. Another important point concerning the Kales is their good flavour even after severe frost, but the Kales are not always cooked as well as they deserve; after protracted frost they should be cooked in two lots of water, as this removes any disagreeable taste. For use from now to March or later the Savoy is at its best, not the large Drumhead type, but such kinds as Sutton's New Year and Perfection, which are invaluable at this season. The seed should be sown in May for July planting. No note would be complete without referring to the Winter Cabbage for present use, a vegetable often overlooked. I need not mention roots for use at this season, but I would briefly note the value of Celery grown for cooking for this purpose; the Solid White is splendid. Chicory also is a change from other vegetables when the sturdy new blanched growths are cooked. I fear the Spinach crop has been rather injured by frost owing to its tender growth; even in the south the frost was rather severe.

Sutton's Broccoli Superb Early White.—The very fine heads of Sutton's Superb Broccoli, staged at the last meeting of the Royal Horticultural Society, showed what a useful winter variety the above is, and no one can go far wrong when they select this one for the winter. I have grown it in Northumberland with great success in a garden much exposed, coming in at a season when it was most valuable. Comments were made regarding the size of the heads shown. Some were considered too large, but that is a good fault. It is an easy matter to cut the heads in a smaller state. At Alnwick Castle we never found it large, and the heads were perfect in shape and colour, and what is so important they last so long after they have been housed or protected. We have had them good for six weeks after being lifted and placed under shelter. The Winter White is much better than the old Snow's Winter White, which is not reliable. Doubtless the newer Early White is a better type of that old and at one time good variety, and a great boon to those who need choice vegetables in quantity.—G. WYTHES.

Greenhouse plants and the fog. As a rule, plants with firm, glossy leaves are much less injured than those whose foliage is thinner in texture and more or less hairy. Among the commonly grown plants of a shrubby texture may be mentioned the Azaleas, which suffer terribly, for the young leaves shrivel up as if burnt, while the mature ones drop wholesale, and frequently leave the bush nearly devoid of foliage. Even among the Indian Azaleas some varieties resist fog much better than others, one of the best in this respect being Mme. Van der Cruyssen, which is seldom affected to any extent, while another, Sigismund Rucker, is often killed outright. Both these kinds are very popular with the Belgian cultivators, and are sent here in considerable numbers, but the latter is useless in the London district. Greenhouse Rhododendrons that have originated from the intercrossing of *R. ciliatum*, *R. Edgeworthii*, and *R. formosum*, and which now constitute an extensive section of for the most part white-flowered varieties, all suffer somewhat, and frequently the flower-buds are killed, while on the other hand, the Javanese or tube-flowered section is quite indifferent to fog, for the members of it will even flower throughout the winter in the London district. The charming little *Rogiera*, *gratissima* suffers terribly, nearly as bad in fact as the *Bouvardias*, which are quite scorched up. Most of the different species of *Eucalyptus* suffer considerably, but none other to the same extent as *Eucalyptus citriodora*, which frequently loses every leaf and dies outright. If the foliage is kept clean, that pretty shrub *Thibaudia acuminata* does not seem to mind the fog, but there are very few plants that are not more or less affected by it. Soft-wooded plants of course suffer greatly, the members of the various sections of *Pelargoniums* often losing nearly all their leaves, while *Primulas*, *Cinerarias*, and other things look as if burnt, in addition to the foliage being blackened with soot. *Cyclamen* leaves are seldom affected, but the flowers quickly perish.

Rose Marquise Litta.—This is one of those good varieties that should never be absent from collections, the beautiful large cupped flower always commanding attention; indeed, it is difficult to find a better all-round variety. Speaking to a clever grower a short time ago I was assured that for autumn blooming it had few equals, some excellent blooms cut from the open late in November fully bearing out his remarks. So pleased is he with it that he has added more plants this season.—A. B.

Chrysanthemum Mabel Morgan. This beautiful flower is probably better known as a refined Japanese variety of exhibition standard, though rather late for the November shows, unless specially treated to a system of stopping and timing. Its colour may be described as pure rich butter-yellow, and its long petals develop very evenly and make an ideal Japanese reflexed bloom. For some few weeks past handsome bunches of this beautiful variety, grown freely for decorative uses, have been sent into the markets, and are fully appreciated because of their lovely colour and bright and pleasing character. Here, in the second week of January, are the Chrysanthemums to be seen in grand condition, and as long as raisers and distributors can add to the list good decorative sorts as the one under notice, so long will the Chrysanthemum continue to be popular.—D. B. C.

Clivia cyrtanthiflora.—This, which is better known in gardens under the generic name of *Imantophyllum*, is a supposed hybrid between the two species—*nobilis* and *miniata*. It is by no means equal to the last-named, which, under the title of *Imantophyllum miniatum*, is everybody's plant, and may be grown equally as well in the amateur's greenhouse as in more pretentious structures. *C. cyrtanthiflora* has, however, advantage over its better-known relative, and that is whereas the flowers of *C. miniata* do not expand until the spring, those of *C. cyrtanthiflora* are at their best quite early in the new year, even in a greenhouse temperature. Like all the members of the genus, the dark green strap-shaped leaves are decidedly ornamental, and the partially drooping flowers, which are in a crowded head, are smaller than those of *C. miniata*, and do not open so widely. In colour there is a certain amount of individual variation, but the usual tint is some shade of salmon-yellow.—H. P.

Bouvardia King of the Scarlets. By the kindness of Mr. J. Robson, Bowden Nurseries, Altrincham, I am in receipt of a fine truss of this beautiful Bouvardia, which shows well what an acquisition it is to winter-flowering plants and how well merited was the award given it at the Royal Horticultural Society's meeting on December 9 last. For many years now the position as the best scarlet-flowered Bouvardia has been held by the variety President Cleveland, which first came here from the United States fifteen or sixteen years ago, but it is now likely to be superseded to a great extent. The flowers of King of the Scarlets are larger than those of most Bouvardias, particularly in the width of the lobes, while the colour is a clear bright scarlet, with the tubes almost white. It is strange that the two Bouvardias just mentioned should have come to us from abroad, for while President Cleveland was sent from America, this newer form had a still longer journey, as it was raised in Sydney, New South Wales.—T.

Oxalis Ortgiesii.—In habit this species is quite distinct from the typical members of the genus. Its roots are fibrous, and its stout, erect, fleshy stem grows to a height of a foot or more; the trifoliate leaves are borne on long reddish stalks, and the leaflets are dark green above and purple beneath. The small yellow flowers, which are freely produced, are borne in dichotomous axillary cymes. With some this plant has fallen into disrepute, being characterised as "too weedy," but this weediness is chiefly due to its being kept in too high a temperature. The plants which now should be flowering grow best in the cool greenhouse; here they have a sturdy habit, and continue to flower for a long time. During the summer months this *Oxalis* may with advantage be grown

in a cold frame. Water must never be wholly withheld, but when the flowering period is over the plants should be kept on the dry side for a period of rest. Cuttings root readily in sandy soil; overpotting should be guarded against.

Yuccas in the rockery.—At this time of the year many rock gardens present a bare and uninviting appearance, due in a measure to the almost exclusive use of dwarf plants. To obviate this more use should be made of such plants as *Yuccas*. Their habit of growth is in keeping with a rockery, and no matter how freely they may grow they never wholly hide the rocks, and nothing can be finer than *Yuccas* when in flower. When planting it would be advisable to place the species and varieties with the habit of *Yucca filamentosa* and *Y. recurva* (*Y. gloriosa* var. *recurvifolia*) in the foreground, having such as the stiffer-leaved *Y. gloriosa* further back; passers by then will not be in danger of brushing against the sharp leaf points. Where it is sufficiently hardy the graceful *Cordyline australis* may with advantage be used similarly.—A. C. BARTLETT.

Garrya elliptica.—Very few Californian shrubs are really hardy in this country, except in the south-west counties and similarly favoured localities. This applies to the above shrub, for, although about London it succeeds in the open, it is usually seen in better condition when given the protection of a wall. In places where it thrives it is useful as an evergreen alone, being distinct from any other. Where it is required for its inflorescences, the male plant, which is by far the more common, should be obtained, for it is the yellowish green catkins of this that prove so attractive in midwinter. In the open it makes a bush 4 feet to 6 feet high and 3 feet to 4 feet through. When planted against a wall, however, it grows to a height of quite 12 feet and flowers very freely. Two large specimens existed a few years ago in the gardens at Wimbledon House. They had been planted at the foot of a wall and allowed to grow out from the wall in a free manner. These plants each winter flowered profusely, the catkins being from 6 inches to 9 inches long in large clusters.

The Camellia-leaved Holly.—A fine specimen of this Holly may be seen in the Holly collection near the temperate house at Kew. In this position, surrounded by many other varieties of *Ilex Aquifolium*, its superiority over a large number of other varieties is at once apparent. It has been known by two names, the correct one—*I. A. var. camelliifolia*—and *I. A. var. laurifolia longifolia*. It forms one of the most striking examples of the great variation in form of leaf to be found in the common Holly, for in no particular does it bear the slightest resemblance to the type. Among other varieties this may be easily recognised by its dense pyramidal habit and handsome very dark green leaves. The leaves measure from 5 inches to 6 inches in length, and the largest are upwards of 2½ inches wide. Many of the leaves are entirely destitute of spines, others have a small spine only at the apex, and others, again, have a few scattered spines on the margins. The berries are duller in colour and not so effective as those of the type, but are larger. Like many other Hollies it can be increased from cuttings, and also by budding on stocks of the type. For a year or two whilst young it appears to be rather tender, on account of commencing to grow rather early and so being damaged by late frosts. After three or four years, however, it will withstand as much hard weather as most of the other varieties.—W. DALLIMORE.

Tropæolum speciosum.—I note that most of your correspondents in writing of this plant insist that it should be planted where the direct rays of the sun cannot fall upon it. It may be conceded that the plant flourishes in such positions, but that they are not absolutely essential to its welfare I have had proof. Several years since when on a visit to Wales, and travelling from Dolgelly to Barmouth I rested at a small wayside tea garden for a few minutes. In that garden I saw a large patch of the *Tropæolum* growing in the open, quite away from any building and looking at a distance like a small planting of Scarlet Runners. This was in the month of August,

both flowers and fruit being abundant, though the latter predominated. So far as I can recollect the soil was loamy and cool. Subsequently I saw several plants in similar situations, in or near Dolgelly, where it seems to be common. If you have any correspondents in North Wales I think they will fully confirm my observations.—W. THOMPSON, Ipswich

A winter Viola.—There is just now, and, indeed, has been all the winter, in most profuse bloom two large beds of a creamy white *Viola* in some hardy plant grounds at Feltham, Middlesex. I have seen these beds several times during the winter, and having to pass them on a fairly fine day—the 9th inst.—could but stop to admire them. It was, indeed, a matter for comment that any bedding *Viola* out of many varieties there being grown should be literally a mass of bloom, just as though it were May rather than January. Surely there are many with gardens who would like to have this variety for winter flowering. I could not learn its name, as the grower did not seem to know. The flowers are self-coloured, but have a few dark rays. Perhaps some one may know it, and if so, will no doubt kindly state, so that readers of THE GARDEN may know what variety to ask for.—A. DEAN.

Acacia dealbata.—The finely divided leaves of this *Acacia* render it extremely ornamental at all seasons, but in planting it one thing to bear in mind is that it is of quite tree-like habit, and would therefore soon outgrow an ordinary greenhouse. It is a plant for a lofty structure, as it is of rapid growth, and when once it has obtained a considerable size is very free flowering. Along the shores of the Mediterranean it forms one of the most beautiful of flowering trees, its blooming branches being largely sent to this country and disposed of under the name *Mimosa*. This *Acacia* is the Silver Wattle of the Australian colonists, the name silver being derived from the whiteness of the leaves, but this is a feature in which respect individuals vary considerably, that is to say, when raised from seed, as if it is saved from the whitest form some of the progeny will be almost green. Beautiful as the foliage is in a pure atmosphere, it suffers very much in London during winter; indeed, a few days of heavy fog will cause nearly all the leaves to drop.—T.

THE FLOWER GARDEN.

NEW HARDY FLOWERS OF 1902.

(Continued from page 17.)

NARCISSUS INCOMPARABILIS TORCH.—A very showy flower. The segments are yellow and the crown a glowing red. A very vigorous and handsome form. A.M., April 8.

N. incomparabilis Primrose Phoenix.—This beautiful addition to the double incomparable *Daffodils* has so descriptive a name that further reference to it is almost needless. The colour is a full primrose tone and quite pleasing, and the bulb is said to grow well. A.M., April 22.

N. Queen Christina.—This is a fine bicolor of the *N. b. Victoria* class, but larger and with whiter segments to the perianth. A very handsome kind. A.M., April 22.

N. Duke of Wellington.—This is a rich golden-yellow flower, a splendid *Narcissus*, and very large. A.M., April 22.

N. Queen Emma.—A fine bicolor, especially with regard to the trumpet, the segments being those of *N. Horsfieldi* almost. A.M., April 22.

N. Warley Magna.—A very pure white *Ajax*, the cup well opened out and frilled. A.M., April 22.

N. Bettie Berkeley.—Nearly a bicolor Queen of Spain, with a lemon cup and white segments. A.M., April 22.

N. Glory of Noordijyk.—This is a bicolor of giant proportions, perhaps one of the largest yet seen. The crown is of exceptional size and the brim very widely expanded. A.M., April 22.

N. Cressett.—This is a seedling, such as may have arisen from crossing a Leedsii or Burbidgei with some good coloured single incomparabilis. The segments are very white and pure, and the crown richly coloured. A.M., April 22.

N. Incognita.—This is akin to the last-named kind, but quite distinct in colour; it has very long white segments to the perianth and orange crown. A.M., April 22.

N. Ada.—This belongs to *N. triandrus*, and has pure waxy white flowers; it is very beautiful. The flowers are usually three in a scape, and there is much character in the well-shouldered upper part of the crown. F.C.C., May 6.

N. Moon Ray.—This is possibly allied to *N. Ada*, and is larger but less meritorious. A.M., May 6.

N. Cecil Rhodes, a large pale flowered *N. Queen of Spain*, suggestive of the crossing of *N. triandrus* and a yellow *Ajax* kind. A.M., May 6.

N. Watch Fire.—A very beautiful Daffodil and quite distinct. The segments are buff or creamy buff, and the crown bright red, margined with orange. A.M., May 6.

Tulipa gesneriana lutea pallida.—This self Tulip is vigorous, and a good addition to existing kinds. Not only is it a shapely as well as showy flower, but is sweetly scented, reminding one of Violets. The stems are at least 2 feet high. It should prove of great value among the late-flowered Tulips. F.C.C., May 6.

Tulip Pride of Haarlem.—A Darwin Tulip, very showy, indeed of almost brilliant colour. It is, perhaps, one of the most valuable in the late May-flowering section of this genus. The colour is cerise-scarlet. A.M., May 28.

ASTERS OR MICHAELMAS DAISIES.

As showing the popularity of these plants quite a large number have been in the past season honoured by the award of merit, and we give them in detail in the hope of guiding those readers who in these things desire to be quite up to date. As the list is a rather long one, and not all of the sorts are novelties of the past year in the true sense, we give them as briefly as possible.

A. Novi Belgii Dorothy.—Excellent in habit, with a wonderful profusion of clear lavender coloured flowers. This should prove a fine border plant. Height 4 feet. A.M., September 24.

A. N. B. Celestial.—A vigorous seedling that occurred in the Society's Chiswick gardens. Flowers pale blue of good form. Height of plant 4½ feet. A.M., September 24.

A. N. B. Daisy Peters.—A seedling from Mrs. W. Peters, and possibly an improvement. Flowers pure white in great abundance. Height 3½ feet. A.M., September 24.

A. N. B. Top Sawyer.—One of the tallest and showiest of this group. Large flowers of good form and lilac-blue in colour. Height 5 feet. A.M., September 24.

A. N. B. F. W. Burbidge.—One of the most distinct in growth. Flowers well formed, of a rosy lilac tone; a great bloomer. Height 4½ feet. A.M., September 24.

A. N. B. Ariadne.—One of the best of mid-October varieties. Flowers, 1½ inches across and

fine pale blue. The plant is nearly pyramidal in habit when naturally grown. Height 5½ feet. A.M., October 13.

A. N. B. Calliope.—Showy, vigorous, and free; flowers pale mauve, 1½ inches across, the bushes densely laden with blossoms. Height 4½ feet. A.M., October 13.

A. N. B. Elsie Perry.—An excellent sort in every way. Flowers of medium size of a warm rose tint. Height 4½ feet, habit strong and branching. A.M., October 13.

A. N. B. Coombefishacre Brightness.—An improvement upon *Coombefishacre*, and remarkable for freedom of flowering. Height 4 feet. Flowers rosy pink of medium size. A.M., October 13.

A. Cordelia.—A cross-bred variety of some worth. The flowers are of the palest blue, very distinct, and pretty. The plant is very free flowering. 4 feet high. A.M., October 13.

A. vimineus Delight.—A charming sort, graceful, free, and beautiful. Habit nearly erect, 3 feet high, and decked with white rosy-eyed blossoms, each half an inch across. A.M., October 13.

A. vimineus perfecta.—A slender growing yet welcome Aster. Habit nearly erect and free, the flowers in their great abundance completely covering the plant. Colour white, suffused and tipped with pink, a dainty and pleasing sort. Height 3½ feet. A.M., September 24.

A. cordifolius magnificus.—Quite a typical Aster in growth, with the same great profusion of flowers. Height 4½ feet; colour lilac-blue, delicate, and pretty. A.M., September 24.

A. cordifolius elegans.—This is not a novelty of the year, but certainly one of the gems of this group. The plant is elegant in habit and flowering. The flowers are white and tinted with palest mauve, with the colour-changing disc so noticeable in these plants. These cordifolius sorts are very beautiful and free-flowering. Height 5 feet. A.M., October 13.

A. acris var. nanus.—This is not merely a dwarf form, but a late flowering form of *A. acris*, and as such a most welcome plant. Barely 16 inches high, with the same blue stary-petalled flowers, it is quite a good addition. At its best in mid-October. A.M., October 13.

A. levigatus.—This plant is well known to gardeners under the name of *A. longifolius formosus*, &c. It has a wealth of rosy pink flowers on plants of bushy habit and the growth is less than 2 feet high. It is a great favourite for pots and for market. A.M., September 24.

A. ericoides Ophir.—Not many of this group have received distinctive awards, and this is one of the best. The habit is the same as the type, and the pretty tinted pink blossoms expand quite a week before those of the species. Height 3½ feet. A.M., October 1.

A. ericoides Sensation.—Not a good name certainly for a small-flowered type; this has the same graceful habit and freedom, the same dainty yet larger blossoms, and purer than all others of its class. The flowers are freely set on elegant branching sprays. Height 3 feet. A.M., October 1.

A. Amellus bessarabicus.—No Aster is better known, and it seems strange to give an award after it has been in cultivation for so many years. Free and beautiful in flower and of erect branching habit, it is worthy of a place in all gardens. Flowers bluish purple and nearly 2 inches across. A good September flowering plant, 2 feet high. A.M., October 1.

N.B.—The dates of the awards in these plants will afford a clue to the time of flowering, the varieties in each case being at their best when the awards were made.

THE FLORIST'S TULIP.

On the 13th inst. a lecture on "The English Florist's Tulip," illustrated by coloured diagrams, was delivered by Mr. Richard Dean, V.M.H., before the Weybridge Horticultural Society, there being a good attendance of members. Commencing with a short reference to the history of the Tulip, the lecturer proceeded to say that *T. gesneriana* is generally believed to be the progenitor of the English florist's Tulips, and it was named after Conrad Gesner, who was described as the "Linnaeus of the sixteenth century," and who first made the Tulip known by a botanical description and drawing of the flower. Gesner records that "he first saw the Tulip in the beginning of April, 1599, at Ausburg, in the garden of the learned counsellor John Henry Herwart." It is scarcely known when the Tulip was introduced to Europe, but it appears certain it came to Germany, though by what means is not accurately shown; it is yet on record that the Dutch merchants and the rich citizens of Vienna, who were fond of flowers, sent to Constantinople at different times (the Tulip being a native of the East) for various renowned sorts. The first roots planted in England were, it is said, brought from Vienna in 1600 or thereabouts.

After a brief reference to the Tulipomania of 1634—1637, the lecturer proceeded to say that the bulb of the Tulip which produces the flower decays, its business in life being to put forth foliage and flower. Having done this it perishes, but propagates its kind by means of offsets; by the end of June or early in July they are ready for lifting, and they are better out of the ground till planting time than in it. While the bulb is placed away in a drawer till it is planted there is no suspended animation, the bulb undergoes change in size and shape, and is forming within itself all the elements of the future flower. It enjoys the dryness and coolness of the cabinet better than the summer rains if left in the ground; indeed, experience shows that the summer moisture has a prejudicial effect upon it.

Any good garden soil suits the Tulip, that which will grow Beans well will do; it can be helped by mixing with it some chopped up turf. Wet is more destructive to Tulips than frost, hence the soil in which they are planted should be well drained, and that is the reason why growers of choice varieties have their beds raised 12 inches or 18 inches above the ground level, and the bed is edged with wood, turf, &c. There is a further advantage—by so raising the beds the flowers are brought nearer the eye. The time to plant is generally the first or second week in November, but the middle of October is not too soon and the early part of December not too late. Once planted the bulbs are left to the action of all weathers, until the foliage begins to develop in early spring. All that show a second leaf may be expected to flower. From a single leaf, however vigorous it may be, no bloom can be expected that year. In Lancashire those producing a single leaf only are denominated "widows," and several causes might be assigned for failure—some inherent weakness probably. During the prevalence of sharp frost some protection of the leaves is necessary, bright sunshine falling upon frozen foliage is harmful, and rough winds blowing them about when frozen is equally injurious. A critical time is when the buds appear in the hollow formed by the leaves, and if the wet lodging here becomes frozen it may be permanently injured. The water can be liberated by opening the leaves. As the flower stems rise in April hailstorms sometimes happen, and if the bud be struck by a hailstone or the foliage wounded harm is done; the future flower is pretty certain to disclose a blemish in consequence.

By means of coloured diagrams, Mr. Dean traced the flower from seed, showing the peculiarity of the seedling Tulip to put forth a number of others lower down in the soil, and technically termed "droppers." This goes on for a few years, a single leaf only being developed, until the second leaf appears, and then it is known the seedling is about to bloom. Five and six years usually elapse before the seedling Tulip produces a flower. The seedlings when they bloom almost

invariably take on the self or breeder character, and they are differentiated into three sections—the bizarre breeder, with a yellow base; the byblem; and the rose, with white bases. The bizarre breeder is suffused with reddish or yellowish brown, dull red, or approaching mahogany; the byblem, with a lilac, slate and shaded tint of one of these; the rose (and many of the rose breeders are very beautiful) are suffused with pink, rose, or scarlet. In time, it may be in a year or two, or it may be in many years, these breeders, in no order of time, or rank, or age, break or rectify, but when they will break, and in what form they will break, no one knows; the breeder colour appears to be lifted off from the flower, and new and beautiful combinations appear. The flowers then either come feathered on the petal edges, with a flame of colour running up the centre of the petal, or the colour is laid on only round the petal edge; the former is a flamed, the latter a feathered flower. Bizarres break to black, red, or brown approaching red; byblemens to some shade of purple from light lilac to all but black; and roses, to rose-red or scarlet. Diagrams of flamed and feathered flowers were shown, and the curious changes which sometimes appear, illustrated.

The importance of shading from burning sunshine when in bloom was insisted upon. The mode of planting a bed and the method of arranging the bulbs according to height was also stated. A Lancashire Tulip exhibition was described, and in conclusion emphasis was laid upon the importance of maintaining the culture of and interest in such a remarkable flower, which was forty years ago much grown round London. A hearty vote of thanks was passed to Mr. Dean for his interesting address.

THE INDOOR GARDEN.

EUCHARIS AMAZONICA.

DECIDEDLY the most popular of all bulbous plants that require the temperature of a stove for their successful culture is *Eucharis amazonica*, for it is an universal favourite, being found in nearly every garden where accommodation exists for it. In addition it is grown by the houseful in some of the large nursery establishments that supply Covent Garden Market with choice flowers. By different modes of treatment a succession may be kept up throughout the entire year, and during the London season there is a great demand for the flowers, as there are few if any social functions, in which flowers are used, where the *Eucharis* does not figure prominently, and for bouquets, crosses, wreaths, and such purposes it is invaluable.

Concerning the early history of *Eucharis amazonica* it was introduced from the Amazon district of South America, and first flowered in this country in 1857, so that it has now been before the public for nearly fifty years. Though generally known by the specific name at the head of this note, it should according to the latest botanical classification be *Eucharis grandiflora*. There are several others that have had at one time or another a great deal said in their favour, and though they may suffer by comparison with the prince of the family, without it they would occupy a prominent position among bulbous flowering plants. The oldest member of the genus is

E. CANDIDA,

a native of New Grenada, from whence it was introduced in 1851. The leaves, which are smaller than those of *E. amazonica*, have not the prominent ribs of that species, while the flowers, which are borne in an erect umbel, have the segments reflexed in a very regular manner. This species had at one time a very poor reputation, as the least showy of all the

genus, viz., *E. subdentata*, somehow got generally distributed under the name of *E. candida*. Very large importations of the true species were, however, disposed of in this country in the early eighties, since when *E. candida* has been generally grown, but without ever threatening the position held by *E. amazonica*. Two species of botanical interest only are *E. subdentata*, just alluded to, and *E. hartwegiana*, both of which are better known by the generic name of *Caliphruria* than that of *Eucharis*. Compared with the others they are small growers and very shy flowering.

The above embrace all, I believe, that may be regarded as distinct species, though we have quite a long list of other names, some of which may be varietal forms, and others hybrids, either natural or artificial. Thus we have *Eucharis sanderiana*, *E. Mastersi*, *E. bakeriana*, *E. Lowi*, *E. Moorei*, and *E. Stevensi*, but it is simply impossible to say where one begins and the other ends, or indeed to select



EUCHARIS AMAZONICA IN THE GARDEN OF MR. BROOME, LLANDUDNO.
(From a photograph kindly sent by Mr. Broome.)

one from the other with any degree of confidence.

No notice of *Eucharis amazonica* would be complete without reference to a most remarkable hybrid in the production of which it has played a part. This is

URCEOCHARIS CLIBRANI,

which was first shown at a meeting of the Royal Horticultural Society in the summer of 1892 by the raisers, Messrs. Clibran of Altrincham, and announced as the product of *Eucharis amazonica*, crossed with *Urceolina aurea*. This last, which was introduced by Messrs. Veitch through their collector Richard Pearce, of tuberous *Begonia* fame, some time in the sixties, has drooping urn-shaped blossoms, colour bright yellow tipped with green. The flowers of the hybrid are in shape about midway between its parents, but the golden colour of the *Urceolina* is completely eliminated, the tint being that of the *Eucharis*. It readily conforms to cultivation, and is a beautiful and interesting plant.

H. P.

TREES AND SHRUBS FOR BRITISH GARDENS.

THE BARBERRIES.

(BERBERIS.)

PROBABLY between sixty and seventy species of Barberry are now known to botanists. They are found in the temperate parts of North and South America, in temperate Asia, and in Europe. The common species of Britain (*B. vulgaris*) is found wild in North Africa, but has possibly been introduced. They are shrubs, characterised throughout by having yellow wood and yellow flowers, and their beauty is such that scarcely a single species has been introduced which is not worth growing for its own intrinsic merits. A few occupy a place in the first rank of useful and ornamental shrubs. Some of the species, of

course, are so much alike that in gardens the genus may be quite adequately represented without growing more than half of them. The sorts that are indicated below by an asterisk may be taken as a selection of the best and most distinct, and as representing the genus in all its forms. There are evergreen and deciduous species, and others, which may be termed half evergreen, the persistence or otherwise of whose foliage depends on the severity of the winter.

One very distinct section of the Barberries requires special mention. This consists of the species that were formerly called "Mahonia," and were kept a genus apart from *Berberis*. Loudon called them the "Ash Barberries." They are chiefly distinguished from the rest of the genus by invariably having pinnate evergreen leaves. Although the leaflets are generally armed with stiff, spiny teeth on the margins, the branches of the Mahonias are not armed. In the true Barberries, however, the branches are often formidably armed with three, five, or seven-pronged spines, which spines are really metamorphosed compound

leaves. This matter, although interesting morphologically, need not be entered into now. A reversion of the spines to leaf-like organs, however, occasionally is seen. The Mahonia group is represented in North America and in temperate Asia.

As shrubs for the garden the Barberries have many recommendations. Nearly all of them are quite easy to grow in any soil that is not water-logged. On dry light soils they are especially useful. Some of the Mahonia group flower in late autumn and early spring, but all the true Barberries blossom between the end of March and the beginning of June. The flowers are either borne in racemes or they are solitary—rarely two or three together—on the stalk. This difference in the mode of inflorescence is worth noting, for species very similar in foliage can be distinguished by this means. Many of the Barberries are beautiful in the autumn for their abundant fruits, and a few for their autumnal tints.

All the true Barberries are best increased by means of seeds; the hybrids and varieties by cuttings or layers. Some of the Mahonia group, especially *B. Aquifolium*, can be propagated by division, but with them, too, seeds are preferable.

The Barberries have not been hybridised so much as one would expect. I know of but two hybrids—*B. Neuberti* and *B. stenophylla*.

EVERGREEN.

I.—North American.

**Aquifolium* (Mahonia), *Fremonti* (Mahonia), *nervosa* (Mahonia), and *repens* (Mahonia).

II.—South American.

**Buxifolia* (*dulcis*), **congestiflora*, *empetrifolia*, **Darwinii*, and *ilicifolia*.

III.—Asiatic.

Fortunei (Mahonia), **japonica* (Mahonia), *nepalensis* (Mahonia), **pruinosa*, and **wallichiana*.

IV.—Hybrids.

Neuberti and **stenophylla*.

DECIDUOUS.

V.—European and North African.

Aetnensis, *cretica*, and **vulgaris*.

VI.—North American.

Canadensis and *Fendleri*.

VII.—South American.

Actinacantha and *heterophylla*.

VIII.—Asiatic.

**Angulosa*, **aristata*, **concinna*, *diaphana*, **diptyophylla*, *heteropoda*, **Lycium*, *sibirica*, *Sieboldii*, **sinensis*, **Thunbergii*, **virescens*, and **vulgaris*.

I.—EVERGREEN SPECIES.

B. AQUIFOLIUM.

Introduced from Western North America in 1823, this shrub has since become one of the commonest and most useful of evergreens. It furnishes one of the many instances that show the advantages planters of the present day enjoy over their predecessors of sixty or eighty years ago. For some years after its introduction its price ranged from 5 guineas to 10 guineas per plant. Even in 1838 the price was 5s., although London in that year expressed his hope that they would in time cost only half-a-crown each. Plants can now be bought for 30s. per thousand, and they are frequently planted in large quantities for cover, undergrowth, &c. For such purposes it is unsurpassed, especially in shady positions. The lustrous dark green foliage of summer acquires a purplish tinge after frosts have set in, and where it is planted in good breadths

gives a rich and very charming effect. The leaves consist usually of nine or eleven leaflets, firm, or even somewhat hard in texture, and set with sharp teeth on the margin. It produces in the spring erect crowded clusters of bright yellow flowers, followed in due time by black roundish berries covered with a violet "bloom."

This plant can be increased by means of seeds or by division, but plants divided up require two years to become established. In a wild state it is spread widely over the western side of North America from the Nootka Sound southwards. Consequently it varies much. The following are some of the more distinct varieties:—

Var. fascicularis.—This differs from the ordinary *B. Aquifolium*, which is usually 2 feet to 4 feet high, in being of taller growth and in having narrower leaflets of a duller green. It is very free flowering, and is perhaps the best of all the forms of the species.

Var. murrayana is also handsome. It has dull green leaflets shorter and broader and more wavy at the margins than the preceding, also dwarfer in habit.

Var. rotundifolia (Hervei) has large, broad leaflets, and is one of the dwarfiest forms. Other varieties whose leaf characters are expressed in the name are *macrophylla*, *latifolia*, and *undulata nana*. It should, however, be said that in any large sowing of seeds young plants appear that differ from the type almost or quite as much as some of these named varieties.

B. BUXIFOLIA.

Of the true Barberries this is the first to flower in spring; it is generally in bloom by the beginning of April, and occasionally a few flowers are open in March. It is a South American species, and ranges from Chili southwards to the Magellan Straits. It was first raised in Messrs. Low's nursery at Clapton a little over seventy years ago. As the specific name implies, its leaves are deep green and Box-like, oblong, and rarely toothed. The flowers are solitary on stalks 1 inch long, and their profusion makes a bright display. They are of a pretty amber-yellow. There is a large mass of this Barberry near the Palm house at Kew, in which are plants 5 feet to 6 feet high. This is, perhaps, about as high as it grows. Like some other species, it is half evergreen, the retention of its leaves depending on the mildness or otherwise of the winter. Probably some of its forms are more deciduous than others. The dwarf one known as *var. nana* seems purely evergreen.

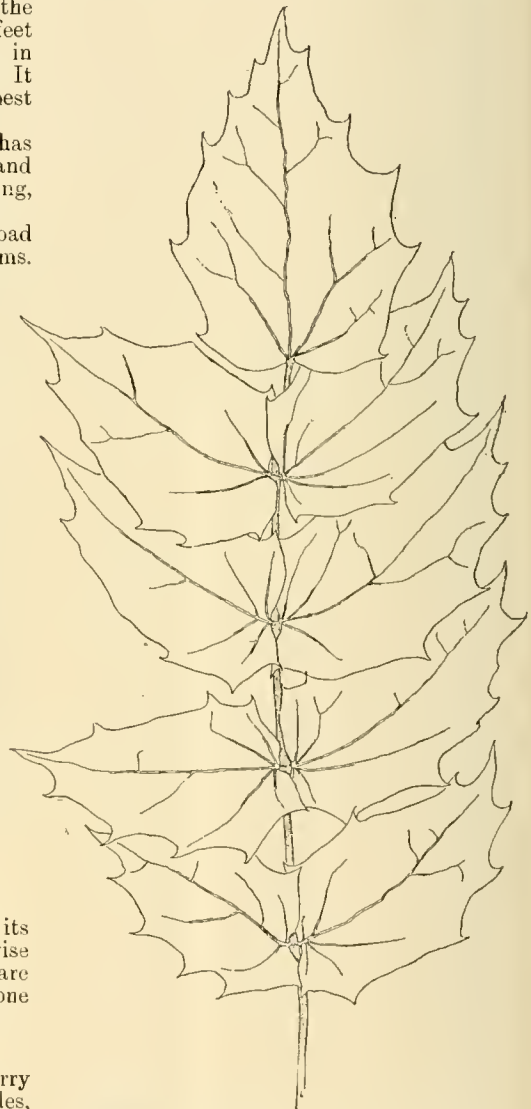
B. CONGESTIFLORA.

The only form of this remarkable Barberry in cultivation is that known as *var. lakeoides*, which was figured in the *Botanical Magazine*, t. 6770. It was introduced some forty years ago by Messrs. Veitch through their collector, Richard Pearce, and is a native of the mountains of Chili. It has been grown at the Coombe Wood nursery ever since its introduction, and has thus proved its perfect hardiness in the London district. It forms a bush some 6 feet or 7 feet high, and is quite distinct from any other Barberry. The leaves, 1 inch to 2 inches across, and of orbicular outline, are thick and leathery, and set with rigid teeth on the margin. Some of the leaves have no stalks, others have them $1\frac{1}{2}$ inches long. The foliage has very much the appearance of being cut in metal. In flower, however, it is exceedingly pretty, for it bears its blossoms in dense globose

clusters, and these clusters are very bounteously produced along the branches. The habit of the plant is loose and spreading, and the branches grow to a considerable length without forking. It is one of the rarest of Barberries in gardens, but is worth looking after by those who are interested in out-of-the-way plants.

B. DARWINII.

Of all the evergreen species of true Barberry in gardens, this is undoubtedly the most beautiful. Although not quite so hardy as one could wish in northern districts, I have never known it much injured by frost at Kew. It can bear low temperatures much better than full ex-



BERBERIS (MAHONIA) JAPONICA (REDUCED).
(The leaves are 12 inches to 18 inches long. See page 71.)

posure to keen north and east winds. It thrives to perfection in the south and west of England; still, in most gardens, sheltered places can be found to suit it admirably. It was first discovered in 1835 on the island of Chiloe (off Chili) by Charles Darwin, when on his famous voyage, as a naturalist, in the *Beagle*. But we owe its introduction to Messrs. Veitch, their collector, William Lobb, having sent it home from South Chili just over fifty years ago. It is beautiful, both as an evergreen shrub and as a flower-bearing one. The leaves are small but very abundant, and of a particularly dark and glossy green. When in bloom it is

unsurpassed by any of its class, except perhaps the hybrid *B. stenophylla*, raised from it. The flowers are borne in drooping racemes 1 inch to 2 inches long, and they are of a deep yellow tinged with orange. It is at its best in April and early May. The berries are round and deep purple, and the species can be easily increased by means of the seed they contain, also by cuttings.

Var. nana.—This, a dwarf, more spreading shrub than the type. I do not know its origin, but it has the appearance of being a seedling from *B. stenophylla*, which, raised from seed, often reverts to *B. Darwinii* or the other parent, *B. empetrifolia*.

B. EMPETRIFOLIA.

It is from being one of the parents of *B. stenophylla* that this species is chiefly known to British planters of trees and shrubs. It is itself a shrub of modest appearance, producing slender trailing branches. Possibly this habit is due to our soft, mild climate, for specimens gathered on the mountains of Chili show it to be much sturdier there than in gardens here. It is to this habit, modified by the stiffer one of *B. Darwinii*, however, that *B. stenophylla* owes its surpassing grace. Its leaves are narrow and made to appear still narrower by the margins being curled under. They are of a very dark green, and appear in tufts guarded by a triple spine. The flowers appear singly or in pairs at each tuft, and are golden-yellow. Quite distinct from all other Barberries, this little shrub is very well worth growing. Its dwarf, trailing habit adapts it more especially for the rock garden. It was originally discovered by Commerson, the noted South American traveller, but was first introduced by Messrs. Low of Clapton, through Anderson the collector.

B. FORTUNEA.

Although it is not one of the most ornamental or useful of the Mahonia group of Barberries, this is one of the most distinct. It is hardy at Kew and thrives there, although not so well as it does in milder districts. In Canon Ellacombe's garden at Bitton I have seen it very nicely in flower. It is easily distinguished from all other "Mahonias" by the shape of its leaflets. There are nearly always seven of these to a leaf, and they are of narrow, lanceolate form, varying from 2 inches to 4 inches in length, and from a quarter of an inch to three-quarters of an inch in width. They are dull green and armed with thin spiny teeth. The flowers are crowded on a narrow cylindrical spike 2 inches to 3 inches long, and commence to expand in October and November. Fortune first found this shrub in a nursery in Shanghai, and introduced it in 1846. In China it also flowers in autumn and grows 4 feet high.

B. FREMONTII.

Rather too tender to be of much value in the colder parts of the country, this species nevertheless deserves the notice of those whose gardens are situated in the south and southwest counties. In the milder parts of Surrey even I have seen it succeeding very well, but at Kew it has never established itself permanently in the open. It is a native of the South-West United States, often inhabiting the dry regions of Texas, Arizona, &c. In appearance it is one of the most distinct species in cultivation of the Mahonia group, the leaves being of a more glaucous hue than any other. The leaf consists of three, five, or seven small, spiny, Holly-like leaflets, and the flowers are borne in a loose panicle 2 inches to 3 inches long. Only small plants at present exist in this country, but in a wild state it is described as growing "3 feet to 15 feet high."

The fruit is remarkable in becoming dry and inflated when mature.

B. ILICIFOLIA.

First introduced to England from Terra del Fuego by Sir Joseph Hooker when he was attached to Sir James Ross's antarctic expedition, now nearly sixty years ago, this curious Barberry still remains one of the rarest species. It flowered at Kew as long ago as 1847. Said to be a straggling bush 8 feet high in its native country, it has seldom reached more than half that height in this. It has large Holly-like leaves armed with spiny teeth, obovate, leathery, and of a dark glossy green. The largest leaves are over 2 inches long. The flowers are produced in short, densely-flowered racemes, and are of a uniform orange-yellow. It is this arrangement that chiefly distinguishes it from *B. heterophylla*. *B. ilicifolia* occurs in Chili as well as Patagonia.

B. JAPONICA.

Introduced by Fortune fifty years ago from China, the identity of this species has ever since been an debatable matter. It was figured in the *Botanical Magazine* for 1855 twice—as *Berberis Bealei* and *Berberis Bealei platanifolia*; but Sir William Hooker pointed out at the time the probability of its being one of the many forms of *B. nepalensis*.

This it no doubt is from a strictly botanical point of view, but, horticulturally, the plant from China and Japan is distinct enough from the Nepalese one to justify the retention of both names. This is what has been done in the new edition of the Kew "List of Hardy Trees and Shrubs."

According to Fortune, it grows 10 feet high in China; near London I have seen it 6 feet or rather more high, and it is always very erect and sturdy in habit. The leaves are 1 foot to 1½ feet long, and have four to six pairs of leaflets measuring from 2 inches to 6 inches in length and about two-thirds as much in width. They are very spiny toothed, dark green and hard textured. The flowers are borne in a cluster of spikes at the end of the shoot, each spike 6 inches to 9 inches long. Seen at its best this is by far the most striking of the Mahonia group. The leaves are much larger than in any other species—a single leaflet has been known to measure 8 inches in length by 6 inches in breadth. It flowers early in the year, sometimes in February, and is hardy in fairly sheltered positions. It is a plant that requires great care in transplanting, and even then will often take a couple of years to



ROSE AGLAIA IN MR. GOODWIN'S GARDEN AT KIDDERMINSTER.

recover. Therefore a permanent position should be selected for it early.

Kew.

W. J. BEAN.

(To be continued.)

THE ROSE GARDEN.

NOTES ON RAMBLER ROSES.

DURING the last five or six years few Roses have received more attention than those known as "Ramblers," and, with the exception of *Crimson Rambler*, probably no other varieties have been so largely planted as the three hybrid multifloras, *Aglaia*, *Euphrosyne*, and *Thalia*. These are often described respectively as the yellow, pink, and white Ramblers, names which are perhaps somewhat misleading now that other improved varieties, such as *Electra*, *The Dawson*, *Psyche*, and *Dorothy Perkins* have made their appearance. I do not here intend to discuss the merits of the various varieties, except to add that after a four years' trial we have discarded both *Thalia* and *Euphrosyne* as not being quite worthy of a place in a garden where space is limited, and thus only room can be found for the best. The *Dawson* has proved itself immeasurably superior to *Euphrosyne* in every way, so also has *Psyche*, while *Dorothy Perkins*—really a *wichuriana*—

judging from the form in which it has been exhibited, seems likely to outstrip even these two varieties. As far as the multifloras go, we are really in want of a double white variety, with flowers as large, say, as those of *Psyche*. *Thalia* is only a slight improvement on *Polyantha simplex*, and although I should be the last to deny its prettiness, I prefer the old *Félicité Perpétue* for use on pillars and arches and as a companion to *Crimson Rambler*. One fault of the multifloras is their habit of making strong flowerless shoots before the time of flowering. These rise above the mass of bloom, and, to my mind, rather detract from the general effect. I remember pointing this out to Mr. H. E. Molyneux when he and I were admiring the wide-spreading bushes of *Rosa multiflora* at Kew during the latter end of June last year. The other drawback is that their foliage is shrivelled up by the first sharp frost, and is very unsightly until it falls. On the 7th ult., our exposed thermometer registered 18° (Fahrenheit) of frost, and, while the foliage of *Reine Olga de Wurtemberg*, *Longworth Rambler*, and others came through the ordeal without much harm, it quite spoiled the look of *Aglaiä*, *The Dawson*, and *Crimson Rambler*.

This is rather an important point for planters to remember, as if too much use is made of these multiflora varieties, arches and pergolas will present a rather ragged appearance during part of the year. Now that *Aglaiä* has got thoroughly established I am very pleased with it. The foliage alone is very beautiful and excellent for cutting to arrange with other Roses. The plant portrayed in the illustration is growing on a trellis pergola here in company with *Crimson Rambler*, *Mme. Berard*, and others, and was planted from a pot in 1898. The year following it did not attempt to flower, but grew very strongly. On December 12, 13, and 14, 1899, we registered from 28° to 33° of frost, and I found in the following spring that my plant of *Aglaiä* had had some of its wood *rather damaged*. However, it flowered fairly well in 1900, and since then has been a perfect mass of fragrant yellow blossoms each year, evoking a great deal of admiration.

The plant has made immense growth, and is so thorny that it would be just the variety to use if an impenetrable hedge were required. The cry now is for perpetual flowering Ramblers, and these, it seems to me, will only be obtained by introducing Tea blood. And if this be done, will not hardiness be sacrificed?

I am rather of the opinion—though many will no doubt differ from me—that a hard winter will cripple some of these newer Ramblers. The whole question of hardiness is one of extreme interest and importance to rosarians, and *THE GARDEN* will do a great service to planters in obtaining authentic information on the subject. The list of Roses recommended for trial in Sweden is a good one, but might be extended. *Crimson Rambler*, for instance,

might well be given a trial. I was looking through my old volumes of *THE GARDEN* quite recently in order to see if I could find any mention made as to the hardiness of *Rambler* Roses, and under the heading of "American Notes" (Vol. LV. page 299) came across the following remarks by Mr. W. H. Taplin of Philadelphia, U.S.A.: "Notwithstanding the fact that on two occasions during the past winter (1899) we had a temperature of 10° below zero, and the zero point was reached on several nights . . . rose-crimson Rambler has apparently survived the ordeal, and will doubtless give another fine display of bloom in the course of a couple of months." It would be a help if some of your American

petual Rose from amongst the class of summer-blooming climbing Roses. The clusters of bloom are exactly like those of *Thalia*, but the plant is not such a strong grower, though well adapted for pillars, arches, &c. During both summer and autumn it produces fresh shoots in great profusion, each bearing blossoms."

Kidderminster. ARTHUR R. GOODWIN.

ROSE ADMIRAL DEWEY.

WHAT a lovely new Hybrid Tea Rose this is, a sport from, and described as, a light blush *Caroline Testout*. With me here it comes a lovely creamy-white colour, very much after the style of *White Lady*, with the advantage of the strong growth of its parent. It has bloomed very freely throughout the summer and autumn, and as late as the 25th ult. I picked a really beautiful flower—one that would not have been despised even in July. It is a garden Rose of the first importance, and one that should be included in every collection.

Enfield.

C. P.

NOTES ON HARDY PLANTS.

THE BOLD MASSING OF HARDY FLOWERS.

A GLANCE at the illustration will show how a rough bank may be beautified with groups of hardy flowers. Those in the picture are chiefly German or Flag Irises, and so planted that hard lines are avoided by allowing the plants to spread over the path and break up a formal edge. The illustration explains itself.

IN THE ALPINE HOUSE AT KEW.

A FEW days ago, when the Gardens were hidden from view by a thick fog, we sought the little cold or alpine house in the "herbaceous" ground to enjoy the few spring flowers either open or expanding. One of the brightest of these was *Merendera caucasicum*. It is well known to alpine plant lovers as a charming little *Crocus*-like plant, which blooms in midwinter with the earliest *Snowdrops*, and continues to push up its pale pink-mauve flowers in all kinds of weather. It is worth growing in pots. The genus is closely related to *Colchicum* and *Bulbocodium*, but the flower segments are divided to the base, forming a cluster of slender filaments instead of a tube. Ten species are known, and they are natives of South Europe, North Africa, and the Orient. The flowers of all of them are either lilac or white, with bright green stamens. That here figured is probably the best for the garden. Although long known to collectors of choice bulbs, it is not found as often in gardens as its early-flowering habit and prettiness deserve.

Those who are interested in the *Muscari* should note *M. præcox* (illustrated). It is just the right kind of plant for the cold house.



BOLD MASSING OF IRISES AND OTHER FLOWERS BY PATH.

(From a photograph by Miss Willmott.)

correspondents could tell us about the behaviour of this Rose under still lower temperatures than this.

Mr. Peter Lambert of Trier, who of late years has raised so many good Roses, distributed in 1902 a new variety, which I have not yet had an opportunity of seeing, under the name of *Perpetual Thalia*. It is said to be the result of a cross between a seedling from *Thalia* and the well-known China Rose *Mme. Laurette Messimy*, and is described in Messrs. G. Paul and Son's catalogue as a fine novelty. The raiser's description is as follows: "At length we seem to have obtained a really per-

This Muscari was introduced to Kew in 1899 by M. Siehe of Mersina. Strictly speaking, it is not a Muscari but a Hyacinthus, and probably nothing more than a pigmy form of *H. azureus*, of which we know of several forms widely divergent from the type, the most striking, perhaps, being that named *H. azureus* var. *giganteus* by Mr. Baker, also one of M. Siehe's discoveries on Mount Muris, in Northern Cilicia, at an elevation of about 4,000 feet. The form is the other extreme in size to that here figured, the latter being 3 inches high, whilst the former is almost a foot. The typical *H. azureus* was first introduced into the Gardens in 1856, but it was not generally known until about fifteen years ago. It grows about 6 inches high, and has a conical raceme three-quarters of an inch wide of deep blue flowers. The plant here figured has a smaller raceme, and the colour of the flowers is light or Cambridge blue.

Of Saxifrages the beautiful *Saxifraga burseriana* major is almost too well known to describe. Its pure white flowers are very fresh and beautiful, and little tufts in pots are as enjoyable as anything one can well grow in the cold house.

The early Irises were in full beauty on January 17, and included

I. alata, *I. Histrio*, the beautiful light brownish *I. Haussknechtii*, *I. Tauri*, *I. reticulata sophonensis*, *I. histrioides*, and other plants in bloom were the *Merendera*, mentioned above, *Iberis gibraltaria*, *Cyclamen ibericum*, *Galanthus Elwesii robustus* and *Narcissus Bulbocodium* var. *monophylla*, with many things in bud.

We shall illustrate this house shortly and give dimensions. It is inexpensive, and through the spring one of the pleasantest spots in the Royal Gardens. Amateur gardeners can learn much from Kew, and those who care for their alpine flowers in winter, when to tramp about the garden is to court various ills, should add a structure of this kind to their plant houses.

IRIS TINGITANA.

THE illustration of the beautiful Tangiers Iris on page 41 of THE GARDEN is remarkable. To the account of it by Mr. S. W. Fitzherbert little remains to be said, and he rightly conjectures that the flowering of the species by the late Mr. Ewbank in his garden at Ryde was not an annual occurrence. I have had several conversations with the late Mr. Ewbank concerning his plants, and my general conviction was that whilst Ryde as a locality was generally suited to *Iris tingitana*, it yet lacked that amount of vigour more or less essential to a more successional flowering year after year. Doubtless the greater depth of soil in the instance before us may be responsible for much of the success, also the good dressing of manure and favoured climate. What would be doubly interesting now would be to know the behaviour of this self-same group of *Iris* in 1903. I put this



MUSCARI PRÆCOX.
(Flowers turquoise blue.)

point advisedly, as I believe that age and a fairly long period undisturbed in one spot has much to do with success, in conjunction always with that good depth of soil that permits of full development. In the garden at Ryde the plants were not sheltered by any wall, nor, if I rightly remember, was manure freely given. The late Mr. Ewbank's garden was essentially a sun garden; there was no shade and no shelter available naturally. Probably with a more liberal treatment a success far more permanent might have been recorded. Any definite information concerning this species should be of the greatest value, and there are many sunny and sheltered spots in gardens with high walls reflecting the heat that could be put to account in growing this fine *Iris*. The depth of soil can be managed. What is news to me is the apparent fact of this species being almost a gross-feeding plant, and, if this has not been given in the past, a valuable lesson in rare plant cultivation has been divulged by the publication of the illustration in question and by the valuable notes accompanying the same.

Hampton Hill. E. H. JENKINS.

FLOWERS OF IRIS RETICULATA.

AMONG all the notes which have appeared in your paper concerning *Iris reticulata*, I have not seen the durability of its blooms alluded to, and I should like to mention an experience of my own. On the morning of Boxing Day a blossom of *I. r.* var. *histrioides* was discovered to have opened outside in the night. Over this our gardener put a bell-glass, and it was only yesterday (January 20) that I noticed—in spite of the severe frost we have recently experienced—that this flower was showing signs of departing its rather long and much appreciated existence. The bulb came from Herr Max Leichtlin in the autumn along with various others, all of which are well above ground and promising to produce their flowers in the course of a few days should the weather remain open.

CLARA MYERS.
Dunningwell, Millom, via Carnforth.

ROUND ABOUT A GARDEN.

THE BULLFINCH PROBLEM.

THE glowing ruby of the bullfinch's breast, shining like a danger signal among the leafless branches of a fruit tree at this time of the year, raises the question of "birds in gardens" in its acutest shape. Except the kingfisher, we have no British bird so tropical in its hue as the bullfinch. It is a feature of the landscape, wherever it sits, and with plenty of confident bullfinches about your garden you have something, even in winter, which visitors will cordially admire. But there is another side of the question. Bullfinches eat buds, especially the buds of



MERENDERA CAUCASICA.

(In flower now in the cold house, Royal Gardens, Kew.)

fruit trees. One bullfinch in a day consumes, perhaps, a potential bushel of Pippins. If you have a dozen lovely, ruby-chested bullfinches in your small orchard every day during the winter and early spring, how many Apples will you get? And the bullfinch in a Gooseberry bush presents the same problem with another background.

THE "HOOP."

The bullfinch is bad enough on the East Coast, but in the South-West he is a plague. There gardeners speak of him as the "hoop"; and old church records show that churchwardens were authorised to pay rewards in money for the destruction of foxes, polecats, kites, and "hoops." In those days civilised man had not fought out his fight with Nature to a completely triumphant finish. He had not learned how, by legislative enactment, to compel all good birds to be common and all bad birds to be rare. We are now only tinkering at the job; and, meanwhile, a crimson-throated bullfinch in a garden remains



SAXIFRAGA BURSERIANA MAJOR.

a problem. If you like birds at all, you cannot help liking the bullfinch immensely; but he is such a shrewd thing among your buds that you cannot help setting a cage-trap for him. Then, as you might expect from a bird with such a bluff demeanour and so portly an expanse of red waistcoat, he confidently gets caught.

THE SALE OF GARDEN BIRDS.

What to do with a bullfinch, when caught, is the next question. There are few men, I fancy, who can wring the necks of bullfinches; and, as he is an engaging as well as a beautiful bird, and does not fight against captivity with the unreasoning fury of many wildlings, you can at first generally find a friend or a servant who would "like a bullfinch." If, however, you have a large area of garden to protect, in a bullfinch-infested neighbourhood, you soon come to the end of the small circle of persons who would like to have one of these birds. Yet in a London bird shop the average price of a bullfinch is, or was, five shillings; and it seems to me that, if a stall were opened in Covent Garden for the sale at "popular prices" of British birds trapped by gardeners in self defence, many a fruit grower might make more profit out of his bullfinches than the bushels of Apples which the birds, if they had not been caught, might have destroyed.

THE "CRUELTY" OF CAGING BIRDS.

Many people declaim against the "cruelty" of keeping British birds in cages, but I fancy that they must always be persons who in youth kept birds badly, and are now horrified by the recollection of the sufferings which they caused. A well cared-for cage-bird lives about six times as long as a wild bird. It becomes so fond of its owner and its surroundings that when the cage is thrown open it will not fly away. It suffers so little for want of a mate that if, pitying its solitude, you introduce a prospective mate, it thinks of nothing except banging her on the head at first for her impudence in daring to intrude into its private cage. One day I heard a skylark singing divinely in a cage in a butcher's shop. "Poor thing!" said a lady, "see how it quivers its wings! How it longs for liberty." "Longs for liberty, does it, ma'am?" said the butcher, and he opened the cage door wide. Out popped the lark and flew to a shelf, where it stood, with wings quivering, close to a tin box. The butcher, chuckling, took down the tin box and opening it picked out a mealworm, which he gave to the bird, who promptly flew off with it to his cage. Whenever custom was slack, the butcher explained, he was in the habit of feeding the lark with dainties, and when he was making up his accounts and too busy to attend to it, the bird would run all over the paper and peck at his pen.

SPARROWS AND CROCUSES.

But no one, alas! will give five shillings for a caged sparrow; and February is the month of the yellow Crocus, a flower which the sparrow annihilates in many gardens. The white Crocuses and the blue lie spares, but the yellow seem to suggest some greedy connexion of ideas, inasmuch that you may, from your bedroom window, see a sparrow go down a row of yellow Crocuses, nipping them off one after the other, but never seeming to get from them anything that was worth the trouble. Apart from this eccentricity the sparrow is not nearly such a nuisance in a garden as you might gather from articles in the newspapers. He is easily scared from seed-beds, and he has no taste for buds. You do not find him inside the Strawberry nets, and he leaves the fruit alone. All through the summer, indeed, he is busy

catching insects; and perhaps if we could strike a balance the credit on the garden account would be on the sparrow's side.

FLOWERS FOR NESTS.

The sparrow is worst at nest-building time. He often begins nesting operations absurdly early, when material is scarce. Then you may see him, calmly walking round the flower-beds and tugging at the seedlings to see which will "come up" easily, so that he can add them to the pile of rubbish with which he stuffs up the water-pipe and calls it a nest. I have seen a sparrow struggle up to the roof with a whole plant of *Nemophila*, bearing half-a-dozen blue blossoms, and then return to the flower-bed and tug at all the *Nemophila* plants in turn, to see if any of them were loose enough to "come up" in the same way. The starling, however, is worse than the sparrow in this respect. In some gardens it is quite impossible to keep any plant with woolly or silky leaves in spring, because the starlings pull them to pieces for nesting material. But when I come to the misdeeds of the starling in a garden I reach a new chapter.

E. K. R.

THE FRUIT GARDEN.

STRAWBERRY FORCING.

ASSUMING that the plants are thoroughly ripened and developed, the difficulties attending successful Strawberry forcing are very few, providing proper convenience is at command. Comparatively few gardens can boast of a Strawberry house, or any house that can be devoted to Strawberry culture alone. Where space is very limited I would advise deferring Strawberry forcing to a more favourable season, when the chances of failure will be considerably less. At this early date it is no easy matter to get a good percentage of plants to flower; but this difficulty may be lessened if a heated pit is available and the plants can be plunged in a bed of leaves of moderate warmth. In so doing, the roots are encouraged into action correspondingly with the leafage. To restrict leaf growth until the flower spikes are visible a little air should be admitted on top and bottom of the pit on all favourable occasions. It is the undue hastening of the plants into luxuriant growth that causes so many to become blind. As soon as the flower spikes can be seen the plants should be placed on a shelf as near the glass as possible in a house with a night temperature of 65° or 70°. This will encourage the flowers to throw up well above the foliage. Occasional waterings with liquid manure will help to strengthen the flowers at this period. When these are opening the house will, of course, be kept dry and airy to assist fertilisation. After this success will be practically certain.

E. HARRISS.

THE OLD ORCHARDS OF ENGLAND.

(Continued from page 63.)

If an orchard is to succeed the work from the beginning must be thorough. Look about and see if this is the case. Too often I am afraid it is not. Many people buy trees at what is presumably the cheapest, but eventually proves to be the dearest, market. They get specimens with weakly stems and stunted, ill-formed heads, and place them in the ground without a thought as to conditions and soil preparation. Depend upon it there could be no greater mistake, as results will show later on. A good tree is a cheap one, no matter if it costs half as much again as an inferior specimen, and if it is to be profitable it needs better treatment than a Blackthorn. I emphasise this because at the season of planting one sees the beginnings of orchard formation that can only end in disappointment, if not disaster. When

will people realise the error of planting standard trees in pasture and meadow land, and allowing the rank grass to grow up to the stems to choke and cripple the tree in its infancy? Will some contend that this is not a mistake? If so, I would ask them to visit some of the farms in Kent where orchards are formed on arable land, which is afterwards laid down to grass, and note how the trees establish themselves under these conditions. I am aware, of course, that it is not always convenient to plant orchard trees on arable land, but this does not prevent the grower from keeping the turf away from the stems of the trees for the first few years, until they are well established; the results will more than repay for the labour. Then there is the question of

VARIETIES AND THEIR PECULIARITIES.

Let the orchard planter remember that he is doing something for posterity, and act accordingly. I am aware that there are some districts in which almost any variety of Apple will grow; but there are few localities so favoured, and therefore careful selection is necessary. Some people, before planting, select their varieties by means of a book on the subject, the writer of which may be thoroughly practical, but perhaps his advice is founded on experience gained in a locality entirely different both as regards soil and general conditions. Others choose varieties from specimens of fruit on the shelves in the fruit room at the nursery where they buy the trees. Both methods are of a hit-and-miss character; they may turn out right or they may not, and a better course for the would-be planter to adopt is to note the varieties that do well in the district, and, if they are good ones, select these for the future orchard. I would say a word also with regard to habit of growth. Some Apples, such as Wellington, Blenheim Orange, and Bramley's Seedling, have a branching, spreading habit; others, such as Lord Derby, grow upright. To plant an orchard of spreading varieties entirely means overcrowding some day, whereas if these are planted in alternate rows with trees of upright habit the danger is avoided.

ESTABLISHING TREES.

My closing advice to anyone who may be planting standard trees with the view of establishing an orchard, is to think more of the tree at the beginning, and not to be over-anxious about fruit. Fruit will be sure to follow if the foundation is well laid by planting a good specimen in deeply-worked, well-drained soil. It may need a little manure at the time of planting or it may not, according to the fertility of the ground, but feed the tree afterwards. Even if it makes rather rank growth in its early stages, it will right itself in time; better have too much vigour than no growth at all. A standard tree needs no root pruning, but the branches must be looked after and be thinned and shortened so as to secure a symmetrical head of main shoots; these will be the limbs of the trees when it reaches maturity. Some standard tree will bear fruit at an early stage, but if they do so heavily the consequent strain has an effect on the production of wood, and there is no gain in the long run. It is during the first few years in the life of a standard that the pruner must use his knife in shortening. After that the pruning is nothing more than careful thinning of the branches, removing those that rub and cross each other, and keeping the shoots evenly dispersed so as to allow free penetration of light and air. This should be an annual operation, and it is only the neglect of it that results in the thickets of branches which are characteristic of many neglected orchards in this country to-day.

G. H. H.

GARDENS OF JAMAICA.

The skies are not always bright nor the trees green in our own favoured land. The snows of winter succeed the flowers of summer, and the landscape becomes black and bare, which a few months before was clothed with verdure and beauty.

But there are other lands where these changes are never seen, where the trees are always covered

with foliage, and even the flowers may be found at all seasons of the year. The arid heat may parch the grass and wither many of the green herbs, yet Nature is ever bright and fair, and the hills and valleys rejoice in the never-changing hue upon which the eye delights to rest.

Far away beyond the seas are some of those sunny regions. There are many of us who would gladly escape from the piercing winds and benumbing cold of our own winter, and for a time at least find a refuge in those bright and beautiful climes. But content we must be with all the blessings which we have at home; if we must have the frost and the cold we have at least the enjoyment of our own fireside. But if we cannot have our ramble in reality, we may at least have it in imagination. We may follow the traveller as he explores those distant lands, and, aided by his descriptions, seek with him to enjoy the beauties and the wonders of Nature.

Let our ramble be in the "green glades" of the "sunny West," where are grouped together these beautiful islands, many of which are among the colonies of our own Great Britain. The large steamers which now traverse the Atlantic will bear us away to the West Indies, among the Coconut avenues and Orange groves, where the fire-flies dance and the humming birds drink in the dew from the flowers as the bee sucks the honey in its wayward flight.

The wide ocean is passed. Borne on the surging billows we at last find ourselves among the West India Islands. As we approach Jamaica, the "Isle of Springs," we notice the Blue Mountain Peak towering aloft 8,000 feet above the level of the sea. Anon the port is reached and our ship casts her anchor in the smooth waters of the desired haven. We have done now with the briny sea and with the star-clad heavens. We care not for towns and villages, for the haunts of men and the abodes of the great. To the forests we will go, in the pleasant shade of the overhanging woods, and by the murmuring streams that leap down the mountain side. It is for these that we thirst, and among these that we long to wend our way; the pen shall bear away its trophies as a witness to the dear friends we have left in old England of our love and of our labours. This is the land of Coffee and Sugar.

THE COFFEE

grows at the loftiest elevations; the higher you ascend the finer are the plants and the better the fruit. But it is in the low flat countries that the Sugar-cane flourishes, and there you will see the fields waving to and fro with their feathered tops, and hear the sound of the mill at the time of the ingathering.

We are now making our way up the Port Royal Mountains. We have reached those steep and winding ascents where no vehicle can pass, and where we need the sure-footed mule to carry us in safety along the dizzy heights, so perpendicular and precipitous are they that we wonder how the feet of man could have scaled these sides, or the hand of man raised plants in such inaccessible places, for it is on the mountain sides that the Coffee plantations are raised. In other parts of the island where Coffee is cultivated the ground is not so steep, but here the fine quality of the Coffee must be the chief compensation to those who plant and gather in under such difficulties; but it is only in the mountain districts that the Coffee flourishes, and there at the time of blossom the sight is beautiful beyond description. The trees, which are all planted at regular intervals, have their dark green leaves mingled with the snow-white flowers. A strong and almost overpowering perfume is swept along by the soothing breeze, and the winding valleys and rugged hills seek in vain to hide from our view their precious stores. And when the advancing season turns the blossoms into the crimson fruit and the branches hang down with their rich burden, it seems to please the eye as much as the time of blossom.

It is very interesting to observe the process by which the Coffee is prepared for use. The purple berries are conveyed to the works, and by horse or water-power the pulp is removed in the pulping-

machine. After being carefully washed it is spread on terraces called Barbicues for the purpose of being dried. This being done the dried berries are placed in a mill, by means of which a fine thin skin with which they are covered is crushed. The next process is that of fanning; this serves to separate the berries from the skin or any other matter. When carefully picked and sorted the Coffee is ready to be used in the country or to be packed in casks for exportation.

But there are much higher points above. We should have to ascend to an elevation of nearly 5,000 feet more above the level of the sea in order to reach the Blue Mountain Peak. The scenery about these passes is truly grand and sublime. It is up hill and down dale for many a long mile. Here and there we have to pass roaring streams or gushing rivulets. Then the ascent becomes more trying and difficult till we reach the Abbey Green, one of the last settlements that is to be found below the Peak.

(To be continued.)

DRACÆNA VICTORIA.

This is a very fine *Dracæna* introduced from Brazil by the late Mr. William Bull of Chelsea, and first distributed in the spring of 1899. Previous to that, viz., in the autumn of 1898, it was awarded a first-class certificate by the Royal Horticultural Society. It is in the way of the now well-known *Dracæna Lindenii*, but instead of the leaves becoming greener with age, as that does, they retain their richness of colouring or become of even a deeper hue. The leaves are broad, firm in texture, and gracefully recurved, while the margins are wavy. The major portion is golden, with a central band of bright green, while narrower stripes of an intermediate tint also occur.

During a recent visit to the nursery at Chelsea some well-coloured plants of this *Dracæna* formed a particularly bright feature in the half light of a dull winter's day.



DRACÆNA VICTORIA. (Introduced by the late Mr. William Bull from Brazil.)

Botanically, it is a variety of *Dracaena fragrans*, but horticulturally is quite distinct, and is in every way a highly ornamental decorative plant.

It, of course, requires stove treatment, but its firm, massive foliage enables it to resist exposure to draughts better than many others. It may be pointed out that the true *Dracaenas*, to which this belongs, are few in number, for the innumerable hybrid forms with leaves more or less red or bronzy to which the name of *Dracaena* is in gardens always applied are really all varieties of *Cordyline terminalis*, which occurs plentifully throughout the South Sea Islands, and is also largely cultivated in the tropics as well as in a small state in this country.

ORCHIDS.

ODONTOGLOSSUM × WALTONIENSE.

THIS beautiful new hybrid Orchid was exhibited by W. Thompson, Esq., Walton Grange, Stone, Staffs (gardener, Mr. W. Stevens), at a meeting of the Royal Horticultural Society, held on January 13; it was then given a first-class certificate by the Orchid committee. It is a flower of charming form, and rich lemon-yellow colour. The sepals have slightly recurving edges; the petals are prettily crinkled. Upon the broad, long labellum, which is of a paler colour than the sepals and petals, is a large patch of chocolate-brown.

O. crispum and *O. polyxanthum* are the parents of this hybrid, which is undoubtedly one of the most remarkable *Odontoglossums* yet raised.

SLUGS! SNAILS! AND WOODLICE!

WILL not some sympathetic reader tell of an effective antidote or a means of getting rid of these pests? By so doing he will earn the undying gratitude of hundreds of enthusiasts. We watch and tend our plants the year round: when, joy, that little pet *Odonto*, which has been so carefully watched, has at last a spike showing! With what interest have we noted the various gradations of that plant since the time when its bulbs were little larger than a Pea. Each year they have increased in size, and now the reward is *apparently* in sight. Alas! it is only apparently, for one night a silent foe, unseen, comes and feeds on the succulent tender spike, regarding it as an excellent tit-bit. It is not often that the visitor, which in its path leaves a glistening slime, is of large dimensions. If these appear they are soon detected, but it is the small unseen sluggish mite who more than equals its larger ally in comparative voracity.

"Unseen, unheard, it sets to work
Upon our 'crispum' spike;
The cotton-wool it does not shirk,
But eats away all night.
Next morn our embryonic flower
A sorry sight appears;
Gradually the tip drops lower,
The sap exudes in tears."

Lettuce leaves, bran, and the other standard methods of catching all you see are not thoroughly effective. Is there no other remedy than *persevering search*, too much zeal in which often results in scorched leaves and disfigured patches on the foliage, owing to drip from the oil lantern?

I was once told that fumigation was certain death to woodlice, but after two successive nights of this killing treatment I found them still contentedly feeding on the *Dendrobium* roots. It is very interesting to see the young roots pushing from the base of the new growths in search of food, but with woodlice on a similar mission the case is different.

If some reader can tell of a better method than prowling about half the night, he will be a benefactor to hundreds of others, besides

AN ANXIOUS AMATEUR, in *The Orchid Review*.

CORRESPONDENCE.

(The Editor is not responsible for the opinions expressed by correspondents.)

USES OF CLIMBERS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—If your correspondent "Dundee Rambler" would try planting his climbers in very slightly constructed wooden boxes sunk in the ground immediately at foot of the trees destined to serve as supports, I think he would succeed in getting the plants to make a very fair show in about two years. By the time the wooden box crumbles the roots of the climber are strong enough to take care of themselves. I have found the system to succeed in an old orchard consisting chiefly of Pear, Cherry, and Plum trees, where *Bignonia capreolata*, two kinds of *Smilax*, several kinds of *Clematis*, *Jasmine*, also *Banksia*, *Crimson Rambler*, *Carmine Pillar*, one or two *Boursault*, and a variety of *Noisette* Roses are all doing well against these old fruit trees, with the exception of the *Bignonia capreolata*, which is climbing a young and vigorous purple Maple, and nevertheless shows excellent growth.

France.

IDEALGESINSTER.

POINSETTIAS AND EUPHORBIA JACQUINLEFLORA.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I have a few plants of the above. The bracts of the *Poinsettias* are about over, and the *Euphorbia* has likewise finished flowering. Would any propagator of these plants tell me how to treat them from now so as to get cuttings from them, and also how to strike them, as I understand they are not easy of propagation? The *Poinsettias* are single-stemmed plants.

A. E.

[Both the *Poinsettia* and *Euphorbia* are propagated from cuttings of the young shoots, but the treatment differs in some respects. The *Euphorbias* that have done flowering, though somewhat shabby, should have a good place in the stove assigned them, and be kept sufficiently moist to encourage the formation of new shoots, but an excess of moisture must be guarded against. Early in February, or at least during that month, the first batch of cuttings will be sufficiently advanced to be separated from the plant. When the young shoots are about 3 inches long they should be cut off close to the old stem and inserted in pots of light sandy soil, such as a mixture of loam, peat, and sand in equal parts. The cuttings may be put singly in small pots, or about half-a-dozen around the edge of a 4-inch pot. By this latter method they do not take up so much room in the propagating

case, and they can be potted off without any injury to the roots if carefully done. The cuttings must not be put in too deeply, otherwise they are liable to decay, or an excess of moisture will have the same effect. They should be inserted as soon as possible after being separated from the parent plant, otherwise they quickly flag. If placed in a close propagating case or under a bell-glass in a stove temperature they will not need any water for a few days. Under such treatment they will soon root, when they may be gradually hardened off. The old plants will give several crops of cuttings, and the early struck ones may after a time have their tops taken off for the same purpose. If possible, the propagating case in which these *Euphorbias* are struck should be given entirely up to them, as they will often need more air than is suitable for many other subjects, for, as above stated, too much water is likely to prove fatal, and surface moisture may be kept down by tilting the lights. The late-struck cuttings make the most effective plants when put three in a pot, as they will not need so much stopping in order to produce well-branched specimens. *Poinsettias* may now be placed under the stage in the coolest part of the stove or intermediate house and kept dry, just giving them an occasional watering to prevent them becoming parched up altogether. Generally they may be allowed to remain there till the end of March or even later, when they may be put up on the stage in a warm house and more water given. The result of this treatment is shown in the plants starting freely into growth, and when the young shoots are about 4 inches long they may be taken off as cuttings. These should be put singly into small pots, using the same soil as recommended for the *Euphorbia*. The cuttings must be taken off close to the old wood. They should then be placed in a close propagating case in the stove, where they will quickly root. *Poinsettia* cuttings are not so liable to damp off as those of the *Euphorbia*.—Ed.]

MELONS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—What your correspondent "A. D." says about new Melons not being better in flavour than



FLOWER OF ODONTOGLOSSUM WALTONIENSE (NATURAL SIZE).
(Given a first-class certificate, Royal Horticultural Society, January 13, 1903.)

old ones no one is likely to dispute, but as the raising of new varieties is so easily accomplished and their value can be readily proved, a continual stream of them will in consequence be forthcoming. These facts account for comparatively few varieties remaining popular for any length of time. Those who remember Turner's Scarlet Gem, which was largely grown upwards of thirty years ago, will agree with the opinion that Melons in recent years have not improved in flavour. This variety was deservedly followed by Read's Scarlet Flesh and Blenheim Orange. This last has for a long time been known as one of the most reliable varieties, approaching as it does under proper treatment your correspondent's ideal Melon, viz., one that "produces fruits of high flavour under all conditions." Weather, of course, has effect upon the flavour of Melons, though management has far greater. Owing to the improved houses we have much better facilities for producing highly flavoured fruits than our predecessors had, and there is no reasonable excuse for the presence of the many badly flavoured fruits that are commonly to be met with at summer shows.

The custom once often followed of unduly drying the soil when the fruit was nearing maturity is now wisely almost or entirely discontinued, for doubtless this has been the cause of many crops of fruit being flavourless. There is usually, however, no great difficulty in growing good-flavoured Melons, provided the best sorts are selected, though it must be confessed there is no absolute certainty, as "A. D." remarks, about it until a fruit is cut and tasted. It is easy to bring about failure by neglecting simple details.

T. COOMBER.



CUSTARD MARROW IMPROVED WHITE AND PRINCE ALBERT (TOP VARIETY).
(The photograph was taken in The Gardens, Aldenham House, Elstree, last summer.)

THE KITCHEN GARDEN.

THE BEST VEGETABLE MARROWS.

MOORE'S CREAM (white).—A very prolific trailing variety, medium-sized, good flavour, splendid for exhibition, and good for any purpose. It does remarkably well in large pots grown under glass in an intermediate temperature.

Pen-y-byd.—A white trailing variety, very free fruiting, nearly round in shape, quality of the best; good for frame or culture in the open.

Custard, Improved White.—This is extremely ornamental when growing, shows and sets its fruits freely, and when cooked quite young is very delicious. It bears very freely under glass, also in the open.

White Bush variety.—Produces long, shapely fruits, suitable for a limited space in the open.

Green Bush variety.—This differs from the above in colour only.

Prince Albert.—A true stock of this is the best trailing green long sort I am acquainted with; a fine exhibition and market Marrow.

Sutton's Perfection.—A new introduction of much merit, greatly resembling Pen-y-byd except in colour. It sets its fruits very freely, and is a splendid variety for forcing; good for any purpose.

E. BECKETT.

MUSHROOM GROWING IN GARDEN, FIELD, AND COTTAGE PLOT.

(Continued from page 64.)

THE ARTIFICIAL CULTIVATION OF THE MUSHROOM IN PASTURES.

THE only way that suggests itself to us in which this can be successfully carried out is

by digging holes in pastures which are well drained and the soil of not too heavy a texture, and inserting in these holes, which should be 12 inches deep and the same in width, as much manure (prepared in the same way as advised for beds) as will fill the hole to within 3 inches of the surface, leaving room to cover it over after the manure and spawn are inserted, with the turf 3 inches thick. The manure should be rammed into the hole as firmly as possible, and the spawn, a piece about 4 inches square, inserted at the same time, as there is no danger of this small quantity of manure overheating. Finish the work by placing the turf over the hole and treading the same with the feet as hard as possible. Should hot weather soon follow after this work is completed it is most likely the turf would be killed, and as it is not desirable that water should reach the spawn or the manure at this stage, cover each turf over with half a spadeful of mould. This will keep it moist and fresh until it has had time to strike fresh roots and begin to grow again, which it soon will do when it feels the influence of the manure. As regards the season of the year in which spawn should be inserted, any time during the month of May will answer well. Before this time the earth is too cold, and would have an injurious effect on the spawn; should the season be a late and cold one defer the work until the last week in May. Should the summer prove dry and hot give a good soaking of water towards the end of July, and with this and warm showers afterwards abundance of Mushrooms should result towards the end of August, through September, and well into October, and in due season for years afterwards.

HOW A COTTAGER CAN GROW HIS OWN MUSHROOMS.

The artizan or labourer can grow his own Mushrooms. That it is possible for the ordinary working man to become proficient in the work one may instance by quoting the experience of a man well known by repute to the present writer. He was a carpenter by

trade, always having a fondness for gardening. His health failed, and he was advised to follow an out-door occupation, and his fancy turned towards growing Mushrooms for market. He started in a small way by growing them on the same principle as that adopted by market gardeners. At first he attained to moderate but encouraging success, and went on little by little, until after a few years he became one of the largest and best known growers in the neighbourhood of London, supplying Covent Garden with many tons of Mushrooms in the course of the year, as well as having established a large and lucrative business as a spawn manufacturer. This illustration is given as showing that no special training is required to qualify for the work, though not with the idea that all carpenters should forsake the bench and become Mushroom growers. The workman who may decide to try his luck in this way should well study the details given as to the treatment and preparation of the manure, as on this operation more than any other depends the success or otherwise of his labour. He will find the out of door system in ridged beds one of the best ways in which he can start, and this he can practice in his small garden, and, failing this, in his back yard. Another excellent position to make up a bed is in a cellar or any underground unoccupied room, the conditions in a subterranean position of this sort suit the requirements of the Mushroom admirably. It is in the catacombs of Paris where most of that city's Mushrooms are grown. Failing any of these conveniences, a good way is to place manure in any odd boxes there may be to spare, placing them in corners of rooms in the house, the cellar or the attic, or any other intervening space which can be spared. The boxes should be 1 foot deep, and, after being filled with manure, placed in position, covered over with dry hay, finally nailing an old newspaper down over the box. If the time is spring or summer the boxes will need watering with warm water at the end of a month, and the covering relaid. On

examination again in about a fortnight's time the Mushrooms should be making their appearance and continue regularly for six or seven weeks or more. During the winter season in this rather damp position very little water will be required, and none should be given unless the surface of the soil should appear parched and dry. It must not be supposed that there is any offensive smell from these boxes; they are perfectly sweet and without odour. The boxes may be spawned and soiled over immediately they are filled, as with a small amount of manure like this there is no danger of overheating if the manure has been properly prepared.

(To be continued.)

GARDENING OF THE WEEK.

FRUIT GARDEN.

ABOUT VINES.

AMID-SEASON house containing several varieties may now be started, and pot Vines which were cut down for growing into fruiting canes may be brought forward by being placed on fermenting material. Give water sparingly, shake out and pot when they have made growths 2 inches in length, and plunge in a bottom heat of 70°. Put in the remainder of the "eyes," using small pots firmly filled with sandy loam, and have a hot-bed in a close pit ready for them by the first week in February. Fruiting pot Vines may be kept at a temperature of 60° to 65° by night and 10° higher through the day; give air at 70°. Having selected the bunches for the crop, stop the shoots at the third leaf beyond the bunch, and allow the first set of laterals to extend until every part of the trellis is covered but not crowded with foliage. Feed well with tepid liquid manure, and cover the roots with fresh surface dressing as often as the soil is washed away from them. Guard against sudden checks by the admission of cold air or by allowing the bottom heat to fall below 70° without adding fresh leaves. If the pots are standing on pedestals the whole mass may be turned to the bottom of the pit without disturbing the roots.

LATE PEACHES.

In the management of late Peaches all pruning should be performed as soon as the fruit is gathered, when the application of fire-heat for a few weeks will cause the blossom buds to develop and ripen the wood to the tips. Vigorous shoots on young trees may be tied in full length; but should there exist a doubt as to their ripeness the strongest shoots may be cut back to a triple bud, which always contains a shoot-producing bud in the centre, but the roots must be well supplied with water from the tanks, as the buds are now swelling and a short supply of water will prove fatal to the crop by causing the buds to drop prematurely. Give abundance of air by night and day, and to counteract the influence of mild weather remove all portable lights when the external temperature is above 40°. In cold, damp localities where the open-air Peach crop is uncertain large span-roofed houses of the most simple and inexpensive character, if judiciously planted with the best late sorts, will soon prove remunerative, as the demand for late Peaches is considerably on the increase, and, like late Grapes, pay better than those early forced. For this house such varieties are suitable as Barrington, Walburton Late Admirable, Gregory's Late, Prince of Wales, Sea Eagle (a fine free-bearing variety, which keeps a long time after it is gathered), the Nectarine Peach, and a few of the high-coloured mid-season sorts, including Bellegarde, Royal George, and Dymond. Nectarines being less valuable, a good yellow like Pitmaston or Pine Apple, Stanwick Elruge, and Albert Victor might suffice.

Madresfield Court.

WILLIAM CRUMP.

INDOOR GARDEN.

TREE CARNATIONS.

THE beginning of February is probably the best time for propagating these Carnations, therefore prepare a sufficient number of 3-inch pots, which drain thoroughly, and fill with light sandy soil pressed moderately firm and surfaced with silver sand. Water through a fine rose to render the soil and sand firm, take the strongest of the side shoots, those from 2 inches to 3 inches long make the best cuttings, strip off two or three leaves from the base and make a clean cut immediately under a joint; when so made insert eight or ten cuttings around the inside rim of a pot, water sufficiently to settle the sand, and plunge the pots in a small case where a bottom heat of 60° to 65° can be maintained. Admit just a little air into the case to dispel any excess of moisture, and wipe the inside of the glass once or twice a day to remove the moisture condensed there, and shade very lightly when necessary.

LILIUM AURATUM.

Recently imported bulbs should be cleaned preparatory to potting by removing any decayed or mouldy scales. For a compost I prefer equal parts of loam and peat with a little coarse charcoal, the whole made moderately open by adding coarse silver sand. Select pots of 6 inches or 8 inches diameter to suit the bulbs; these should be half filled with the soil made moderately firm, on which place the bulbs, and fill in around them until the bulbs are firmly secured, leaving one-third of the bulb above the soil, place the pots in a moderately dry atmosphere in a temperature of 50°; if plunged to the rim in clean leaves and a little fibre thrown over the bulbs they will not require water until the young roots appear. Young plants of

CYCLAMEN PERSICUM

raised from seed sown as soon as ripe, if not already pricked off, either singly into 2½-inch pots or into seed pans 2 inches apart, should now be attended to. Any light sandy soil with an addition of finely broken crocks suits them well. Place the young plants near the glass in a moist house and in a temperature of 60°.

Wendover.

JOHN JAQUES.

FLOWER GARDEN.

PRUNING SHRUBS.

THE proper management of the shrubbery requires quite as much skill and attention as the pruning of any other trees or plants. The object of pruning shrubs is generally to modify their form or reduce growth. Now is a good time to perform this operation before the rush of other work comes on. Neglected shrubberies are an eyesore, and nothing but grubbing up and replanting will be satisfactory. To avoid this, all dead, sickly, and misplaced branches should be removed. Shorten back to within a few inches of the roots any poor growths. In the case of many flowering shrubs other considerations must be kept in view, such as the natural habit and mode of flowering. Rhododendron branches should be thinned out when too crowded, but the terminal shoots should never be shortened, as it is at the points that the flowers are produced. The Weigela flowers upon the wood of the previous year. The trumpet Honeysuckle may be spurred to one or two eyes of the previous year's wood. If this plant is allowed to run wild, the wood soon becomes weakly and the flowers small in proportion.

ERANTHIS HYEMALIS.

Those who love the little Winter Aconite will now see it in its full beauty wherever it is grown in sheltered places. This little harbinger of spring competes with the Snowdrop for earliness. It is remarkably showy, producing its bright yellow flowers profusely, often in spite of frost and snow. It is one of those plants which, like the Crocus and Snowdrop, can be planted close to the edges of beds and left through the summer, in which way it thrives much better than when removed every year. By far its best use is for naturalisation in shady spots under trees and shrubs. Here it will

grow and flourish where not a vestige of anything else can be seen, and thus we may enjoy it without providing positions suited for rarer and more fastidious things or taking any trouble whatever about it. The end of May, or beginning of June is a good time to divide or replant, and if given some light sandy soil to start in it will soon establish itself and help to brighten up spots which have hitherto been uninteresting in the early year. I have often transplanted the Aconite when in full bloom, and if lifted carefully in clumps with the trowel or spade and planted firmly in nice light soil it will make a display at once and give no further trouble.

DAHLIAS.

These should now be examined, and if fresh and plump may be covered over again for a month, but if decay has set in the suspicious-looking tuber at least should be put into peat to promote growth, but when all goes well the 1st of March is early enough to place them in heat, except in the case of those which are to be increased as much as possible. These should be started early in February.

SWEET PEAS.

Where it is desirable to have these in flower early make a sowing now on a warm dry border. If sparrows and mice abound, the seed before planting should be coated with red lead or smeared with paraffin, neither of which will injure the seed, but will keep away depredators. Should the soil be wet and cold the seed should be sown in pots under glass or in strips of turf. Over-watering must be carefully avoided when the seed is germinating or the seedlings will go off wholesale. A cold frame is the best place in which to grow them until the weather will permit of planting out. They can then be protected by placing branches of Fir or Laurel by the sides of the rows.

T. B. FIELD.

Ashwellthorpe Hall Gardens, Norwich.

KITCHEN GARDEN.

TOMATOES.

ASSUMING that seed was sown in December or early in the present month for producing plants for fruiting under glass early in May, these should by now be making progress. It is a good practice to sow two or three seeds in the centre of small pots, and when an inch or so high thin out, leaving one strong seedling in each. Avoid giving the young Tomato plants the slightest check, and, on the other hand, do not force them unduly at this season. As the pots become filled with roots, transfer the plants into 3-inch or 4½-inch pots, and keep them near the roof-glass in a warm house or heated pit with a temperature of from 55° to 60°. Pot on or plant out in restricted borders as they gain strength, which they will do as the days lengthen. Another sowing should now be made for the main crop under glass. Earliest of All and Winter Beauty are excellent for early crops, whilst Ham Green, Frogmore Prolific, and a good type of Perfection are favourites for succession.

CARROTS.

Early Carrots are always in demand, and a portion of a pit or a frame should now be prepared for sowing the seed. Excellent Carrots for ordinary use in the kitchen can be grown in frames placed on a bed of stable litter and new tree leaves, but if roots are required for exhibiting then a deep pit with a hot-water pipe running round is best. For ordinary use make up the hot-bed and place the frame thereon, throwing in about 10 inches of good garden soil, and allow the whole to become settled for a few days before sowing the seed. Tread fairly firm and sow in drills 6 inches apart. When the young plants are 2 inches or 3 inches high thin out slightly at first, afterwards drawing others when fit to be used.

CUCUMBERS.

Sow seeds singly in 2½-inch pots and plunge in the propagating bed. Use light rich soil, and do not press this, but gently push in each seed half an inch below, giving the pot a smart tap on the potting bench to cover the seed with soil. Seeds sown now will make good plants for the



NATURAL GROUPING OF SHRUBS ON ROCKY GROUND.
(From "Trees and Shrubs for English Gardens.")

early crop of Cucumbers in heated pits or houses. As the young plants require repotting, this should be done in the structure in which they are growing, and the soil and pots must be quite warm.

BROAD BEANS AND PEAS

may now be sown on warm borders, and these will succeed those already sown in pots or boxes. Continue to make up succession Mushroom beds as required; none but the longest litter should be shaken out. We obtain much better produce and plenty of it by not removing too much of the rough material. Beds formed of manure alone are apt soon to become cold and wet. Make new plantations of Horse-radish where necessary, adopting the system of planting sets (as with Seakale). I prefer to have the sets 8 inches in length, whilst for Seakale 4 inches would suffice. The order for the required number of Pea and Bean sticks should be placed. These should be pointed ready for use when the men are unable to get upon the ground through hard frosts or much rain.

Stonleigh Abbey Gardens. H. T. MARTIN.

CHRYSANTHEMUMS.

PROPAGATION OF ALL SECTIONS.

This should be completed as soon as possible, though any late-flowering kinds and any which adapt themselves for midwinter blooming, and are generally termed decorative, may be rooted and will prove useful at a much later date. February struck plants, however, will prove far more satisfactory. There is not the slightest doubt as to these annually becoming more popular, for

beautiful as the large massive blooms are in November, they cannot compare for usefulness with those specially treated for midwinter flowering. Fortunately these do not require any great skill to produce them at their best. Looking at it from a financial point of view they are probably produced at less cost at that season than any other class of plants, and are as easily cultivated by the amateur as the professional gardener. For all kinds of cut flowers they are simply invaluable, and are equally indispensable for the conservatory or for arranging about the house as pot plants. The charm of these, especially when well grown with good healthy foliage, is to bloom them in as small pots as possible. Excellent results can be obtained in those 7 inches in diameter. We seldom grow ours in a larger size. We have for some years made these a special feature, and I have often advocated their value, and from the large amount of correspondence I have received respecting them I feel sure many others appreciate their worth.

THREE GRAND NEW VARIETIES

were brought before the Royal Horticultural Society's floral committee on the 13th inst., and each justly received an award of merit. All were beautifully fresh and distinct. Perhaps the best was a very fine sport from Niveum. The

flower is pure white, the florets being forked and fimbriated, the growth also quite distinct from its parent; a very pleasing variety. Harry Whately is a brick-red-coloured sport from the well-known Framfield Pink; good. Ruby Martin is light brown, of good size, and very free. All these are worthy of cultivation, and will prove acquisitions. Many of the single varieties when required to flower late are among the most beautiful, and few things can surpass them for table decoration when artistically arranged with suitable foliage. Good healthy cuttings of

EARLY-FLOWERING VARIETIES

cultivated in pots, such as Mme. Desgrange, its sports Mrs. Hawkins and G. Wermig, Source d'Or and its sport Lizzie Adcock should now be selected. The last two named are among the best for general purposes, each being very free, the colours pleasing, and their long, stiff flower-stalks render them most suitable either for arranging in large or small vases. They should be rooted singly in 2½-inch pots, and grown on freely till the time of flowering.

POMPON AND POMPON ANEMONES.

The true value of these can only be estimated when a good selection is made and care taken to procure them at their best. In my opinion insufficient encouragement is given to these at our Chrysanthemum exhibitions. If substantial prizes were offered for them either as groups in pots untrained or in long sprays shown in large vases it would do much to relieve the monotony

(now so sadly needed) instead of offering such miserable prizes for a few blooms shown on boards. These should also be rooted without delay singly in small pots.

Examine carefully the stock of those inserted last month and make good any failures or that do not appear to be growing freely. Freshly put in healthy cuttings are preferable to these, as they will invariably make the best plants. Immediately a sufficient stock is ensured the old stools should be destroyed, the pots and drainage well washed and placed away for future use.

SPECIMEN PLANTS.

Those intended to make large specimen plants will require careful and constant attention, as the earlier the growth the better will be the after results. These should be potted on as required, and the points of the growths pinched out when a sufficient length of clear stem is assured. To induce them to break freely the most suitable place is a shelf in a greenhouse quite close to the glass. Watch minutely for any traces of rust, mildew, or aphid on all cuttings and young plants, and take means to destroy either as soon as noticed.

E. BECKETT.

Aldenham House Gardens, Elstree, Herts.

SOCIETIES.

CROYDON AND DISTRICT HORTICULTURAL SOC. ETC.

ANNUAL DINNER.

THE third annual dinner and smoking concert of this flourishing society was held on the 14th inst., when some sixty members and friends sat down. Mr. J. J. Reid made a capital chairman. Mr. W. J. Simpson thanked Dr. Ridley for the two papers he had delivered to them during the year. Last year they had lost their worthy and energetic secretary, Mr. Gregory. He was sure, however, that they had gained in Mr. Boshier a secretary as worthy as any man they would find among their members. Mr. P. F. Bunyard proposed "The Chairman." During an interval in the programme the chairman said he had a very pleasant duty to perform, viz., to present Mr. Briscoe with the valuable work "Book of Gardening," for his essay on "Propagating." Mr. Briscoe's paper was one which any member of the society might be proud of. The following is a programme of meetings arranged for this year: February 3, "Garden Root Crops" (excluding the Potato), by Mr. T. Bunyard; February 17, "Peaches," by Mr. Alderman, The Gardens, Morden Hall; March 3, "Mushrooms," by Mr. W. Green, nurseryman, Sidcup; March 17, "Cucumbers," by Mr. A. C. Roffey, Church Road, Croydon; April 7, discussions; April 22 (Wednesday), exhibition of spring flowers, &c., at the Art Gallery, Park Lane, Croydon (further particulars will be announced); May 5, "Sweet Peas," by Mr. H. J. Jones, nurseryman, Lewisham; May 19, "Popular Horticulture," by Mr. W. Turney, Bonchurch, Handcroft Road, Croydon; June 16, "Heating and Ventilating of Horticultural Structures," by Mr. W. J. Simpson, 51, Windmill Road, Croydon. The honorary secretary is Mr. Harry Boshier, 62, High Street, Croydon.

The first lecture in the new year of this society's syllabus of meetings was held at the Sunflower Temperance Hotel, George Street, on Tuesday, the 20th inst., when the chairman, Mr. W. J. Simpson, introduced Mr. J. Deans, who gave a most interesting and appreciable paper on "Nature's Seed-sowing." The lecturer, in his opening remarks, referred to the well-known authorities on the subject, such as Darwin, Lubbock, &c., and their theories of the many ways which Nature has of distributing the seeds of plant life over the earth, attributing the methods of dispersing the seeds to four chief ways, viz., by water, winds, birds, and animals, and explaining the channels of each in detail, thereby showing the harmonious working of Nature and her subjects. The lecturer passed round different sorts of seeds, and these served to explain in a very clear manner the points which he raised in his discourse. A good discussion by members followed the reading of the paper, and on the proposition of the chairman, seconded by Dr. Brooks-Ridley, an unanimous vote of thanks was accorded the lecturer for the splendid way in which he dealt with his subject. Seven new members were elected.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.

AT Simpson's, Strand, on Thursday, the 22nd inst., the annual general meeting of this institution was held. Mr. Harry J. Veitch in the chair. There were also present: Messrs. A. W. Suttoo, P. C. M. Veitch, A. Watkins, J. Hudson, G. Munro, O. Thomas, G. Paul, E. T. Cook, R. Dean, J. White (of Worcester), H. G. Cox, and others.

The minutes of the last general meeting having been read, the secretary read the following report and balance sheet:—

ANNUAL REPORT FOR 1902.

The committee have the pleasure to submit their annual report and statement of accounts, as audited, for the year 1902. They are thankful to be able again to congratulate the members and subscribers of the institution on its satisfactory condition, and the continued progress it has made, as evidenced by the increased benefits they have been able

to dispense to those who, through misfortune, declining years, and other causes, have been forced to seek its aid.

At the commencement of the year 190 persons—103 men and 87 widows—were each receiving £20 and £16 a year respectively, entailing an annual liability of £3,452. During the year seventeen of that number died—seven men and ten widows. Three of the men left widows, whose circumstances, after careful investigation, proved to be of such a nature as to warrant their being placed on the funds for the widow's pension of £16 a year, in accordance with the powers conferred on the committee under Rule III., 13, thus leaving at the close of the year 176 persons in receipt of permanent aid. The committee propose to increase this number by recommending for election this day fifteen candidates from a list of forty-six applicants, and also to ask the subscribers to confirm their action, graciously approved by their president, H.R.H. the Prince of Wales, in placing on the funds without election all those of the unsuccessful candidates—eleven in number—at the last election, who had previously been subscribers to the institution, to commemorate the coronation of their Majesties the King and Queen, patrons of the institution, and as a thank-offering for the recovery of the King from his Majesty's recent severe illness. The total number of pensioners, therefore, on the funds will be 202, twelve more than on the corresponding date last year, and the largest number at any period in the history of the institution. Whilst fully cognisant of the increased liability thus incurred, the committee feel they will have the practical sympathy and support of every friend and well-wisher of the charity in their forward policy of assisting more of the unfortunate people whose cases plead with such pathetic urgency, and they strongly appeal to all their friends not to relax their efforts on behalf of this old and well-tried work, which for sixty-four years has done so much for disabled and decayed horticulturists, or their widows, in their time of need.

The committee are glad to be able to report that the anniversary festival dinner, which was held in May last, under the presidency of his Grace the Duke of Marlborough, K.G., proved most successful, and they desire to place on record their very grateful thanks to his Grace for his able and convincing advocacy of the claims of the institution, which brought such a substantial addition to its funds. The committee also express most gladly their indebtedness to the stewards, collectors, donors of flowers, the horticultural press, and to other helpers, whose kind services and contributions were sincerely appreciated. They likewise gratefully acknowledge the services of the honorary secretaries of the several auxiliaries, which still continue to prove valuable adjuncts to the institution.

During the year the following amounts have been received:—Reading and District Auxiliary (hon. sec., Mr. H. G. Cox), £117; Worcester Auxiliary (hon. sec., Mr. Percy G. White), £110; Bristol and Bath Auxiliary (hon. sec., Mr. G. Harris), £79; Devon and Exeter Auxiliary (hon. sec., Mr. W. Mackay), £33; and Wolverhampton Auxiliary (hon. sec., Mr. R. Lowe), £20.

The committee have pleasure in reporting that in consequence of a large public meeting and concert at Liverpool, which was attended by the treasurer and the secretary, as a deputation, an auxiliary has been inaugurated in that city, which gives promise of being very successful, and likely, under the able honorary secretaryship of Mr. Waterman, to render substantial assistance to the institution.

To the gentlemen named above, and to other friends throughout the country who have helped forward the work, the committee tender their best thanks.

The Victorian Era Fund and the Good Samaritan Fund are still a source of incalculable benefit.

From the first-named fund £104 has been distributed amongst the unsuccessful candidates at the last election who had been subscribers, and £120 has been given from the latter fund to the remaining unsuccessful candidates who were not subscribers, and to other applicants as temporary help in their distress and need. This latter fund has been particularly useful in enabling the committee to assist cases of a very pressing nature, to which, had it not been for this fund, they must necessarily have had to turn a deaf ear. As the interest alone of the fund is available—unless special donations are given unconditionally—the committee's resources are limited, and they therefore again commend it to those who have the power to increase its usefulness.

With regard to the new rules which were adopted at the special meeting in January, 1902, the committee are hopeful that they will prove satisfactory in their working and to the advantage of the institution. On the whole, general approval has been expressed with the alterations, which were inevitable under the circumstances. A suggestion which has been made from several quarters to increase the number of votes at elections to annual subscribers of twenty years' standing and upwards is receiving the careful consideration of the committee.

Unfortunately, the committee have to deplore the loss by death of many valued friends and supporters during the past year. Amongst others who have thus passed away may be mentioned G. F. Wilson, Esq., of Weybridge, a vice-president; Mr. E. W. Cathie, of Simpson's, an old subscriber; and Thos. F. Peacock, Esq., of Gray's Inn, who for many years had acted as honorary solicitor to the institution, and whose services on many occasions will be gratefully remembered.

They are glad to be able to state that W. A. Bilney, Esq., of Fir Grange, Weybridge, and Temple Chambers, Temple Avenue, has kindly consented to take the place of Mr. Peacock and to help the charity by acting as its honorary solicitor.

In conclusion, the committee most earnestly ask for renewed effort on behalf of this national horticultural charity. After to-day's election there will be thirty-one applicants left on the list who are appealing for aid, and of this number several are totally blind. To help them an increased income is needed, and, whilst being thankful beyond measure for the generous support accorded to them in their work in the past, the committee plead most earnestly for further aid to enable them to extend the

benefits of the charity to those who are so much in need of them.

II. J. VEITCH, *Chairman*.
GEO. J. INGRAM, *Secretary*.

BALANCE SHEET, 1902.

Receipts.	£	s.	d.	£	s.	d.
To balance				944	18	1
„ amount on deposit				2,715	10	0
„ annual subscriptions	1,554	9	0			
„ donations including those at festival dinner and collection cards	2,150	13	2			
„ return of income tax	49	1	10			
„ advertisements in annual list of subscribers, 1902	40	11	6			
„ dividends and interest	849	14	3			
				4,644	9	9
				£8,304	17	10

Expenditure.	£	s.	d.	£	s.	d.
By pensions and gratuities				3,344	10	0
„ expenses of special and general meeting and election of pensioners				15	11	9
„ rent, cleaning, firing, &c., secretary's salary and office assistance				454	9	0
„ printing, including annual reports, polling papers and new rules	115	9	3			
„ stationery	22	17	0			
„ cheque books	2	1	3			
„ advertisement in Fry's Charities	3	0	0			
„ festival dinner expenses £213 2s. 8d., less dinner charges £122 17s.	90	5	8			
„ wreath for late hon. solicitor	1	13	0			
„ postages, including reports, appeals, voting papers, &c.	51	13	1			
„ deputation and travelling expenses	9	2	9			
„ carriage, telegrams, repairs, and incidental expenses	6	9	2			
„ bank charges	0	3	6			
				302	18	1
„ amount placed on deposit				3,165	10	1
„ balance with treasurer	1,017	12	0			
„ „ secretary	4	7	0			
				1,021	19	0
				£8,304	17	10

We have audited the accounts and certify the same correct and the books well kept; we also certify that the securities of the invested funds are in the hands of the bankers, by whom the dividends are received on behalf of the institution.

(Signed) THOMAS MANNING.
THOMAS SWIFT.

January 20, 1903.

J. WILLARD.

VICTORIAN ERA FUND.

BALANCE SHEET, 1902.

Receipts.	£	s.	d.	£	s.	d.
To balance				112	6	2
„ dividends	123	14	9			
„ return of income tax	6	17	0			
„ unused cheques	0	6	11			
				130	18	8
				£243	4	10

Expenditure.	£	s.	d.	£	s.	d.
By gratuities	104	0	0			
„ balance in hand, Dec. 31, 1902	139	4	10			
				£243	4	10

GOOD SAMARITAN FUND.

BALANCE SHEET, 1902.

Receipts.	£	s.	d.	£	s.	d.
To balance				253	18	2
„ annual subscriptions	1	1	0			
„ donations	14	0	0			
„ dividends	56	1	10			
„ return of income tax	3	12	7			
				74	15	5
				£328	13	7

Expenditure.	£	s.	d.	£	s.	d.
By gratuities	120	0	0			
„ balance in hand, Dec. 31, 1902	208	13	7			
				£328	13	7

Audited and found correct, January 20, 1903.

(Signed) THOMAS MANNING.
T. SWIFT.
J. WILLARD.

Mr. Harry J. Veitch, in moving its adoption, said he thought the report a most satisfactory one. With the fifteen pensioners to be elected, there would be over two hundred on the books for the first time in the history of the institution. This will necessitate an annual disbursement of £3,500, so it is essential to do everything possible to increase the income. The Good Samaritan Fund and the Victorian Era Fund do a great deal of good every year. Most grateful letters have been received from those who have been benefited by them, and also from the ten "Coronation" pensioners. The institution said Mr. Veitch, is much indebted to the auxiliary societies for their most valuable help. The Liverpool auxiliary was now constituted and promised very well; special reference was made to the good work of the secretary, Mr. Waterman. A smoking concert was to be organised early this year. At the Holland House

show, Lord Ilchester very kindly threw open the grounds to visitors upon a small payment, the money received being given to the Gardeners' Royal Benevolent Institution and the Royal Gardeners' Orphan Fund. The former received as its share £113. A similar plan was to be adopted this year by kind permission of Lord Ilchester, who has again consented to a show being held at Holland House. The new rules on the whole had been well received; some few letters had been sent asking for certain points to be explained. It was absolutely necessary, said Mr. Veitch, that the rules should be altered, on account of the increased number of those who under the old rules annually became eligible for election. There would, however, have had to be an election this year in any case, as for twenty-seven qualified subscribers there were but fifteen vacancies. It was felt that the old rules were unjust also to those who had subscribed, say, thirteen or fourteen years. Now all who apply for relief go to the election, but those who have subscribed the longest are given the most votes. He felt sure that the new rules would meet with approval. Mr. Veitch also referred to the loss the institution had sustained by the death of Mr. Peacock, their honorary solicitor. Mr. Bilney had very kindly offered to take the position. Mr. Veitch read a letter from Mr. N. N. Sherwood, saying how sorry he was to see that so many candidates could not be elected this year; to each of them he would give £5 as a thank-offering for recovery from his recent illness. Mr. Denning seconded the report, which was passed unanimously.

Mr. W. A. Sutton proposed that Mr. Harry J. Veitch be re-elected treasurer of the institution, and that the best thanks of this meeting be presented to him for his invaluable services, and testified to the very valuable work that Mr. Veitch had done and was still doing for the institution. The auxiliaries were the outcome of Mr. Veitch's suggestion, and he went down personally to help inaugurate them. The new rules had not lessened interest in the institution in the Reading district. Mr. G. Monro seconded the resolution, which was passed unanimously.

Mr. G. Monro proposed the re-election of Mr. G. J. Ingram as secretary, Mr. Denning seconding. This was carried without dissent. Mr. Ingram briefly thanked the meeting for his re-election.

Mr. R. Dean proposed that the retiring members of committee be re-elected. Mr. Mc Kerchar seconded this, which was carried.

Mr. J. Hudson proposed, and Mr. O. Thomas seconded, that the auditors be re-elected and thanked for their services. This was also carried.

Mr. Denning proposed the re-election of the arbitrators. Mr. P. C. M. Veitch seconded. Carried unanimously.

Mr. A. W. Sutton proposed that the action of the committee, graciously approved by the president (H.R.H. the Prince of Wales), in the placing on the funds the eleven unsuccessful candidates, formerly subscribers to the institution, to commemorate the Coronation of their Majesties the King and Queen, patrons, be and is hereby confirmed. Mr. Sutton was sure this step would have the hearty approval of the meeting. Mr. P. C. M. Veitch seconded, mentioning that all absent country committee members received notice of this. Passed unanimously.

Mr. O. Thomas proposed, and Mr. G. Paul seconded, that Messrs. E. G. Monro and Melady be appointed scrutineers of the ballot. Passed unanimously.

RESULT OF THE POLL.

(1) Jane Kent, 6,741; (2) Jane Temple, 4,216; (3) William Glasscock, 3,305; (4) Emma Honess, 3,195; (5) John Bates, 3,063; (6) William J. Stacey, 3,056; (7) Rachel Tegg, 3,046; (8) Charles Puzey, 3,015; (9) George E. Allis, 2,991; (10) Stephen Bracebridge, 2,968; (11) William Wall, 2,878; (12) William Darvel, 2,850; (13) Robert C. Alliston, 2,825; (14) James Level, 2,761; (15) Elizabeth Gower, 2,602. Mary A. Donnan (995) and John Price (426) were placed upon the funds by the committee.

THE FRIENDLY SUPPER.

The annual friendly supper was held at Simpson's in the evening and was well attended, about sixty persons being present. Mr. Alfred Watkins (of Messrs. Watkins and Simpson) presided. He was supported by Messrs. Harry J. Veitch, H. B. May, W. A. Bilney, P. C. M. Veitch, W. Baker, and Arnold Moss. Others present were: Messrs. George Monro, William Sherwood, Edward Sherwood, Anderson, Cuthbert, Morgan Veitch, Rudolph Barr, George Barr, Ingram (of Messrs. Wood and Ingram), J. F. McLeod, M. Gleason, George Paul, E. Monro, A. Monro, W. Ponpart, K. Drost, Joseph Rochford, Mc Kerchar, Moore, Glendenning, and W. Roupell.

After the loyal toasts were honoured, the chairman proposed "our Institution and its continued prosperity." Mr. Watkins said that the adequate support of our charities was a deep problem. As a rule, the few subscribe to charitable institutions and the many do not; the problem is to get hold of those who do not give, owing either to apathy, ignorance, or selfishness. Mr. Watkins mentioned the importance of widely advertising as an aid to increased subscriptions. He was afraid the widow's mite was not much thought of nowadays, at any rate few practised the principle it taught. As an instance of the lack of interest taken in charitable work, Mr. Watkins mentioned that in Twickenham, with a population of 22,000, there were but 200 subscribers to the local hospital; he was afraid it was the same everywhere. If we could only get sixpences and shillings for the Gardeners' Royal Benevolent Institution much good might be done. The chairman mentioned the method practised by commercial travellers for raising money for their schools and benevolent institutions, i.e., by collecting one penny from each person who dines in the hotel commercial room. He thought it would not be difficult for some similar plan to be followed in aid of the Gardeners' Royal Benevolent Institution. Under gardeners might give a penny or some other small sum, say, once a week or more often, and this might be collected by the head gardener. Gardeners do not subscribe to the institution as they should; they represent a very small proportion of the subscribers. It was very sad for applicants to have to try

several times before being placed on the funds, and this sadness could be mitigated if gardeners would support the institution more. Letters of regret at being absent were read from Mr. Peter Kay and Mr. J. Sweet (who sent five guineas to the Good Samaritan Fund). The chairman announced the generous gift from Mr. Sherwood (mentioned in our report of the meeting), and said it would be well if there were a few more men like Mr. Sherwood in the world. He coupled with the toast the name of Mr. Harry J. Veitch, to whom he said he might safely leave all statistics with regard to the institution.

Mr. Harry Veitch remarked that there were now on the books more pensioners than ever before, in all 202. He said that both the additional pensioners placed on the funds were very pitiable cases—one was from Ireland, the other from Clifton. As Mr. Watkins had said, the institution knows no country and no creed. Although there were so many unsuccessful candidates, owing to Mr. Sherwood's generous gift they would receive substantial help. They must take care, said Mr. Veitch, that the money paid from the sister funds with Mr. Sherwood's gift did not exceed the pension given to those elected. Both the Good Samaritan Fund and the Victorian Era Fund are doing a lot of good. Mr. Veitch mentioned that 95,000 votes were polled during the afternoon, each five votes representing £1. There were 335 spoilt votes in 49 papers. The speaker referred to the case of William Glasscock, who applied for relief some years ago. After his application, however, he got better, and wrote the committee to that effect, asking that if he fell ill again he might be reinstated. He had since re-applied, and as a result was elected to-day. He was allowed to count the votes he had when ill previously. Although those who subscribed to the institution have a better chance of being elected than non-subscribers, by reason of the votes allowed to them, Mr. Veitch said all must be helped, for this was a charitable, not a benefit institution.

Mr. Arnold Moss humorously proposed the health of the committee, honorary officers, and country friends, to which Mr. P. C. M. Veitch and Mr. W. A. Binley replied.

Mr. Veitch advocated the extension of the auxiliaries; he thought one might well be started at York. He mentioned that small subscriptions were accepted by their Exeter auxiliary.

Mr. Binley said he would do all that lay in his power to further the interests of the institution. He had taken a great interest in horticulture for many years. He said he always patronised nurserymen at home, and could not understand those who had gardens going abroad for their seeds and plants.

Mr. W. Poupard proposed the health of the chairman, and to Mr. H. E. May was entrusted "The Old Landmark; its pleasant recollections." Mr. George Monro replying.

Songs by Mr. W. Poupard, a recitation by Mr. Monro, jun., harp solos, and songs by other gentlemen added much to the pleasure of an enjoyable evening.

ROYAL HORTICULTURAL SOCIETY.

ALTHOUGH the weather on Tuesday last was exceptionally mild, the exhibition to the Drill Hall was the smallest held for some years. Orchids, again, were the greatest attraction, together with Messrs. Cannell's Chinese Primulas. A collection of Oranges from Messrs. T. Rivers and Son, Sawbridgeworth, was of much interest. Mr. James Hudson, of Gunnersbury, gave an interesting lecture on "The Blue Nymphæas."

ORCHID COMMITTEE.

Present: Harry J. Veitch, Esq. (chairman), Messrs. James O'Brien, de B. Crawshaw, Henry Little, R. Brooman-White, Frank A. Rehder, H. Ballantine, James Douglas, Edward Hill, John Cypber, W. A. Binley, W. H. Young, W. Boxall, H. A. Tracy, W. H. White, and J. Wilson Potter.

Messrs. Hugh Low and Co., Bush Hill Park Nurseries, Epsfeld, exhibited a small group of Orchids, including such choice plants as *Cynorchis Lowii*, *Cattleya Trianae* Lower, *C. T. Atalanta*, *C. T. Cleopatra*, several plants of *Laelia anceps* sandieriana, *C. perivaliana splendens* (with rich rose sepals and petals and a beautiful orange and purple lip), *Cypripedium aurantiacum*, *C. Charlesworthii lawrenceana*, &c. Vote of thanks.

Messrs. Sander and Sons, St. Albans, in an attractive lot of Orchids exhibited several well-flowered plants of *Phaius grandifolius* var. *porphyreus*, *P. Martine* var. (*P. Blumei* x *P. tuberculatus*), *P. Norman* var., *Cymbidium eburneum* (the lovely white, yellow-throated flowers powerfully scented), *Laelio-Cattleya novissima* (*C. gaskelliana* x *L. anceps*), *L.-C. Pallas*, *Cypripedium Lord Derby*, *C. tautianum* var. *miniatum*, *C. chamber-leeanum* var., *Odontoglossum apterum* var. *album*, *Epidendrum Endresio-Wallisii*, and the handsome *Zygopetalum Sanderi*, which obtained a first-class certificate and is described elsewhere. Silver Banksian medal.

J. Bradshaw, Esq., The Grange, Southgate (gardener, Mr. G. G. Whitelegge), showed several varieties of *Lycaste Skinneri*, viz., *L. S. Enchantress*, *L. S. Fairy*, *L. S. Lady Gladys*, and one unnamed; also a well-flowered plant of *Odontoglossum* x *Bradshawae*, which was given a first-class certificate.

J. Forster Alcock, Esq., Northchurch, sent *Cypripedium insigne* var.

Norman C. Cookson, Esq., showed a cut raceme of *Odontoglossum loochristyense* Oakwood var. (*O. crispum* var. x *O. triumphans*).

Jeremiah Coleman, Esq., Gattin Park, Surrey, exhibited *Dendrobium wiganianum* and *D. w. Gattin Park* var.

F. Westlesley, Esq., Westfield Common, near Woking, showed *Cypripedium Alice Wallace*, a lovely flower, the dorsal sepal, lip and petals being suffused with a rich vinous red; *C. Euryades* var. *Gilbertii*, *C. Miss Edith O'Reilly*, and flowers of *Cattleya perivaliana* Westfield var.

A cultural commendation was given to a plant of *Ipsaea speciosa*, an Orchid with few slender leaves and bright yellow flowers borne upon stalks almost or quite 3 feet high. The dorsal sepal forms a hood over the column, the petals are at

right angles to the lower sepals, so that while the full width of the former is seen, the edges only of the latter are visible as one looks straight at the flower. This and *Odontoglossum Edwardi*, bearing a fine raceme of flowers, were sent by Mr. Bennett-Poe.

A cultural commendation was given to Mr. C. Hill, gardener to the Right Hon. Lord Rothschild, Tring Park, Herts, for a splendid cut raceme of *Phalaenopsis schilleriana*. A raceme of *P. Stuartiana* was also shown by Mr. Hill.

CERTIFICATED ORCHIDS.

Zygopetalum Sanderi.—Undoubtedly the finest hybrid *Zygopetalum* yet raised. The parents are *Z. Perrenoudii* and *Z. Mackayi*. The sepals and petals, marked with blotches of chocolate colour upon a ground of pretty pea-green, are not in themselves remarkable, but the lip is very beautiful. The predominating colour is violet, though purple, especially towards the base of the lip, is also present. There are irregular white markings more pronounced in some flowers than others. From Messrs. Sander and Sons, St. Albans. First class certificate.

Odontoglossum Bradshawae.—A very handsome and striking flower, the result of crossing *O. harryanum* and *O. andersonianum*. The sepals and petals are long and of symmetrical form; their ground colour is pale yellow. Upon the basal portion of the sepals are blotches of red. The base of the petals is white. The flat, rather large, white lip is prettily marked with dull red in its upper half. Exhibited by J. Bradshaw, Esq., The Grange, Southgate (gardener, Mr. G. G. Whitelegge). First-class certificate.

Cypripedium x *J. Wilson Potter*.—The parents of this new hybrid *Cypripedium* are *C. harrisianum* superbum and *C. Charlesworthii*. The influence of the former is very marked, and especially in the colouring of the petals and lip. The latter parent has much modified the form of the flower. The dorsal sepal is veined with crimson upon a darker ground, and has a narrow margin of white, the petals and lip are deep crimson-red. Award of merit. Exhibited by J. Wilson Potter, Esq., Elmwood, Park Hill Road, Croydon (gardener, Mr. W. H. Young).

FLORAL COMMITTEE.

Present: W. Marshall, Esq. (chairman), Messrs. C. T. Drury, H. B. May, G. Nicholson, R. Dean, J. Hudson, W. Howe, G. Reuthe, C. R. Fielder, C. Dixon, J. A. Nix, Charles Jeffries, R. C. Nottcutt, R. W. Wallace, E. H. Jenkins, W. J. James, Charles Elick, and G. Paul.

Of really hardy things those from Messrs. Wallace and Co., Colchester, included the lovely *Adonis amurensis* with golden-yellow flowers; *Iris Tauri*, in many pretty shades; *I. Ilirio*, pale blue; and the darker *I. histrioides*, being very beautiful. In addition, Galanthus Whitall showed as many variations in leaf as in blossom, and with a small group of *Crocus biflorus* made up a most pleasing lot of these earliest flowers of the year.

A small collection of hardy rock plants from Mr. A. R. Upton, Guildford Hardy Plant Nursery, included *Anemone blanda*, the fine winter-foliaged perennial *Tellina grandiflora* that is worthy attention by reason of its fine bronzy foliage at this time; *Iris alata*, much stronger than usual; *Saxifraga bursariiana* major, *Erica mediterranea* hybrida, *Sedum spatulifolium*, and *Saxifraga valdensis*. *S. longifolia* and *Pulmonaria rosea* were also interesting.

Another group from Messrs. Barr and Sons, Covent Garden, included *Lenten* and *Christmas Roses*, *Iris Tauri*, pretty sprays of the *Winter Jasmine*, *Cyclamen Coum*, very dainty and bright, and with the white form pleasing at this dull time. *Galanthus Elwesii* in pans was plentiful and showy; the fragrant white *Mezereon* always acceptable and useful; *Narcissus minimus* is the pigmy of its race, and a pot was well filled with flowering plants. In the background large bowls were filled with the Chinese Sacred Lily, very showy and strongly scented. Bronze Flora medal.

Primulas of the *sinensis* type were largely shown by Messrs. Cannell and Sons, Swanley, and may be described as fully representative of their fine strain of these flowers. The plants were mostly in 5-inch pots, and carried fine trusses of bloom. Silver Flora medal.

Messrs. Hugh Low and Co., Bush Hill Park, N., had a showy group of forced things. *Azaleas* in variety and forced *Lilac* were very good, and equally so the forced standard plants of double *Prunus*. *Palms*, *Epacris* in variety, with the tall *Acacia longifolia* magnificent in the background, also assisted in the group. In the margin *Lilies* of the Valley and the beautiful *Funkia maculata* aurea also contributed to a most useful lot of material. Silver Banksian medal.

The new sport from *Niveus*, with forked petals, was again set up. It is named *Harry Whately*, and some fifteen medium size blooms were shown. Other *Chrysanthemums* at this meeting included a golden sport from Mrs. Fogg, *Winter Cheer*, a deep rose or amaranth pink, with long stems and perfectly fresh and good flowers; *Princess Beatrice*, pale pink; and Mr. Edward Lowe, white, are all sports from *Framfield Pink*. From Mr. J. E. Lowe, Shrewley Nursery, Warwick.

Chrysanthemum Christmas Glory, a deep chestnut-crimson, came from Mr. W. H. Dyer, Frimley, Surrey; this is a good and useful shade of colour.

Some fine *Hippeastrums* were sent by the Right Hon. Lord Rothschild, Tring Park, Herts (gardener, Mr. E. Hill). These were *Rufus*, a deep crimson of the finest form; *Prince of Orange*, orange-red, netted with salmon-orange; and *Eden Kop*, crimson-scarlet, with white feathered lines and pure white interior, a handsome and striking flower.

CERTIFICATED PLANT.

The following received an award of merit:—*Tritoma longicollis*.—A very beautiful winter-flowering species. Flowering at this season, it naturally requires cool greenhouse protection. The flowers are of a beautiful clear yellow, cylindrical in form, and very refined in character. The plant is evidently free-flowering, a moderate-sized plant producing the three handsome spikes shown on Tuesday last. The foliage is long, dark green, and strongly keeled. Exhibited by J. T. Bennett-Poe, Esq., Holmwood, Cheshunt (gardener, Mr. Downes).

FRUIT AND VEGETABLE COMMITTEE.

Present: Mr. George Bunyard (chairman), Messrs. W. Balderson, T. W. Bates, George Woodward, Henry Esling, S. Mortimer, Alex. Dean, Horace J. Wright, H. Markham, C. G. A. Nix, J. Willard, F. L. Lane, Owen Thomas, A. H. Pearson, H. Somers Rivers, W. Poupard, and J. Jaques.

Mr. George Woodward, Barham Court Gardens, Maidstone, was given a cultural commendation for *Pear Passerane*. The fruits shown were very fine ones.

Messrs. T. Rivers and Son, Sawbridgeworth, Herts, were awarded a silver Knightian medal for a collection of Oranges. No less than eighteen varieties of these fruits were shown, ranging in colour from bright orange to very pale lemon. The small Tangerine was represented, and also the much smaller Myrtle-leaved, with fruits not so large as a Crab. Among the pale-coloured fruits were the *White Lemon*, *Grape fruit* and *Jaifa*, while *Excelsior*, *Bittencourt* and *St. Michael's* were perhaps the most handsome. The other varieties were *Botelha*, *Silver Egg*, *Dun-skinned St. Michael's*, *Achilles*, *Sustain*, *Maltese Blood*, *Thlicis*, *Dulcissima*, *White* and *Brown's*. This collection of Oranges and allied fruits created much interest.

Sutton's Superb Early White Broccoli was shown by Messrs. Sutton and Sons, Reading.

REDHILL AND REIGATE GARDENERS' ASSOCIATION.

THIS association held its fortnightly meeting at Mutton's Hotel on the 20th inst., Mr. Brund in the chair. After the usual business and election of new members, the names and winners of the society's certificates were announced. Mr. Brund gained one for a good dish of *Bramley's Seedling*, and Mr. Bone with an excellent dish of *Cox's Orange Pippin*. The chairman briefly introduced the lecturer, Mr. McLeod of Dover House, Rochester, who spoke about *Carnations*. Mr. McLeod was received with cheers. The lecturer dealt with his paper and subject in a very striking manner, clearly showing that he was a master at growing *Carnations*. He divided his subject under three heads, namely, the "Malmaison," the "Tree," and "Border" *Carnations*. Considerable discussion followed, and each point was answered by the lecturer as it occurred. The following took part in the discussion:—Messrs. Brund, Wells, Peters, Duncan, Herbert, Mould, and others. It may be taken for granted that those who grow *Carnations* will put in practice the many points the lecturer emphasised. The attendance was good, about ninety members being present. A hearty vote of thanks was accorded the lecturer, who briefly responded. This brought the meeting to a close.

BRIGHTON AND SUSSEX HORTICULTURAL SOCIETY. The annual report of this society is unavoidably held over until next week.

A NOTE ON CHRYSANTHEMUMS FOR CUTTING.

THE so-called decorative *Chrysanthemums* are those sent to market in boxes and in bunches. One has only to stroll through the flower market in the early morning to see to what extent the *Chrysanthemum* is grown for cutting, and it is remarkable to see the excellent way in which the flowers are offered for sale. In many instances they appear to be as fresh as when they were first cut. Later in the day the florists' shops in the City and West End of London are bright with a *Chrysanthemum* display. Only a year or two ago the number of varieties offered for sale in this way was very limited and the flowers poor in quality. A great change, however, has taken place, and now the quantity, quality, and colour of the blooms generally offered for sale leave nothing to be desired.

The season begins as early as August, sometimes earlier, and continues well into January and even February. Now in mid-January the selection of varieties will suit the taste of the most fastidious—yellows, whites, and pinks, and an occasional vase of crimson and bronze. The market growers, instead of flooding the market in November with one or two sorts, which was the case only a few years ago, are maintaining a display over a long period, with probably more profit to themselves and enhanced pleasure to those who ultimately purchase the flowers. The flowers now offered for sale are fresh and bright.

During the time the market growers have been progressing with the decorative *Chrysanthemums* private establishments generally have been at a standstill. Of course there are gardens where the smaller flowers are grown extensively, but not many. The market growers have shown us what can be done with well flowered *Chrysanthemums*, and the present time is opportune for acquiring a selection of suitable sorts for next season's display. The various *Chrysanthemum* societies might with advantage give a share of their support to the exhibition of blooms of small to medium size for decorative work.

D. B. CRANE.

Mr. E. H. Wilson (of Messrs. James Veitch and Sons, Limited, Chelsea) sailed again for the East yesterday (Friday), and we hope his journey will prove as good for British gardens as the last.

The Earl of Warwick will take the chair at the dinner of the Gardeners' Royal Benevolent Institution, to be held at the Hotel Metropole next summer.

A fine range of glass houses.—Few ranges of glass houses erected expressly for trade purposes enjoy so public, if exposed, a site as those recently built at great cost by Messrs. Sutton and Sons, the famous Reading seedsmen. Their well-known seed grounds, situated in the fork of land that adjoins the Great Western and South-Western Railways just above Reading, has been for many years familiar to all travellers on these great railways, and it is on the northern side of the seed ground that the new range has been erected. The old glass houses in the Portland Road nursery have become too small and space there is too cramped for the firm's purposes, hence the removal of the pot plant culture to the more elevated and open site in the seed farm, where, too, the light will be so much greater and the air so much purer. The range of houses has been built by Messrs. Duncan Tucker and Co., and no expense seems to have been spared to render them everything that could be desired. The northern side, which is parallel to the Great Western Railway, is straight. In the centre is a noble conservatory some 50 feet by 40 feet, lofty, and purposed to be a winter garden, reception hall, lecture room, or for other useful purposes. Behind that is a big potting house, then large seed stores, lavatories, private offices, stores for roots, bulbs, &c., and a packing shed, even a large dry store for pots is included. Returning to the conservatory a door on either side opens into a long glass corridor, from which radiate off southwards twelve long span houses, ranging from 12 feet to 14 feet wide, while in the front of these are large span pits, frames, &c., all of the best possible form, and built to furnish every convenience. Because of the corridors in question on the north side, the inclusion of the potting sheds, and all needful conveniences, it is at once easy and practicable for workers to reach every house or part of the great range without going outside into cold air. The southern doors of the houses alone open into the open air. Two large boiler houses have been erected south of the range, each being filled with two large Cornish or Trentham boilers, and even here some simple arrangements help to save labour in a remarkable degree. Most certainly in all these matters the motto of the firm is "Efficiency." Besides the provision of large tanks in each house there is a huge tank to receive the overflow from these, which again receive from the house roofs; no less than 45,000 gallons of water can thus be stored. For the supply of the boilers a big tank at the top of each boiler house is fed by the aid of a windmill pump which lifts the water from a well. Apart from the floral attractions the houses now afford, the range well merits inspection by all who contemplate the erection of similar houses.

ANSWERS

TO CORRESPONDENTS.

RULES FOR CORRESPONDENTS.

Questions and Answers.—The Editor intends to make THE GARDEN helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object will make a special feature of the "Answers to Correspondents" column. All communications should be clearly and concisely written on one side of the paper only, and addressed to the EDITOR OF THE GARDEN, 20, Tavistock Street, Covent Garden, London. Letters on business should be sent to the PUBLISHER. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper.

Names of plants.—H. D. R.—As far as we can make out the names of the specimens are as below, though it is in some cases impossible to say with absolute certainty, as the specimens were not very good: 1, Magnolia grandiflora; 2, Bambusa (probably atrea); 3, Epatorium odoratum; 4, Cassia glauca; 5, Tecoma capensis; 6, Eunonymus japonicus;

7, a Pittosporum. Of these the Magnolia, Bamboo, Eunonymus, and perhaps No. 7 will be hardy with you, the others requiring protection.

Poinsettia pulcherrima. Is the honey poisonous? (T.)—We have no personal knowledge of any injury caused by the honey that collects on the flowers of Poinsettia pulcherrima, but the order to which it belongs (Euphorbiaceae) contains so many members whose sap is poisonous that we should be at least inclined to view it with suspicion.

Acacia (W. N.)—In all probability your Acacia is A. arabica, but whether this is correct or not it will not prove hardy with you, as all the Acacias require a greenhouse. If you have no glass structure in which you can place the plants during winter you may keep them in a good light position in the dwelling-house, and in the summer they may be placed out of doors.

Planting fruit trees (S. C. J.)—Whilst it is invariably held that the planting of fruit trees is best done in the autumn, yet it is done in many places all the winter when the weather is open. Planting of any description should never be done when the ground is even but partially frozen or when it is saturated or heavy with wet. It is a bad practice to plant when the soil is very dry also, but in such cases it may be possible to water freely. In nurseries, where of course trees of any description can be lifted and replanted at once, planting often runs into April. That is needful when from a quarter all trees needed to be sent out have been taken and those left have then to be lifted and replanted more closely. Long transit in harsh windy weather is often harmful to trees, as the roots get much dried. Nurserymen should always send trees out with the roots well damped and covered; but if received dry it is best to soak them for an hour in water before planting. If you will take ordinary precautions, planting only in open weather and have at hand to throw in about the roots plenty of fine soil, you may safely plant till March.

White Jasmine (H. T.)—The fruit of this plant is black. We give a little illustration of it.

Large Onions (PASSION).—The fine exhibition Onions you mention cannot be obtained by what is known as ordinary garden culture. They are raised by sowing seed now, although some growers sow even earlier, in shallow pans thinly, putting them in a greenhouse or frame where there is gentle warmth and ample light. Growth follows in about twelve days, and in a month the seedlings are large enough to lift and dibble out 2 inches apart into shallow boxes of any convenient size. These should be filled with a mixture of loam, well-decayed leaf-soil, old hot-bed manure, and sand. In these boxes, kept near the glass so as to induce strong growth, the plants remain till early April, when they should be shifted into a cold frame to harden ready for planting out on to deeply-trenched and heavily-manured soil. At the end of the month the plants should be lifted from the boxes with a trowel, leaving a good ball of soil attached to each, and be put out into rows 18 inches apart, the plants being 12 inches apart in the rows.

Late or midwinter Pears (AMATEUR).—There are several very good late-ripening Pears that you can grow to have late-keeping fruits; but as a rule all do best on west walls, as it is needful that the fruits be of the best well-grown sample of the variety to induce late keeping. On walls also, if netted over to exclude birds, the fruits may hang quite late, and the longer the better do they keep. The varieties are Winter Nelis, one of the most delicious of late varieties, and may in some gardens be grown on a north wall; Josephine de Malines, a very nice Pear; Olivier des Serres, President Barrabé, often very fine; Easter Beurré, and Beurré Rance. Beyond being well grown, the fruits need to be stored thinly on shelves in a cool even temperature where at times free ventilation is given. If you cannot grow against a wall, then plant bush or pyramid trees worked on the Quince stock. Get planting done at once.

Flower beds (P. CALDCOTT).—We think the plants mentioned will do quite well for the central cross bed, and we know of no better blue Lobelia than Emperor William when grown from cuttings, not seeds, while the best yellow Calceolaria is floribunda grandiflora. This blooms most abundantly. For the four circular beds we think you will obtain a good effect by using Phlox Drummondii in some of its most most showy colours. Those of the pink, red, salmon, and carmine or crimson shades are particularly showy and bright. The Eschscholtzias in gold and rich or deep intense orange are also showy and profuse. We are somewhat handicapped in giving you a fuller reply or even

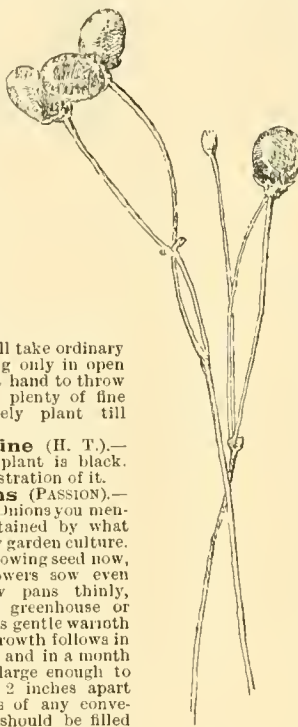
a more helpful one, as we have no information respecting your conveniences for raising plants. If you had convenience we should think a bed or two of the richly-coloured Celosias would make a fine display, or one of Zinnias, which, with the Phlox above named, would have to be raised under glass, e.g., a warm frame. The other group may be sown in the open bed.

Indian Rhododendron seedlings (E. I. T. M.).—In your favoured clime we should recommend planting out the seedlings of Rhododendron triflorum in April or May of this year. It will be far better to have the frame on the ground level than raised above it. To prepare the bed for the reception of the young plants take out the soil to a depth of about 15 inches, then place in the bottom 6 inches or so of drainage material, and complete the remainder of the bed with good soil, containing at least a liberal proportion of peat and sand. This must be broken up moderately fine (the rougher portions may be used for drainage) and pressed down firmly. When planted give a thorough watering through a fine rose to settle everything in its place. The after treatment will consist in the usual routine work, such as watering, giving air, weeding, and so on. If the frame is in an open spot, yet sheltered from the full rays of the sun, so much the better.

Herbaceous plants (N.).—We have not the least hesitation in recommending you to divide and replant almost the entire lot of plants; in fact, any that have not been divided and replanted for the past "six or seven years" could bear no comparison in their flowering with others that were replanted at least every three years or so. Had you anything but the substantial holding clay, not a few of the things mentioned would have been in a sorry plight long ago. What we now recommend is renovating the entire border as early as possible. We would go to work in the following manner: In any open weather in February lift all such things as Michaelmas Daisies, Ox-eye Daisy, Achillea, German Irises, Delphiniums, Sunflowers, Tritonias, or any other free-growing plants and heel them in for the time being. If in vigorous health we would not interfere with Spirea Arneus, Day Lilies, Oriental Poppies, Peonies, and Columbines, as these things re-establish themselves less quickly than the first set. Having laid the first batch in, you may now proceed to trench the border thoroughly, working up the soil for a depth of 2 feet at least, and putting in plenty of old manure and leaf-mould as the work proceeds. If the soil is very heavy work in road sweepings or grit to make the great mass of soil more friable. As the digging proceeds and you come near to the roots of Peonies—these in good stiff soil may go on for a score of years without replanting—Spirea Arneus, &c., a liberal supply of old manure, leaf-mould, and old mortar or grit may be worked in at 2 feet deep. Do not go too near these plants, for with the freshly moved soil and generally improved condition the outlying fibrous roots will quickly get into it. Throw up the soil of the borders rather roughly, and when completed give a surface dressing of air-sieved lime, say, one barrowful to every two rods of ground. The border may, when finished, be left alone for a month for the soil to pulverise, then before replanting lightly fork over the surface to prick in the lime. You may replant any time in March. In doing this do not make the common error of planting the old central and very hard clumps of such things as Michaelmas Daisies, but select instead from the outer circle of any clump some of the youngest and therefore the most vigorous of the stems. If you wish to make a fine display in the first season and so recompense yourself early, plant six or eight of these young pieces singly at about 9 inches apart or nearly so, and in such a way that a ground space of 2½ feet is occupied by the plants. These will grow together and form a group capable of yielding double the amount of good flowers usually seen on an old clump. Such a group will require 6 feet of head room to develop. We give you this instance that you may follow it throughout. When planting, modify it to suit the border and your own requirements. The same thing applies to the Irises, planting single crowns and several to form a group in place of the old-fashioned way of one large piece that often did not do what was expected of it. The Delphiniums may also be divided, though less severely, replanting such as have three good crowns each. If you follow this principle the border should be a showy one in due course. With respect to the Roses, a similar mode of treatment would doubtless greatly improve the plants. This should be done as early as possible, however. First carefully lift the plants, thoroughly trench the border, work in old mortar, grit, lime, leaf-mould, and manure quite freely, but do not apply the manure in bulk to the roots of the plants. It is possible that a slight root pruning may be necessary before replanting the Roses, and especially if there is an absence of much fibre and too many large roots. In replanting the Roses you may do the plants much good if you have a barrowful of grit or old mortar, old potting soil, leaf-mould, and manure at hand, placing a peck or so about the roots of each. This would probably greatly increase the number of fibrous roots which we imagine the plants are now in want of. Do not allow the Roses to remain out of the soil or get dry at the roots, but cover them till again required for planting. Surface mulching is useful where the beds are first well made for the plants, but no annual mulching can compensate for badly made beds, or for the poorly-rooted plants that invariably follow as a result of such work. The book you mention should be helpful, as also would "Roses for English Gardens."

ADVICE TO OUR READERS.

It is gratifying to find that readers of THE GARDEN take advantage of our offer of help in simple matters of advice. At the same time, any short editorial answer is not intended to be taken as exhausting the possible helpful answers. No one or two experiences can cover the whole range of horticultural practice, and answers from others bearing on the same question will always be welcomed as an additional assistance to the querist and to those whose perplexities may be of the same kind.



FRUIT OF THE
WHITE JASMINE.

THE GARDEN

No. 1629.—Vol. LXIII.]

[FEBRUARY 7, 1903

ROYAL HORTICULTURAL SOCIETY'S ANNUAL REPORT.

THE report of the society for the past year is wholesome reading. Few societies, we think, are more popular than that devoted to horticulture, a fact accounted for by a widespread interest in gardening pursuits and by the subscribers getting full value for their subscriptions. Not only does the annual subscription entitle a Fellow to receive the increasingly valuable "Journal," but right of entry to the beautiful fortnightly displays in the Drill Hall at Westminster and to any other shows the society may hold during the year. It is therefore not surprising to learn that (to quote the words of the report) "the exact number of new Fellows elected in the past year has been 1,140," which is "a larger number of new Fellows than in any year since its establishment in 1804."

CHISWICK GARDENS.—Under the head of ordinary expenditure at Chiswick £1,953 has been spent on the general work and maintenance of the gardens, and including legal expenses. The receipts by sale of surplus produce amount to £373, making the net ordinary cost of the gardens £1,580."—[*Money well spent.*—Ed.]

TEMPLE SHOW.—By the continued kindness of the Treasurer and Benchers this was as successful as ever, and was visited by their Majesties the King and Queen. It is a matter of satisfaction to the council to find that this meeting is universally acknowledged to be the leading horticultural exhibition of this country."

THE HOLLAND PARK SHOW.—The best thanks of the society are due to the Earl of Ilchester for his kindness in allowing a great show of, and conference on, Roses to be held in his park at Holland House, Kensington, on June 24 and 25. Financially the show was not a conspicuous success owing to the fact of the King's serious illness taking place on the 24th, but from every other point of view it more than fulfilled expectations. The Fellows will be pleased to know that his lordship has consented to another show being held at Holland House in the ensuing year on June 25 and 26. Fellows are requested to inform their friends of this show so as to make it this year a financial as well as a floral success."

THE HALL.—Our readers will remember the discussions that have taken place as to the most fitting way to celebrate the centenary of the society, and in a leading article last week we expressed our views again as to the unworthy design for so important a building. At a meeting held on April 23, 1901, a resolution was carried

"That the proposed site is not the best means of celebrating the centenary of the society, and in

supporting this resolution Mr. H. J. Elwes, F.R.S., unconditionally offered £1,000 if a new Hall were substituted for a new garden as the celebration of the society's centenary. Mr. A. W. Sutton, V.M.H., and Mr. N. N. Sherwood, V.M.H., also offered £1,000 each, and Baron Schröder a day or two afterwards offered £5,000 if the new Hall were adopted."

We are pleased to know that the sum "subscribed up to the date of this report going to press is £22,000, which the council cannot but regard as a promising commencement. The total estimated cost of the new Hall and offices is £40,000, inclusive of furniture and equipment. While the council gratefully acknowledge, on behalf of the Fellows, the response they have already received to their appeal, they feel confident that there are very many Fellows, amateur and professional, who will desire to recognise the great and continuous advantages they receive from the society by liberally supporting the new Hall fund.

"The council are aware that the plans and elevation they have placed before the Fellows have been criticised. They desire to point out that they have purposely restricted expenditure on external ornamentation in order to provide satisfactory internal accommodation; and that the architect has to comply with the restrictions and limitations necessary to meet the requirements of the ground landlords, the County Council, and other authorities." [*It is not a question of external ornamentation, but of simplicity and dignity. As we wrote last week: "Many a large warehouse, factory, or mill building, without an atom of ornament or any intentional thought of beauty on the part of the designer, has good qualities such as are here absolutely wanting."*—Ed.]

A NEW GARDEN.—One gratifying paragraph in the report is the following:—

"The council desire to assure the Fellows that the provision of a new garden has by no means been lost sight of. The society's lawyers are in correspondence with those of the Duke of Devonshire, and negotiations for the surrender of the Chiswick lease are in progress, and they hope that these, when completed, will materially facilitate the acquisition of the new garden."

The past year has been marked by strenuous work and that keen desire to help forward the horticultural industry and love for gardening to which we must surely attribute the remarkable increase in membership.

The past year is a record one in many ways, and every well-wisher of the society will hope that the desire of the secretary to double the number of Fellows before March, 1904, may be fulfilled.

As the provisions of the New Charter require that three vacancies shall be created in the council every year, the council have decided that one vacancy having occurred already by the resignation of Mr. J. T. Bennett-Poë, V.M.H., the other two vacancies shall be created by the resignation of Mr. William

Marshall and the Rev. H. A. Berners. The vacancies are filled by the Right Hon. Lord Redesdale and the Hon. John Boscawen, and Mr. Marshall, who is reappointed.

The vice-presidents nominated are: The Right Hon. Joseph Chamberlain, M.P., the Right Hon. the Earl of Ducie, the Right Hon. Lord Rothschild, Sir Frederick Wigan, Bart., and Sir John D. T. Llewelyn, Bart.

The annual meeting takes place on Tuesday next at 3 p.m. It is seldom that a society can offer a report that records such sound progress during the year financially and, as shown by the excellent "Journal," in horticultural work.

NOTES ON RECENT NUMBERS.

GARDENS FOR WORKING MEN (page 35).—Next to the ownership of a piece of ground there can be nothing better for a working man than to have the use of such a piece as he can cultivate. Many owners of property in and adjoining country towns and large villages have already done good work in providing allotments, but much remains to be done. It is a work of the highest national importance as well as a boon to the individual and his family.

Greenhouse Flags (page 37).—The short article with this heading refers to the Iris family, but the heading itself brought to mind another kind of greenhouse flag, namely, stone paving, and the way so many greenhouses and conservatories are spoilt by being floored with many-coloured tiles. They are doubtless used with the best intention, namely, that of making the place look pretty and well cared for. But it should be remembered that in such places the beautiful effect should come from the flowers and foliage and not from the flooring, and that when the paving is made prominent the flower effect must in great measure be lost. Nothing is better than plain stone flags; their quiet grey colour is most becoming to all flowers and foliage. In the same way some gardeners spread the benches of their stove houses with bright gravel; it looks very neat and clean in itself, but the plants look better on a ground of coal ashes, when nothing that is bright or catching to the eye comes into competition with the leaf and bloom of the pot plants.

Horticultural Club (page viii., January 17).—It is to be hoped that the substance of the discussion on "Wasted Opportunities in Fruit Growing in English Villages," brought forward by Mr. Owen Thomas, may be put into shape and printed in THE GARDEN. It has often occurred to the writer of these notes that it would be an excellent thing to have in country districts small experimental gardens, where the best kinds of produce and methods of cultivation could be shown. Such gardens should

be under the charge of a thoroughly competent gardener, and should be open to the public at all times, except Sundays, before three o'clock. They should provide young Cabbage and Lettuce plants and permanent roots to cottagers at nominal prices, and should sell general produce to local retailers at market rates. The gardener and others who could help would give information and instruction on week-day evenings. Such a scheme might be amplified in several ways to the very great benefit of a large neighbourhood. If a lecture room could be added to the gardener's house, and lecturers invited or engaged, valuable instruction could be given on winter evenings. The gardeners of the neighbourhood would probably find it an attractive meeting place on Sunday afternoons, the only time in the week when they have comfortable leisure and have their minds free from the more pressing needs of their business. Such a garden would probably become incorporated with the interests of any local gardeners' society, and would immensely strengthen it. It is a matter well worth the attention of those who have the means and the good will to do useful work in country places.

Penzance Briars on Manetti stock (page 50). THE GARDEN has always preached a vigorous protest on the subject of needless grafting. It is, indeed, no wonder if the rampant Penzance Briars, children on one side at least of a wild British stock, should rebel at being grown on the foreign Manetti. These Briars should *always* be on their own roots, and indeed many, if not all, garden Roses. It is, no doubt, one of the many evils that are owing to the pressure of trade competition; growers find they must graft to get stock enough in the easiest and cheapest way; and the customer suffers. It would be well if customers could insist on knowing what they were buying, and that it should be made binding on nurserymen to state distinctly in their catalogues whether a plant is grafted or not and *on what*. Grafted and own-root plants might be differently priced. It is clearly not right that the customer should pay for a Penzance Briar and find that for two years he has an unhappy weakling Briar, and that, finally, he has a flourishing plant of Manetti.

Yuccas in the rockery (page 69).—Mr. Bartlett draws attention in his excellent note to one of the commonest faults in rock gardens, namely, the want of a few bolder plants in prominent portions of the structure. Scale must, of course, be considered, but for a fairly large rock garden, as he says, nothing is finer than the Yuccas, with their distinct forms and massive spikes of bloom. It is also important that the upper or crowning portions of rock gardens should, in almost all cases, have some plants of shrubby and permanent character. In gardens too small to admit the larger Yuccas there will always be space for *Y. flaccida*, or the one commonly grown as *filamentosa*, while a crowning growth of alpine Rhododendron, or one of the neat *Andromedas*, gives that comforting impression of permanence and good winter clothing that is so often wanting in the ordinary rock garden. G. J.

NOTES OF THE WEEK.

FORTHCOMING EVENTS.

February 7.—Société Française d'Horticulture de Londres Meeting.

February 10.—Royal Horticultural Society—Meeting of Committees, 12 a.m.; Annual General Meeting, 3 p.m.; Horticultural Club—Annual

Meeting, 5 p.m., and Annual Dinner at 6 p.m. at the Hotel Windsor, Victoria Street.

February 11.—East Anglian Horticultural Club Meeting.

February 13.—Royal Gardeners' Orphan Fund Annual General Meeting, Cannon Street Hotel, 3 p.m.

Horticultural Club.—The annual meeting will take place on Tuesday next in the Club Room, Hotel Windsor, at 5 p.m., and the annual dinner at 6 p.m.

Royal Horticultural Society.—The next meeting of the committees of this society will take place on Tuesday next, the 10th inst., in the Drill Hall, Buckingham Gate, S.W. The annual general meeting of the Fellows of the society will also be held in the Drill Hall at 3 p.m. on the same date. At a general meeting held on Tuesday, the 27th ult., forty-eight new Fellows were elected, among them being the Countess Fitzwilliam and Baron de Teissier, making a total of 138 elected since the beginning of the present year.

Geo. Monro, Limited.—As has been already announced, the business established by Mr. Geo. Monro in 1871, and carried on by him alone since 1873, has been converted into a private company. An interesting and tastefully-produced booklet, a souvenir of this important occasion, has been privately circulated. From it we learn that Mr. Geo. Monro is governing director, and Messrs. Edwin Geo. Monro (who has been in the business for nearly twelve years), Geo. Monro, jun. (manager of the flower department for eleven years), Bertrand J. Monro (salesman for eight and a-half years), Alex. James Monro (accountant for thirteen years), all sons of Mr. Geo. Monro, and Mr. Chas. Cole, salesman in the fruit department, for twenty years associated with the business, are directors. Geo. Monro, Limited, have ten premises altogether, most of which are in the neighbourhood of Covent Garden, one is in the Scilly Isles, another in Guernsey, and one in Manchester. The booklet, descriptive of this important business, which disposes of immense quantities of fruit and flowers in the course of a year, is illustrated by portraits of Mr. Geo. Monro and the other directors, as well as by views of the places of business.

The Royal Gardeners' Orphan Fund.—The annual general meeting of the subscribers to this fund will be held at the Cannon Street Hotel, London, E.C., on Friday next, for the purpose of receiving the report of the committee and statement of accounts for the past year; to elect officers for the ensuing year; to elect twenty-four children to the benefits of the fund, by special resolution; to alter Rule xiii. by inserting in line 7, after the words fourteen years: "but the committee may at their discretion in exceptional circumstances extend the usual allowance for a further period not exceeding two years. Further"; and to transact such other business as may arise. The chair will be taken at 4 p.m. The fifteenth annual dinner in aid of the charity will take place at the Hotel Cecil, Strand, W.C., on Tuesday, May 5 next, under the presidency of the Right Hon. the Earl Carrington. The secretary will be glad to receive the names of any gentlemen who may desire to act as stewards or to be present on this occasion, and will be pleased to furnish any information that may be required with reference thereto.

A great fruit and vegetable show at Chiswick.—It is proposed to hold a great show of fruits and vegetables in the Chiswick gardens on September 29, 30, and October 1 next. The secretaries' announcement is as follows: "The great autumn show of British-grown hardy fruits, which the society has held for several years past at the Crystal Palace, has become as much a thing to be regularly looked for by fruit growers as the show at the Temple in May is looked for by growers of flowers. A very strong desire has, however, been expressed that vegetables should also find a place at this show, and the council have acceded to this request, only stipulating that they absolutely refuse to accept any prizes (or money offered for prizes) which are accompanied with the restriction that the seeds from which the vege-

tables have been grown have been procured from any one specified firm. The council are of opinion that growers should be at perfect liberty to procure what seeds and whence they please. The authorities of the Crystal Palace having always strictly prohibited the introduction of vegetables at this show, it has been decided to hold it this year at Chiswick, which is nearer to London, and more quickly accessible therefrom. It is calculated that such a show, with prizes for both fruits and vegetables, cannot be held under an expenditure of £350 to £400. If, therefore, the show is to take place, it will be necessary for all who are interested (and who is not?) in the encouragement of the growth of good fruits and vegetables *within* the United Kingdom, instead of depending so much on external and foreign supplies, to combine in raising a sum of at least half the amount of money required." Cheques and postal orders should be made payable to the secretary or crossed London and County Bank.

THE VIOLET.

A VIOLET in the meadow grew,
A lovely flower of purple hue,
So modest and so shy.
There came a shepherdess that way,
With tripping step and spirit gay;
She sang as she passed by.

"Oh," thought the Violet, "if I were
The finest flower earth e'er did bear,
For just one moment's space!
My love would stoop and gather me,
And on my beauty look with glee,
And press me to her face!"

Ah, but alas! the maid passed by,
And did not hear the Violet's cry—
It lay her foot beneath!
All crushed, it sank to earth, yet cried:
"I still rejoice, for I have died
Through her!—O welcome death!"

* * * * *
Crushed 'neath her foot, it gladly died—and yet
She never even said—"Poor Violet!"

SYDNEY HESSELRIGGE.

—(Translation of the words of a song of Mozart's.)

Sale of poisonous compounds.—Mr. T. G. Dobbs, secretary of the Traders in Poisons or Poisonous Compounds for Technical or Trade Purposes Protection Society, writes: "It may interest many of your readers to know that it is in contemplation to effect a change in the law as to the sale of poisons, which, while safeguarding the public interest, will meet the convenience of large numbers of persons who make use of poisonous compounds for agricultural, horticultural, trade, and technical purposes. Hitherto the law, although it has not always been strictly observed, has required that such compounds should be sold only by properly qualified chemists, but it would be manifestly more convenient that articles such as sheep dips, insecticides, disinfectants, and articles used for photographic purposes should be readily obtainable from agricultural agents, nurserymen, seedsmen, ironmongers, and oil and colourmen, as well as chemists, the former having more practical knowledge of the uses for which these articles are required. It is understood that the departmental committee on poisons will report to the Privy Council and to Parliament in favour of an alteration in the law, and that the Government will shortly bring in a Bill amending the Pharmacy Act on the lines suggested by the poisons committee providing for the sale by licensed traders, in properly labelled and sealed bottles or packages, of articles already described as supplied by manufacturers or wholesale dealers. The pharmacists are certain to endeavour to retain their present privilege; it is for the traders who favour a change in the law to take care that the proposed alteration is made thoroughly effective in their own interests. The time is now ripe, therefore, for concerted action to be taken by the traders affected; and we, on behalf of the Traders in Poisons Compounds, &c., Protection Society shall be greatly obliged if they will at once communicate with us, so that arrangements may be made for deputations to wait upon the members of Parliament for all constituencies, claiming their support of the Bill." The address of the secretary is 24, Sansome Street, Worcester, and the treasurer is Mr. G. H. Richards, 234, Borough High Street, London, S.E.

Sutton's Superb Early White Broccoli.—The fruit and vegetable committee at the Drill Hall, on the 13th inst., before whom this fine early Broccoli was shown, expressed a desire to see other heads, the plant being sent just as it was pulled and untrimmed. One object of such requirement was to see what leaf protection was furnished to the heads, a very important matter with mid-season Broccoli, and a further reason was that smaller heads might be seen, as those sent, besides being hard-trimmed, were too large, a fault very easily remedied by the grower. Really the heads sent were as large as are those of Autumn Giant Cauliflowers in October. Gardeners at the table said the samples were too large, and they wished to see heads small and less exposed to the light. In spite of the size, however, heads cooked later proved to be soft, mild, and delicious, much more resembling Cauliflower than Broccoli. The variety is not only fine but wonderfully early, and if quite hardy should prove to be a valuable addition to winter Broccoli.—A. DEAN.

Late Chrysanthemums.—As a slight addition to the note on page 50 I may mention that Golden Dart has been grown here since its introduction, and is a useful late variety, good flowers being nearly always available until the end of January. The flowers are not more than about 6 inches across, and of good substance and colour. Golden Gate is another good late yellow variety. With reference to the matter which led to Mr. Jenkins' note, I should say it is impossible to draw a hard and fast line as to the varieties that should be grown in private places. It is a question of individual tastes, and as a rule this depends upon particular shades and their adaptability for certain lights and situations, which is probably the reason for the retention of Golden Gem in quantity at Frogmore. Personally, until very recently I had to grow more Source d'Or and Tuxedo than any other varieties, as in their respective seasons nothing was so much liked when cut.

Chimonanthus fragrans flowers. Notes on the Winter Sweet are numerous every year, but there is one feature I have not seen recorded—viz., the long-retained vitality of the flowers after their removal from the tree. When gathering the sprays that prompted the editorial note on page 2, I placed a few in a small vase in the fruit room, at the same time putting another beside the vase on the board. There was no difference as to the retention of vitality between the flowers in water and those simply on the board. At the end of a fortnight the latter were perfectly fresh and the colour of the petals was quite natural. The scent, however, disappeared after about a week. A comparison, by the way, touching this sustained vitality between the type and the variety known as Grandiflorus is altogether in favour of the latter, as the petals of the older form collapse within a week.—E. BURRELL, *Esher*.

Veitch Memorial Fund.—At a meeting of the trustees held on the 27th ult., it was decided to offer to the Royal Horticultural Society two medals and prizes of £5 each for competition at the Chiswick show, to be held on September 29 and two following days; one medal and prize to be awarded to fruit, and one medal and prize to vegetables. It was also decided to offer the Birmingham and Midland Counties Fruit and Horticultural Society a medal and prize of £5 to be awarded to fruit; also to Mr. Holland of Clay Cross, Derbyshire, a silver medal in recognition of his long and faithful services to horticulture extending over a period of sixty years as secretary of the Clay Cross Horticultural Society. It was further resolved to contribute the sum of fifty guineas towards the fund being raised by the Royal Horticultural Society for the erection of a new hall and offices.

Cercis Siliquastrum.—In the early part of this year much was written regarding this, commonly known as the Judas Tree. In some papers it was said to be very rare; it is, however, nothing of the kind, and all lovers of shrubs have known and planted it for many years past. About the time those notes appeared I was visiting one or two gardens in the neighbourhood of Yeovil,

Coker Court amongst them, and here I saw the finest specimen of this tree that I ever came across. It was about 18 feet high by 18 feet wide, growing in standard form. At the time of my visit it was full of bloom, its handsome leaves and rosy purple flowers made a lovely sight beside a fine tree of *Pyrus Malus floribunda* in blossom. Grouped in front, fringing the turf, was *Weigela rosea nivea*, a pure white variety. At the back of these were Laurels and other evergreen shrubs acting as a background. This group of shrubs in flower was charming from its simplicity and naturalness. A few days before I saw another good bush of the *Cercis* at Melbury, Lord Ilchester's fine Dorset seat. This garden contains many fine trees and shrubs. Planters should make a note of the Judas Tree and the others named above.—J. CROOK, *Chard*.

THE INDOOR GARDEN.

CAMELLIAS.

I SUPPOSE the growing taste for flowers of a light and graceful character, small and apparently insignificant as many of them are, is answerable for the decline of the *Camellia*, a decline noticeable in the scant favour accorded it in private gardens and in the low market price, as it is hardly at any time a saleable flower. There is, however, a refined beauty in many varieties very attractive to those prepared to recognise beauty in almost every flower; and certainly the long season of cutting afforded by *Camellias* is a very useful feature, especially in those gardens where there is little opportunity of supplying forced flowers in quantity. With just enough fire-heat to keep out frost, I start cutting at the end of November and continue until about the middle of April, or as long as the flowers are required. It varies a little with the season, a hot summer with plenty of sun or one dull and damp making all the difference in the development of the buds; but this would represent the average duration of the flowering season. The exact time that the plants have been in their present quarters is not easily determined, the largest probably close on one hundred years, and as the flowers show no deterioration either in quality or quantity, it must be granted that there are very few greenhouse plants that wear so well. The dimensions of the house do not admit of the plants attaining a great size either in height or width, 15 feet by 8 feet being the maximum, and severe annual pruning is necessary to keep them within bounds. They have, however, developed some fine stems, the largest being 3 feet in circumference. One of these unnamed is evidently the variety figured in Mrs. London's book as *japonica Pomponia*, and may be best described as loose Anemone-flowered, a bit erratic in shape, and still more so in colour. In the latter respect the variation has seldom been more pronounced than during the present season, some flowers nearly a pure white, others a pale pink throughout, others white with a pale pink tinge after Lady Hume's Blush, and yet others with a white ground more or less splashed or veined with pink. This is the earliest variety I have. Some splendid blooms are now available of the old *Donckelaari* and *Conspicua*, the contrast between the bright yellow-tipped stamens and the parti-coloured or pink flowers being very fine. *Conspicua* throws the larger flowers, but the petal markings of *Donckelaari* are exceptionally delicate and beautiful. The former is seldom found in England. I believe our plant was brought from the garden of Bonaparte's birth-place in Corsica. Two old varieties that hold their own for button-holes are *Lady Hume's Blush* and *Cup of Beauty*. The groundwork of the latter is pure white with occasionally a very thin pink streak. This, although tiny in size, is very clear and well defined; the flower is comparatively small, retaining its cup-like character to the end. Other sorts in the beds are *Alba plena*, as large a plant as *Pomponia*, *Marchioness of Exeter*, *Woodsi*, *Chandleri*, and a dark scarlet under the name of *Rubens*.

The *Camellias* in question are quite a contradiction to the theory sometimes put forward that a certain amount of open-air treatment is essential to the proper development of flower-buds. Not only have they been under cover all through their career, but the house is also poorly ventilated. It is a span with a brick wall at back, high front sashes, and a very flat-pitched roof. Of the back portion of the roof none of the lights are movable, and in front only one in three, ventilation being mainly supplied by means of the front sashes, as well as in summer by the opening of all doors. For some time I used no shading of any form, but, finding that the young growth was apt to scald a little owing to the hot sun striking on leaves that had been damped by rain driving through the open sashes, I have for the last few seasons shaded a little, as the young growth was well started. With the end of flowering a considerable amount of pruning is always necessary, especially at the top of the house and to the wall of foliage facing the front sashes. I like to get the pruning over as soon as possible, because if front growth has to be cut away it naturally means relying on back wood to furnish another season's display, and consequently this should get all possible benefit of light and air. Varieties differ considerably in the amount of flower-buds annually furnished, some only just about enough to get a fair display all over the plants, whilst in others they are produced in great profusion, necessitating a lot of disbudding. *Alba plena*, *Pomponia*, and *Woodsi* are the most prolific in this respect, from five to nine buds often showing on pieces of wood not more than 4 inches in length. In such cases I generally leave one terminal bud and another towards the base of the shoot, a succession of flowers being thereby secured. Watering is regulated by the seasons—in summer once a week, in spring and autumn once a fortnight, and in winter once in three weeks, care being taken, whether the operation is performed frequently or at wider intervals, always to give a thorough soaking. Cow manure is the only stimulant used, the invariable practice being, so soon as the flower-buds show signs of plumping up, to get a couple of loads from the park and cover the beds all over with the same rather over an inch thick. I used to put this on in early summer, in May, directly after pruning and tying in where finished, but discontinued it until later in the year, finding that the earlier surface-dressing had a tendency to promote rank growth, and that flower-buds under such circumstances were but sparingly produced. E.

THE FLOWER GARDEN.

THE TREE MALLOWS.

(LAVATERAS.)

PROBABLY there are about two dozen species of *Lavatera* known, the majority of which are natives of the Mediterranean region and Western Europe. One species is found in Australia, whilst others occur wild in the Canary Islands and in Central Asia. Under cultivation in English gardens two species only can be said to be of importance, one of which, however, may be classed amongst the most beautiful and showy of the hardy annuals we possess. This is *L. trimestris*. The genus belongs to the Mallow family, and is nearly allied to *Malva*, from which it differs chiefly in the lobing of the outer envelopes of the flower. The name was given by Linnaeus in honour of two naturalists (brothers) called Lavater, who lived in Zurich during the eighteenth century.

L. trimestris.—This is the best and the commonest of *Lavateras* in gardens. It is an annual, and is a native of Southern France, Spain, Morocco, and most of the countries that surround the Mediterranean Sea. It was first introduced to Britain in 1633, and is certainly one of the showiest of hardy annual plants, and grows about 3 feet high. The leaves towards the base of the stem are larger and more rounded than those towards the top, where they become narrow, pointed, and lobed.

The flowers are each 3 inches to 3½ inches in diameter, and in the typical plant are of a bright rose colour with a patch of maroon in the centre. In the variety *alba* they are pure white. The flowering season extends from July to September. The flowers are charming for indoor use; the greater part of the stem, with its open and unexpanded blossoms, should be cut and arranged in vases, &c., in which the blooms will continue to open and remain in full beauty for several days. The plant is worth growing in a reserve plot for this purpose alone. The seed, which can be purchased for a few pence from any seedsman, may be sown in March or early April on the border where the plants are desired to grow and flower, thinning them out when an inch or two high. Like most of the Mallow family, the plants like a deeply-dug and well-enriched soil. The variety *malvaformis*, discovered by the late Mr. John Ball at Reraya, in Morocco, has smaller flowers of a pale purple colour.

L. arborea (the Tree Mallow, or Sea Mallow).—This is a shrubby species abundant near the sea in various parts of South-Western Europe and in the British Isles. It has been gathered wild in the south-west of England, in Ireland, and on the Bass Rock in the Firth of Forth, always near the sea. Inland, in the latitude of London, it is not hardy, but in the gardens (often cottage gardens) near the coasts of Cornwall and Devon it is very often to be seen. Under cultivation and grown in rich, deep soil it reaches 6 feet to 10 feet in height, and has thick succulent shoots bearing large, soft, and many-lobed leaves. The flowers are each 2 inches to 3 inches across and pale purple. A more showy and attractive plant than the type is the var. *variegata*, a form sent out many years ago and given a first-class certificate by the Royal Horticultural Society. It is, unfortunately, no hardier than the green-leaved plant, and requires protection in winter, but it is a striking plant when well grown and in full vigour, the leaves being splashed with large, irregular patches of white. It is worth growing in an unheated or cool greenhouse, can be propagated from cuttings, while it comes fairly true from seed.

The two following are in cultivation (as are also several others), but it is chiefly in botanical collections that they are to be found:—

L. Olbia (the Tree Lavatera).—A native of the south of France, and especially common in Provence, where it is known as *Lavatière d'Hyères*, and whence it was introduced to Britain in 1570. It is now naturalised in some of the warmer parts of this country. It is naturally of shrubby appearance, growing from 2 feet to 6 feet high, with five-lobed leaves of the usual soft texture and reddish-purple flowers, each measuring 2½ inches across and produced from July to October. The variety *hispidia* is a more woolly form, a native of Barbary.

L. thuringiaca.—A hardy perennial that was in cultivation in Britain in 1732 and mentioned by Philip Miller in his Dictionary, but not of sufficient merit to be generally cultivated in these days. It grows wild in Scandinavia, Germany, the region of the Danube, Asia Minor, and Siberia. The stems are annual and bear their purple flowers during July and August.

R. T.

THE BEST TUFTED PANSIES.

(In reply to "Q.")

WITH so many really first-rate tufted Pansies (Violas) now in general cultivation, it is not easy to make a selection of a limited number. Tufted Pansies can never be regarded other than bedding flowers, and to see them at their best they should be grouped in colours of one variety at intervals in the hardy border or planted in masses by themselves. Some of the dwarfer and more compact sorts make a pretty edging to a large border, and this in the distance is very pleasing. The miniature-flowered type so charmingly represented by the late Dr. Stuart's rayless white, named *Violetta*, is excellent for edgings to beds and borders. I wish more attention were given to this smaller type of flower. Of those now generally

catalogued almost the whole of them are sweet-scented. The following selections will no doubt meet the requirements of most readers of THE GARDEN:—

SIX RAYLESS SORTS.

Melampus.—A pretty rayless Pansy with an almost circular flower, deep rich yellow in colour. Each one is on a stout, erect footstalk, well above the compact and robust growth. A free-flowering variety.

La Vierge.—This is another pretty circular rayless flower. It blooms freely, and is pure white with an orange eye. It is of excellent habit.

Blanche, *syn. White Empress*.—There is considerable doubt as to which is the proper name, and the same variety is frequently met with as often under one name as the other. The flowers are large, of good form and substance, and the colour may be described as pale creamy white, with a yellow eye. Good habit, robust growth, and free flowering.

Blue Gown.—If a good stock can be obtained, this variety is excellent. The flowers are of medium size, and appear freely on a perfect tufted habit. It is another of the late Dr. Stuart's gems. The colour is pale blue, tinted mauve, with a yellow eye, giving a pretty finish.

King of the Blues.—There is no better blue Pansy in cultivation than this. The flowers are not large and produced freely. The colour is deep blue, with rich yellow eye; good compact habit. Unfortunately, the stock is difficult to obtain, so few specialists possessing it.

Leda.—This finds many admirers. The flowers belong to the edged type, are large, creamy white, neatly margined pale purple-blue. Habit dwarf and tufted.

TWELVE RAYLESS SORTS.

In addition to the six sorts already described, the following will complete the selection of twelve varieties:—

Floricele.—This is a beautiful rayless variety, and one of the most distinct. The flowers are of somewhat oval shape, beautifully finished. Colour bluish lilac, and borne well above the procumbent growth.

Rosea Pallida.—Another handsome bedding Pansy, with charming rosy lilac flowers; the growth is most dainty, dwarf, and compact.

Queenie.—This is a pretty flower with a creamy white ground, edged and streaked with pale lavender. When massed in the border the effect is very pleasing. Each flower is borne on a good length of footstalk, which stands well above the tufted growth.

Deronshire Cream.—A very profuse flowering Pansy; the flowers are not over large, but appear persistently and profusely. The colour is rich cream; good habit.

Sweet Lavender.—This is a distinct lavender-coloured self introduced in 1893. The flowers are of good size and produced freely. Although its habit is not so good as some it is worth a place in a small collection. It blooms very early in spring.

Pembroke.—One of the best of the rayless yellow varieties. The yellow colouring is rich and deeper on the lower petal, the growth vigorous, and in the late season somewhat coarse.

FOUR MINIATURE FLOWERED RAYLESS SORTS.

For alpine gardens these small-flowered Violas are very suitable:—

Violetta.—The original type, and without a doubt the best of all. The fragrant flowers are about 1½ inches to 1¾ inches across, and are produced on long flower-stalks. The growth is dwarf and compact; free-flowering.

Forget-me-not.—A really dainty little flower, white ground and rayless, prettily edged with bluish lavender. The plant grows freely, and has a perfect habit; it is also a profuse flowering variety.

Pigmy.—As a plant for a narrow margin to a large bed or border this excels. It is of good growth, and blooms freely and persistently; colour deep purple-blue, with neat yellow rayless eye.

Robin.—This is a most distinct variety, of very dwarf and compact growth; colour rosy blush. It remains in flower for many months.

Highbate, N.

D. B. CRANE.

ALPINE SHRUBS IN THE ROCK GARDEN.

LINNEA BOREALIS.—This charming little shrubby plant, a representative of the once numerous Arctic flora of Great Britain, is one of the most handsome of this class. It is a creeping evergreen, with small, roundish, slightly crenate leaves and pendulous bell-shaped flowers, either white or rose tinted, and usually sweetly scented. The European form has bright green leaves, sparingly hairy and slender smooth wood, while the American form is more hairy and the colour of the leaves is not so green. The former is the more handsome of the two. *L. borealis* is easily grown in peaty soil, fairly moist, and shady at the north side of the rock garden. It is also well adapted for pot culture as well as for the wild garden.

Helianthemum (Rock Cistus).—A genus of pretty shrubs, of which one or two species are quite common in Great Britain. The most common is *H. vulgare*. This is found quite close to London in meadows and wastes. They are all dwarf, either creeping or erect-growing shrubs, and are almost evergreen, with small oval or roundish leaves, and usually large, showy, invariably brightly coloured flowers. In the various species there are many garden forms of different shades of colouring, pure white to yellow, red-purple and orange flowers often spotted single and double, and the leaves are often in the erect-growing kinds silvery or lanate. The garden forms are usually much freer than the wild species, but each flower only lasts about a day. The forms of *Helianthemum* are very numerous, and as all are worth growing I shall not enumerate them. They are, however, difficult to transplant, and it is therefore advisable to plant only pot-growing sorts, which should not be too large and quite young, as these will always be the most satisfactory. They grow best in exposed, dry, sunny situations in poor stony soil.

Euonymus radicans, the now recognised typical species, is an evergreen of very close and creeping growth, with small, roundish, dark green leaves. It is useful for fairly moist, sunny, or shady positions in any kind of soil. It is apparently still rare, and is not so well known as it deserves, especially as the variegated large-leaved form known under the name of *E. radicans* fol. var. is not so pretty.

Betula nana.—A pretty little shrub often seen as the last plant of the tree order near the eternal snow of the high Alps, also in Northern Europe, in Norway and Sweden, and occasionally on the mountains of Scotland. It rarely grows over 1 foot to 1½ feet high, and has roundish, light green leaves, netted beneath, and is deciduous, like *Betula alba* and allied species.

B. pubescens is another dwarf form, growing mostly in boggy soil; also a high alpine.

Cytisus Arduini.—This is of dwarf, creeping growth, with small ovate hirsute leaves and rather large yellow flowers. A fine plant for the sunny part of the rockery or front row of the herbaceous border.

Genista dalmatia most resembles a small *Ulex*, of dwarf, erect growth, with small, ovate leaves, and pretty yellow flowers. When well grown it is undoubtedly one of the most handsome of flowering shrubs. *Genista pilosa* fl.-pl. is a well-known plant, of close creeping growth, and double yellow flowers.

Vaccinium Vitis-Idaea.—A dwarf evergreen, from 6 inches to 12 inches high. The leaves are obovate, smooth, bright green, and rather larger than most of the other kinds. The handsome flowers are bell-shaped, white or rose-coloured, and later in the year the shrubs are covered with bright or dark red berries.

V. Oxycoccus.—A bog plant with almost filiform stems and small, ovate, acute leaves and red berries; edible, especially when preserved. Another and larger form is *V. macrocarpon*. All these *Vaccinium* grow best in peaty soil.

Gaultheria procumbens is one of the best and most beautiful of dwarf evergreen shrubs. It scarcely grows over 6 inches in height, and has ovate or obovate thick leathery leaves, at first deep green, later in the year purple. The flowers are white or rose-coloured, urceolate or bell-shaped, and during the autumn and winter the plants are covered with large coral-red berries formed out of the persistent calyx. The berries have a strong spicy scent. This species grows best in peaty soil or leaf-mould in the shade of trees on the north side of the rockery, and as the plant is of fairly rapid growth it soon forms large masses.

G. myrtifolia is much rarer and comparatively little known. The small leaves are heart-shaped, hirsute, and the flowers are white. It is of slow and dwarf growth. Grows best in shady, sheltered places in peaty and fairly moist soil.

G. Shallon in poor, exposed positions grows only about 9 inches to 1 foot in height, but in Cornwall I have seen it often 4 feet and 5 feet high. The leaves are ovate, rather large, and evergreen, as in the former. The flowers are bell-shaped, white or flesh coloured.

Pinus.—Of these there are several dwarf-growing kinds, also of the abies, and in fact of most of the coniferæ. Of late years a number of dwarf forms have been introduced, which are very acceptable for the rock garden and its surroundings.

Veronicas.—The shrubby kinds have become very numerous since the introduction of the many alpine species from New Zealand. The best of them are probably *V. epacrioides*, *V. Hectorsi*, *V. cœrulea glauca*, *V. pimeleoides*, and *V. buxifolia*, and all of these have proved to be quite hardy in Great Britain.

Ononis fruticosa.—A pretty leguminous plant growing about a foot in height. It produces nearly through the whole of the summer an abundance of rosy flowers. *O. rotundifolia* is similar, but much commoner than the former.

Potentilla dahurica is probably a form of the well-known shrubby *P. fruticosa*, but very dwarf and creeping. G. REUTHE.

THE ROCK GARDEN.

ROCK GARDEN-MAKING.

VI.—PROBLEMS IN ROCK-BUILDING.

IN previous chapters I have already given general hints and suggestions in rock-building, when the stones used were of the *igneous* or unstratified class. By way of explanation I gave also examples from Nature's own work illustrating the natural disposition of such rocks (see THE GARDEN of January 3, pages 7 and 8), and in the issue of December 27 of last year a small rock garden was illustrated during various stages of the work. I will now give another example, viz., a case in which the circumstances were peculiar.

The reasons for constructing rock gardens are various, and probably in no two cases quite alike. One lover of plants has become enraptured with the gems of the mountain plants and desires to found a home in his garden for the flowers he loves; another, perhaps, has a fascination for rock shrubs, and constructs a rock garden specially adapted for showing his favourites to the best advantage; still another is fond of picturesque scenery, and introduces into his garden bold rocks surrounded by broken, irregular ground. But sometimes it may so happen that the ground which is to be laid out as a garden is of so peculiar a nature that its partial transformation into a rock garden is not only the best and most effective way out of a difficulty, but also the most economical. Such is the case here illustrated. The accompanying illustration repre-

sents a view in the gardens of Mr. E. Hain, M.P., as laid out a few years ago by Messrs. R. Veitch and Son, of Exeter, at Trelozhan, St. Ives, Cornwall.

When the handsome mansion was erected the few acres of ground surrounding it were simply a desolate waste, being, in fact, the site of an ancient mine. There were boulders of granite and "blue elvin" partly scattered over the ground and partly buried under mining *débris*. But apparently the greatest obstacle to the making of a garden was the huge piles of mining rubble from which the ore had been extracted, and which consisted of broken stones averaging about the size of a man's fist. Many thousands of tons of this mining rubbish or waste had been deposited on the ground. The main ridge was about 120 feet long and 20 feet to 25 feet high, forming an angle of 40° to 45°. To cart away this huge mass in order to give the garden the usual orthodox level appearance would have involved an enormous expense without gaining any other effect than that of formality. Why not turn the whole ridge into

in and out, going sometimes above and sometimes below the level of the less steep adjoining ground. This trench proved of the utmost importance. Into it large and small stones were placed, and around and between the stones soil was filled in and firmly rammed. This gave a firm foundation. Without such precaution any stones or soil placed on the steep bank would have been slipping away continually.

In the illustration, on the left side in the foreground, some of these foundation stones, irregularly placed, may be plainly seen. The illustration also shows how the "rocks" are broken up at intervals, leaving between them large and small spaces covered, not with stones, but with green sward or with various plants. But although on the surface scarcely any stones are visible in such spaces, there had to be a connexion underground, especially in the steepest parts, where, starting from the firm foundation above referred to, it was necessary to place stone upon stone for the sake of support, in order to allow much larger stones



HEAP OF MINING RUBBLE MADE INTO A ROCK GARDEN AT TRELOZHAN, ST. IVES, CORNWALL.

a rock garden? The suggestion was accepted and carried out. The result is shown by the illustration, which, however, was prepared from a photograph taken some time ago, and now, since the plants have grown up and have hidden some of the defects, the effect is more pleasing and more natural. As in other gardens cases may exist where it might be desirable to treat unsightly ridges of rubbish in a similar way, it may not be amiss to give here a brief description as to how the transformation was effected in the present case.

As the ridge of small waste stones had been left just as in days gone by the miners had tipped them from their trucks, it was naturally very steep, and on being disturbed this rubble would shift and roll down the steep incline. It was necessary, therefore, to remedy this. In the first place, the rubbish was spread out in some parts while left untouched in others, so as to effect as much variety as possible under the circumstances.

In other portions recesses were dug out in order to increase the irregularity. At the bottom of the steepest parts of the incline a trench was dug out, not straight, but winding

in the higher parts to protrude more prominently. Only when the firm support of such large stones was properly secured could the smaller stones between the bolder groups be covered with soil, &c. Where the rubble had been spread, so as to be less steep, holes were dug out here and there for large single stones and sloping trenches on a higher level, where it was intended to combine the stones into groups to resemble massive rock.

As the stones used for the construction of this rock garden were those found in other parts of the same ground, namely, granite and "blue elvin," which are both of the unstratified kind, anything like regular layers or strata were carefully avoided. In the centre of the picture are some rocky steps, facilitating access from the lower to the higher parts of the ground. But even these steps were kept as irregular as possible, so as to give the idea of naturally scattered pieces of rock rather than that of a staircase. Between the steps *Thymus lanuginosus*, *Veronica rupestris*, *Sedum spurium*, *Thymus Serpyllum albus*, *Erinus alpinus*, and many others have been planted with good effect.

Among rock shrubs which adorn this rock garden may be mentioned many shrubby Veronicas, including *Veronica carnosula* and *V. buxifolia*. These have done remarkably well, as have also the many kinds of *Helianthemum* or Rock Cistus, for which the comparatively dry exposed slope seems well adapted. *Rhododendron ferrugineum* and *R. hirsutum* have also done fairly well. Of other rock plants which have here given very satisfactory results, I may mention various Thrifts, *Dianthus*, and *Plumbago*, also *Statice*, *Artemisia stelleriana* with its long silvery shoots, and the prostrate *Acena ovalifolia* have formed a dense covering. Of *Mesenbryanthemum*, the quick-growing *M. edule* has covered the bare southern slopes, while *M. uncinatum* adorns the more rocky portions. That this rockery is also full of *Arabis*, *Aubrietias*, *Alyssum*, and other spring flowers goes without saying.

Since the photograph was taken many good things have been added to the plants, and visitors never suspect that the same spot was only a few years ago a heap of mining rubble piled into a ridge.

Elmside, Exeter. F. W. MEYER.
(To be continued.)

NOTES ON HARDY PLANTS

CAMPANULA LACTIFLORA

ONE of the most interesting of the whole family is this beautiful Bell-flower, and, as the illustration suggests, produces sheafs of flowers, white, except in the variety *cerulea*, of which the colour is soft sky-blue. A group of it was formerly in the cottage garden of the late Mr. G. F. Wilson at Weybridge. It is quickly raised from seed, and in fairly light soil soon becomes established. V.

VIRGINIAN CREEPER *v.* IVY.

THE use and abuse of Ivy for covering walls has been often discussed by the antiquary and the gardener from their own distinct points of view. An old Ivy-clad ruin has undoubtedly many charms, but for the archaeologist, who has the happiness of being able to combine both the picturesque and the antique, there is always the thought that beneath Nature's dense clothing there is, in all probability, some choice architectural decoration of a past age which is not only hidden from sight, but whose destruction has been going on for years, perhaps to be finally and irretrievably lost beyond recovery should the Ivy at any time be forcibly removed, for in the process of tearing down its tightly clinging stems much destruction is caused to stone and brick surfaces.

The planting of Ivy on plain brick surfaces under conditions where such brick buildings are eyesores has much to commend it, but even then choice should be made of such varieties of Ivy as to produce the best effect, without too great prominence or overloading.

There are far too many illustrations in the country of valuable buildings and priceless relics of past ages that have become a prey to the Ivy, such, for instance, as the church of the Holy Cross, Winchester, thus seeming to fulfil the words of Dickens that "the stateliest building man can raise is the Ivy's food at last." That this, however, need not be so has been forcibly shown of late in a most useful and interesting paper on "The Preservation of Ancient Buildings," read before the Architectural Association by Mr. W. D. Caröe in April last. The value of this paper is so important that its contents should be known outside the circle for which it was originally written, for it appeals more or less to all who have anything to do with plants, especially in relation to buildings.

With these important bearings in mind I think no apology is needed in drawing attention to Mr. Caröe's paper and in reproducing some of its most salient facts from the garden point of view; for though we personally most cordially support the author in almost every word he says on "Restoration, Reparation, Preservation, Protection," there is much that especially concerns the gardener and horticulturist. On the subject of the preservation of ruins as ruins, Mr. Caröe thus writes on the destruction of Ivy: "Quite apart from the destructive qualities of Ivy, the entire concealment of architecture by an evergreen growth is merely the rendering of it valueless. It might as well be a rough brick wall, and any beauty such a combination possesses belongs to the Ivy and not to the architecture. One is reminded of the seer of Brantwood's words: 'The artist who looks to the stem of the Ivy, instead of the shaft of the pillar, is carrying out in more daring freedom the debased sculptor's choice of the hair instead of the countenance.' For the artist you may substitute the general lover of the picturesque and of antiquity, who is horrified when the parasitical growth has to give way to the exposure and preservation of its victims."

Mr. Caröe's recommendation of a substitute for the Ivy will, in most cases, if not in all, be endorsed by the gentlemen whose co-operation he invites. "Of course," he says, "in the early days, after Ivy destruction, your building looks bare and unclad, but take heart and counsel; Nature has provided a most happy substitute, which is as harmless as it is beautiful. You may plant *Ampelopsis Veitchii* to any extent, the lovely light-hearted and fickle, but always tender sister of the stern and solemn Ivy. After two or three years of patient tending and watching, the growth of a plant which has tested and likes its situation is almost phenomenal. You have the daintiness of the spring leaves, the richness of the summer green, and the glory of the autumn sunsets; and when the glory has departed all your architecture is revealed again, with the tender stems only adding texture to the walls. At the highly interesting church of Westwell, near Ashford, in Kent, a church where the thirteenth century groining is done in concrete, this creeper has been permitted to grow over the window glass, which it loves to do. The glass is fortunately transparent. The effect is more beautiful than any modern glass painter has ever conceived, and the contrast between Nature's handiwork in glass painting and that of man in the east window, which alone is dight with unhappy saints, is striking indeed."

Here, then, is a suggestion from a man who happily combines a love of nature with a perfect



CAMPANULA LACTIFLORA AT MOUNT USHER, IRELAND.

knowledge of his craft, and we await with some interest the development of a more general adoption of his suggestion. I may perhaps here say that in a remarkable church built by him at Exeter—St. David's—the planting of *Ampelopsis* has been carried out under his direction by Messrs. R. Veitch and Son of that city, the results of which as the plants spread will no doubt be fully realised. For the covering of a west window, where the effects of the setting sun would have full play, the *Ampelopsis* (*Vitis*) is desirable. The contrast to Ivy is forcibly shown in the east window of the parish church of the village of Lymstone, where it has been allowed to grow over the wire netting on the outside of the window, the side divisions of which are almost totally obscured by the thick growth of both stems and foliage of the Ivy, producing complete opacity, which would be obviated by the planting of *Ampelopsis*, besides improving the effect of the coloured glass by toning.

Such, then, are some of the advantages of planting *A. Veitchii* over ecclesiastical and other buildings possessing architectural features, an illustration of the happy results that might often accrue from a more general co-operation between architect and horticulturist.

With regard to the difficulties that often occur in getting rid of Ivy from a building, Mr. Caröe says: "The thick stems should be cut at about 3 feet distances and dressed with corrosive sublimate or any strong destructive chemical. The Ivy must not be torn down from the face of the wall until it has lost its power of clinging, and

should then be most carefully removed by the aid of scaffolding, and, what is still more important, the aid of tender-handed and careful workmen. Great Ivy stems are frequently found growing in the very centre of the walls, disturbing the core and pressing out the ashlar. There is no other course but to take out a stone or more and destroy it by removing all that can be reached and killing the remainder. Again, perhaps, great dead Ivy stems will have to be dealt with which have wrapped themselves round the ruin, and can hardly be displaced without disturbance of its stones. These cases are sometimes most difficult to meet, and can only be met by an ample use of scaffolding and shoring. I have known cases where the removal of the Ivy means necessarily the destruction of a small feature, such as a pillar. In that case alone, the parasite must be allowed to stay and continue to sustain its victim until its life is lived. JOHN R. JACKSON.

Claremont, Lympstone, South Devon.
P.S.—*Ampelopsis Veitchii* is *Vitis inconstans*.

THE ROSE GARDEN.

THE LARGEST ANNA OLIVIER ROSE TREE IN ENGLAND.

REPRESENTED in the illustration is the largest plant in England of the beautiful Tea Rose Anna Olivier. It is really a dwarf variety, but has developed to a large size, measuring 19 feet long by 13 feet high. This Rose is an excellent wall plant, not a fast grower, but is always in bloom.

ROSE SOLEIL D'OR.

ONE of the most interesting Roses in this garden last year was M. J. Pernet-Ducher's Hybrid Briar Soleil d'Or. While one cannot claim that the expanded flower is anything but flat, the shades of colouring are so rich and distinct that this variety will be most useful for grouping in the garden. My plant has grown well, and seems as if it will form quite a large bush with age. The disastrous frost of May 14, which sadly injured most Roses, did not affect this variety at all; and the flower buds, which were then quite advanced, passed safely through the ordeal and produced splendid blooms at the end of June. I noticed that each day they seemed to vary slightly in colour—at one time a deep orange and at another a blending of orange-yellow and nasturtium-red. It is to be hoped that M. Pernet-Ducher will devote further attention to this class of Rose and give us other distinct shades of colouring.

ARTHUR GOODWIN.

The Elms, Kidderminster.

NEW PLANTS OF 1902.

FLORISTS' FLOWERS.

(Continued from page 66.)

CHRYSANTHEMUM FRUTESCENS CORONATION.—This is a sport from one of the white-flowered forms generally known as Marguerites or Paris Daisy. It takes the form of an Anemone crowned centre, and with the large and pure florets forming the ray makes a very distinct feature. A.M., June 10. Shown by Messrs. Ward Brothers, Southgate, but the stock has since passed, we believe, into the hands of Messrs. Cutbush and Sons, of Highgate.

C. Carrie.—A very beautiful early-flowering or border sort, of dwarf habit, and very free. The flowers are yellow and slightly drooping. A Japanese variety. A.M., September 23.

C. Gertie.—A showy and free-flowering decorative border variety. The predominant colours are rose and buff, and possibly bronze, which make an effective combination. A.M., September 23. The above pair are from Messrs. W. Wells and Co., Limited, Earlswood, Redhill.

C. Joseph Lowe.—This is a handsome free-flowering decorative yellow variety. Every shoot on the plant had a good flower, and the free manner of breaking into growth was very striking. Plant 4 feet high and carrying fully a score of well-formed blossoms. A.M., October 7. From Mr. J. Shawyer, Hounslow.

C. S. T. Wright.—This is one of the grandest flowers in the rich crimsons that we have yet seen. The colour is rich and intense, the broad petals and the large size of the blooms only adding to the general effect of this fine addition. A.M., November 4. From Messrs. Wells and Co., Limited, Redhill.

C. Harry Shrimpton.—A very fine novelty. It is a Japanese Chrysanthemum of the largest size, and a well-built flower withal. The chief colour is golden-yellow, the flower being copiously covered with red or chestnut-red. A.M., November 4.

C. Mrs. J. Seward.—A golden incurved of good size. The variety is of the incurved Japanese type, not the true incurved form of a few years ago. The flower, however, is solidly built, and the plant very dwarf in habit. A.M., November 4. These two novelties were from Mr. W. Seward, Hanwell.

C. Leila Filkins (Japanese).—A large and refined flower of great beauty. The colour is a soft silvery rose and most pleasing. In general appearance it may be regarded as a refined and improved Vivian Morel. A.M., November 18.

C. F. S. Vallis.—This is also a Japanese. It is of the self yellow class, soft in tone, the florets gracefully drooping and otherwise prettily arranged. The flower is of the largest type. A.M., November 18. This excellent pair of novelties came from Messrs. Wells and Co., Limited, Earlsfield, Redhill.

C. Belle of Weybridge.—A large decorative

variety that by some may be called single. It is, however, not purely single-flowered, as the flower-head has a second row of florets. It is a good and showy sort withal, and the bright crimson-red colour renders it most attractive. A.M., November 18. From G. Ferguson, Esq., Weybridge.

C. Miss E. Seward.—A fine incurved flower of a rich golden-yellow, an approach, indeed, to that of the old Jardin des Plantes which has not been surpassed. The flower is of good proportions. A.M., November 18. From Mr. W. Seward, Hanwell.

Dahlia F. A. Wellesley (Cactus).—A very handsome flower in which the dominant tone is a rich and bright carmine, the sides of the florets revealing a touch of ruby crimson. A.M., August 19. From Mr. H. Shoosmith, Woking.

D. Minnie West (Cactus).—A charming flower of the brightest primrose-yellow, each floret strongly tipped with white, a beautiful combination of colours. A.M., September 23. From Mr. J. T. West, Brentwood.

D. F. W. Balding (Cactus).—A fine and showy flower. The colour is gold with shading of amber, the latter inserted, so to speak, in the inner parts of the flower. A.M., September 23.

D. H. J. Jones (Cactus).—Soft yellow or full primrose tone, the florets much tipped with white. A very pretty variety. A.M., September 23.

D. Raymond Parkes (Cactus).—A showy flower of rich crimson colouring. A.M., September 23.

D. Etna (Cactus).—Not the colour one would expect by the name. Etna is a rosy lilac and buff with twisted florets. When such a class exists this may be a "Fancy" Cactus. A.M., September 23.

D. Vesuvius (Cactus).—A showy and effective sort, the flowers yellow, striped and freckled with crimson. This will be in the same category as the last. A.M., September 23.

D. F. H. Chapman (Cactus).—A striking and richly coloured variety; the flowers are



ROSE ANNA OLIVIER (THE LARGEST PLANT IN ENGLAND OF THIS VARIETY) IN MR. PRINCE'S ROSE NURSEY NEAR OXFORD.

orange-scarlet underlaid with yellow. A.M., September 23.

D. Mabel Tulloch (Cactus).—A bright and pretty variety, in which the chief colour is rosy peach with buff centre. A.M., September 23.

D. Eva (Cactus).—This is a neat and well-formed flower of the purest white save for a delicate primrose centre. A.M., September 23. This formidable set of eight Dablias from one raiser on a single occasion is proof of great enthusiasm. The exhibitors and raisers were Messrs. J. Stredwick and Son, Silverhill, St. Leonards-on-Sea.

(To be continued.)

AN ARTIST'S NOTE-BOOK.

KNIPHOFIA LONGICOLLIS.

THIS is one of the many excellent garden plants that we owe to the enterprise of Herr Max Leichtlin. He obtained it from Natal, and in distributing it, in 1894, he described it as a probably hardy species, with tall spikes of yellow flowers, produced late in the year. It flowered first with him at Baden-Baden in 1893, when it was named and described by Mr. Baker. It flowered next with Mr. Gumbleton at Queens-town in February, 1897, when a drawing of it was made and published in the *Botanical*



KNIPHOFIA LONGICOLLIS.

FLOWERS PALE YELLOW.

Magazine, t. 7623. At Kew it was first tried in the open, where it grew freely and pushed up stout flower-scapes, too late, however, to escape destruction from cold. The following year the plants were lifted and taken into the temperate house to flower, when its merits were fully revealed. It is now represented in the Himalayan section of that house by several large clumps.

Imagine a *Kniphofia* with all the vigour of growth and leaf characters of *K. aloides* (*Uvaria*), which, in a house where it receives slight protection, bears tall stout scapes of clear canary yellow flowers (not green-yellow, as shown in the *Botanical Magazine*), and which is at its best in midwinter for at least two months. It might be grown out of doors all summer and brought into a conservatory in October to flower. In the favoured counties, such as South Devon and Cornwall, it would no doubt be perfectly happy in the open air. Mr. Veitch might do worse than devote a big border to a few hundreds of it in his Exeter nursery. This *Kniphofia* was shown before the Royal Horticultural Society on January 27, by Mr. J. T. Bennett-Poë, and then obtained an award of merit.

SCHOOLBOYS AS GARDENERS.

THE BRITISH ORPHAN ASYLUM, SLOUGH.

IT occurred to me that, while much is written at the present day on the subject of horticulture as carried on by adults, it might yet be interesting to some of the readers of *THE GARDEN* to hear what is happening amongst the younger generation. While hesitating, a visit from a representative of *THE GARDEN* settled the matter, and I have now been asked to write a short account of gardening amongst schoolboys.

Some eight years ago there was, at the back of our premises, a rough mound, covered with Couch-grass, Bindweed, Horseradish, and almost every other enemy to successful gardening. This was the site our boys chose for their new undertaking, and, by dint of much perseverance and hard work, they have brought it to its present state, rendering it in the season, one of the prettiest and tidiest spots in our spacious grounds.

This result, of course, has been achieved only by constant progress, and, as our boys have to leave at fifteen, those who first started the project have long since been earning their own living; but these pioneers of our school gardening have left behind them an enthusiasm which has stimulated their successors.

The first step to be taken was to declare war against the Couch, Bindweed, &c., and this was carried on so resolutely, that at the end of two seasons these enemies were completely vanquished. Then small plots were marked off, tile edgings put down, gravel paths laid, and the once unsightly piece of ground was converted into thirty-six miniature gardens. These were then allotted to their respective owners, who were allowed to keep them as long as they remained at the school.

In a large institution, where cricket, football, fives, &c. are the chief pastimes, and where an excellent carpenter's shop exists, it might naturally be supposed that



BOYS LAYERING CARNATIONS IN THE SCHOOL GARDEN, BRITISH ORPHAN ASYLUM, SLOUGH.

there would be a good percentage of boys who would not care to take up horticulture. This, however, was not the case, and the applications were so numerous that it became necessary to put each garden under the joint ownership of two boys, so that, out of one hundred boys, seventy-two had now expressed their intention of taking up horticulture as a recreation. Nor was this a momentary craze only. At the present time there are just as many "gardening boys" as there were at the beginning.

The site chosen for this work being of a very irregular shape, it is impossible to get a photograph to represent the whole. The accompanying illustrations (taken last July) give two views. (1) a lower part of the gardens, (2) a portion of the middle, showing the steps of the first rockery, and boys above layering Carnations. During the next three years it was found that certain of the gardens, on a steep slope facing south, were not satisfactory, and a new scheme was formed, viz., to convert the slope into two levels with a rockery between. Two years ago this was accordingly taken in hand and occupied most of the winter months. It was finished by the following May. Four new gardens were made on the lower level, and the rockery planted with various kinds of bulbs and rock plants, including Saxifrages (about twelve different), (E. nothera, Campanula, Helianthemum, Achillea, Veronica, Erodium, Thalictrum, Heuchera, and many others.

The far end of this bank was specially prepared for a small fernery, in which has now been planted a very good selection of hardy Ferns. At the beginning of last season there still remained a portion of the gardens which, by reason of the shade, had defied all attempts to grow a general collection of plants such as had been done in more favourable

positions. This, then, was the next undertaking, and proved to be the most gigantic work of all.

The idea of converting it into another fernery was formed by a small batch of boys who were remaining at the school during the Easter vacation of last year. The plan was at once put into execution, and before the main portion of the school returned from their holidays a very good start had been made. At first it was begun in a moderate way, but as the work went on the idea grew, and it was

not till the middle of July that it was actually finished.

The proprietors of the extensive brick-fields in this neighbourhood very kindly supplied all the burrs gratis. From measurements made since it has been computed that between 700 and 800 wheelbarrow-loads of soil were removed to a spot outside the gardens, while seventy wheelbarrow-loads of gravel and 140 of burrs were wheeled in. I mention this to show the amount of energy it is possible for boys to display when their hearts are in their work. This new rockery will be planted next March with Ferns on one side and shade-loving rock plants on the other; and as soon as funds will allow an artificial pond is to be made in one of the recesses, in which to grow different kinds of Water Lilies and other aquatic plants, which a friend has kindly promised to give when the pond is finished.

As the name of the school implies, the boys are all orphans, and therefore have only a very limited supply of pocket money. Still, it is their wish to buy (if they cannot raise) every plant they grow, and they have therefore drawn up a list of special prices arranged to suit their means. Of necessity they are unable to pay

the prices charged by nurserymen, so they have devised a system by which the cost of everything is considerably reduced. In the first place they have been greatly encouraged by many nurserymen (whose names, I fear, I may not mention here), and especially one firm in the immediate neighbourhood which supplies them with all the plants they require at half the catalogue price. Then, again, many amateurs have from time to time sent presents of plants. These are all sold, and the proceeds put to the credit side of the garden account, a



FLOWER BEDS IN THE LOWER PART OF THE SCHOOL GARDEN.

method which enables them still further to reduce the price of other plants that it may be necessary to buy. For instance, the cost of a certain plant at the nurseries is 9d.; this they get, at half price, for 4½d. It is brought here and sold again at the special price of 2d., thus being a loss of 2½d. to the garden fund; but the presents of plants, on the other hand, having been sold at a profit, generally balance the losses, and so the result is found to work out satisfactorily in the end.

A few prizes are given every season by kind friends for the best gardens; also one for the names of plants (correctly spelt), and another for the meanings of botanical names. Mr. Arthur Turner of Slough has very kindly judged them twice a year (in the spring and summer) ever since they were started, and the work of the boys has been greatly encouraged by occasional visits of experienced men from his nurseries.

Let me conclude by saying that if any of your readers are ever in the neighbourhood and would care to see the gardens, which I have endeavoured to describe, it will afford the boys, or any of the authorities, the greatest pleasure to show them what juvenile enthusiasm and industry can accomplish.

A FRIEND OF THE BOYS.

TREES AND SHRUBS FOR BRITISH GARDENS.

THE BARBERRIES.

(Continued from page 73.)

B. NEPALENSIS.

UNDER *B. japonica* I have alluded to the relationship between these two plants. It is simply the very old problem as to whether there are two species or one. Compared with *B. japonica*, this Himalayan plant has longer leaves, which carry more numerous leaflets, sometimes as many as twelve pairs (in *B. japonica* they average four or five), and they are narrower in form and more membranous in texture. According to Sir Joseph Hooker it inhabits the Temperate Himalaya at 4,000 feet to 8,000 feet elevation. In those regions it is occasionally 20 feet high, and the flower racemes as much as 12 inches long. It is not so hardy as *B. japonica*, and is better adapted for Devon and Cornwall than the more northerly districts.

B. NERVOSA (SYN. *B. GLUMACEA*).

A dwarf evergreen, whose leaves are composed of eleven to fifteen leaflets, very firm in texture, and deep green. The flowers are borne on racemes much longer than those of *B. Aquifolium* (they are 8 inches, or even more, long), and are fully open in April. The most distinctive character of the species, however, is to be seen in the veining of the leaf. Three or five

prominent veins start from the base of the leaflet and run lengthwise, and the leaf-stalk is very distinctly jointed where each pair of leaflets is attached. The species is a native of Western North America, and was introduced in 1822. It is quite hardy, and thrives in shady spots. It is not very common, however, and does not increase so fast as *B. Aquifolium*.

B. NEUBERTI.

Of the two hybrid Barberries that exist in gardens—this and *B. stenophylla*—the latter is far superior as a plant for gardens. *B. Neuberti* is, however, of exceptional interest in regard to its origin, uniting as it does the two sections of the genus. It was raised from seeds of *B. (Mahonia) Aquifolium* fertilised by *B. vulgaris*. It appeared in the once famous nursery at Bolwiller in France in 1850, and was first noticed there by M. A. N. Baumann. Its



BERBERIS (MAHONIA) NEPALENSIS.

leaves show almost every intermediate stage between the pinnate ones of *B. Aquifolium* and the simple obovate ones of *B. vulgaris*. They follow the former in being evergreen, but have none of its handsome dark green glossiness. This hybrid must rank as a curiosity more than anything else, especially as it rarely flowers.

B. FRUINOSA.

In the near future we may look to the

enrichment of our gardens by numerous trees and shrubs from Western and Central China. Of these, this Barberry is a forerunner, having been introduced to France from Yunnan by Delavay the missionary in 1894. At Kew it is represented by several plants, none as yet more than 4 feet high. It grows well, however, and promises to be one of the largest in the genus—somewhat in the way of *B. aristata*. Its foliage has hitherto remained on the plants throughout the winter, so they may be described as evergreens. But the species has not yet experienced a very severe winter here. The leaves are arranged in the usual rosettes, are thick, leathery, and shining, oval-oblong, 1 inch to 2½ inches long, and armed with widely separated spiny teeth. The flowers are of a citron-yellow, and borne singly (or sometimes in twos or threes) on stalks springing from the leaf-axils. This arrangement is, of course, very different from the racemose one of *B. aristata* and *B. Lycium*, which two species it seems likely to most resemble in habit. The berries are black, but covered with the very abundant plum-coloured bloom to which the specific name refers. This new species commences to flower at the end of April.

B. REPENS.

The dwarfest of the Barberries of the *Mahonia* section, this species ought to be useful in positions where a low, close, evergreen covering for the ground is desired. But it still remains one of the rarest of the *Mahonia* group, although introduced to English gardens from the inland slopes of the Rocky Mountains at least seventy years ago. It has but few divisions of the leaf—usually five or seven—which are dull green, ovate, from 1 inch to 2 inches long, and armed with numerous spiny teeth at the margin. It produces its clustered short racemes of rich yellow flowers in April and May. Although perfectly hardy it does not ripen seed freely in this country, hence probably its scarcity.

B. STENOPHYLLA.

I do not think there is any doubt but that this is the most beautiful and valuable of all the Barberries. It is not a species, however, but a hybrid, and first appeared in the nurseries of Messrs. Fisher, Holmes and Co. of Handsworth, near Sheffield, about forty years ago. Its parents are *B. Darwinii* and *B. empetrifolia*. To the latter it is, of course, superior in every way; and compared with *B. Darwinii* it is certainly hardier, grows with greater freedom in all situations, and is much more graceful. Growing about 8 feet to 10 feet high, and more in diameter, it forms a dense bush of interlacing branches, from the central mass of which each summer it sends out slender arching shoots 2 feet or more long. These shoots the following April and May are wreathed from end to end with corymbs of beautiful golden-yellow blossom. The leaves are narrow with revolute margins, and resemble those of *B. empetrifolia*, but are larger. It is perfectly evergreen, and soon makes an impenetrable thicket. For forming masses in open spots in semi-wooded grounds it is admirably adapted, and when once established requires no attention at all. In Mr. Chambers' garden near Haslemere it has been put to charming use as a hedge plant, being cut back immediately after flowering. It ripens seeds freely, but plants raised from them rarely come quite true. Most frequently they revert to *B. Darwinii*, and I have seen seedling-raised plants scarcely distinguishable from that species. Mr. T. Smith, of Newry, has raised and named some of the most distinct, and B.

reflexa is one of them; but *B. stenophylla* is quite easily raised from cuttings.

It should be mentioned that there is a wild *Berberis*, a native of China, named *B. stenophylla* by Mr. Hance. This is not in cultivation so far as I know, but is said to be allied to the Himalayan *B. wallichiana*. Of course, it has nothing to do with the *B. stenophylla*, which owes its origin to purely Chilean species.

Kew.

W. J. BEAN.

(To be continued.)

LILIUM AURATUM VAR. MACRANTHUM.

The flowers shown are from two bulbs planted in February, 1898. They were planted 1 foot deep in sandy soil, and on the top of the bulbs 3 inches of sand, then the same depth of well rotted manure, after this some leaf-mould, and then filled up with manure. During the time of growth water was given twice a week with liquid manure. The bulbs have not been disturbed since planting, and they are mulched every November. Each year they have thrown up fresh stems. Last year (1902) some of these were 7 feet high.

THE GARDEN IN THE SHADE.

Of gardens in the shade one hears but little. Possibly it is because gardens which have the advantage of sunshine are generally considered to be the more satisfactory, and demand less care and forethought in their arrangement. The modern amateur gardener is not widely different from the rest of his fellow men, and therefore is apt to expend his energy in tending and improving that part of his garden which gives the best return with the least possible outlay. As a natural consequence the garden in the shade suffers more or less from neglect. Yet by following such a practice countless opportunities of relieving the monotony of, and imparting a new interest to, the garden are lost.

For their beauty and interest gardens are dependent to a very great extent upon the weather. Should the spring be cold and sharp frosts prevail, the early buds and blossoms of flowering trees and shrubs will be injured, and should the fates be unkind enough to provide a summer without the refreshing showers so essential to the good looks of the garden, then one's favourite flowers will wither and fade without having developed their highest beauty. If, on the other hand, the summer should prove dull and sunless, the plants will lack vigour and the flowers will be colourless. Again, as was the case last year, the rainfall may be altogether exceptional, and one may look in vain for flowers, and watch with astonishment the abnormal stature to which the plants attain. The inexperienced will probably congratulate himself upon such splendid growth, and look forward in due time to an abnormal harvest of flowers also. His disappointment will be great indeed when the long, overgrown, and immature shoots produce but a handful of half-developed flowers just in time to be cut down by the first frosts of autumn.

Such, then, are some of the effects of the vagaries of the weather upon the common or garden form of garden, and it is in its comparative indifference to the elements that the garden in the shade proves its claim to notice. To a very great extent the late spring frosts are unable to injure its occupants. Plants growing in the shade will naturally start into growth later than those exposed to the



LILIUM AURATUM VAR. MACRANTHUM FROM TWO BULBS PLANTED IN FEBRUARY, 1898.
(From a photograph sent by Mrs. Earle.)

stimulating influence of the sun, and in all probability by the time they are vulnerable spring frosts will be past. But even supposing plants in a shaded garden to have been caught by frost, they still enjoy another advantage, and that a material one, over their *confrères* in the ordinary sun-exposed garden. Plants frozen during the night suffer much more serious damage if the following day is bright and sunny, for the action of the sun upon frost-bitten foliage brings about disastrous results. The fact of the frost disappearing gradually from plants in the shade minimises to a great extent the harm that is possible, nay, probable, when the frost is quickly dispelled by the sun.

Should the summer prove sunless, what matters it, for is it not always sunless in the garden in the shade? Its inmates grow and flourish entirely unconcerned as to whether the day be sunny or not, and the possessor of such a garden goes on his way rejoicing, not alternately cursing and blessing the weather as it happens to disappoint or fulfil his expectations. During the hottest of hot summers the plants in the shady garden cause their owner no inconvenience, no unusual care and labour, yet they flourish as well as ever. 'Tis then that one has cause to be thankful: one's treasured plants look one in the face, and are just as bright and fresh after their owner's return from a month's holiday as upon the day of his departure. In the sunny garden of one's neighbour many plants have succumbed through want of water, some are ripening seeds instead of bearing flowers, while the more rampant growers have smothered the weaker ones. In the garden in the shade more equable conditions prevail, and the weak and the strong grow together in perfect harmony. Although it can hardly be claimed for the shaded garden that it has advantages over the ordinary garden in a wet season, it at least has the satisfaction of being equally well off; while it is true that the soil

in the sun-exposed garden would dry more quickly, it is equally certain that less rain would fall in the shaded garden by reason of the foliage of the trees above.

Gardens in the shade may be either natural or artificial. The majority are natural, a small minority representing those artificially made, and this is chiefly due to the fact that their possibilities are not realised. What then are the possibilities of the garden in the shade? Briefly they are these. There can be grown at least one family of plants (and that one of the most beautiful, most extensive, and most neglected), which cannot successfully be grown in the sunny garden, namely, Ferns. Those plants which thrive best in the shade are of quiet colouring, and provide a most welcome and refreshing change from the garish and brilliant colours of beds and borders filled with herbaceous flowers. No gardener can be altogether delighted that seeks to please by means of bright colours alone, contrast as well as harmony is essential. As has been explained, plants growing in shady gardens are less affected by changeable weather than those in gardens more exposed, and they require a very modest amount of care and attention. What a delightful garden could be made of Ferns alone, their variety, beauty of form and even shades of green are never ending!

To mention just a few of the plants that occur to me as being suitable for the garden in the shade, there are the *Berberis*s, several of them most lovely flowering shrubs, *Rhododendrons*, *Camellias*, *Aucubas*, *Dog Wood*, *Cotoneaster*, *St. John's Wort*, *Ivies*, *Butcher's Broom*, *Periwinkles*, and *Snowberry*, nearly all of which are evergreen; of flowers one might name *Blue Bells*, *Primroses*, *Violets*, *Forget-me-nots*, *Anemones*, *Hyacinths*, *Daffodils*, *Scillas*, *Cyclamen*, *Evening Primroses*, *Lilies of the Valley*, *Liliums*, and *British Orchids*. With these plants the garden in the shade might make a start, after a time others would probably suggest themselves. A. P. H.

MISCELLANEOUS.

GRAFTING THE VINE.

WHERE many varieties of Grapes are grown in one house it often happens a few years after the Vines have been planted that the grower is disappointed with one or more of the varieties, and wishes them changed for more desirable sorts. To the mind of the inexperienced this change presents a serious if not an impossible problem, short of destroying the Vine and planting another in its place, which would not be satisfactory in many ways, besides entailing a delay of some years before a return of fruit could be obtained from the newly-planted Vines. There are two ways by which this change can be accomplished without destroying the Vine you wish to get rid of; indeed, the Vine to be discarded is requisitioned into service. The one is by a term known as "bottle grafting" and the other by "inarching." The former is accomplished by grafting the wood of the new variety on the stem of the Vine you wish to discard, and is carried out in the following way: About a foot above the base of the Vine a slice should be cut out from its side, 3 inches long, and deep enough to cut into the wood below the bark. Have ready a shoot from the variety you wish to grow; it should be about a foot long, in fact, a shoot which is cut off at pruning time in the usual way. If this shoot is too long it should be shortened by cutting off the end, and care should be observed to cut to a good sound bud. Below the second bud from the top of the shoot cut a slice off the side the same length and depth as from the stem, bring the two cut pieces together, taking care that they fit into one another exactly, and with pieces of raffia, tie the two together securely, using plenty of raffia, so that no part of the grafted stem is exposed to the air. The shoot grafted should be long enough to admit of a length of 6 inches or 7 inches hanging below the graft, in order that it may be inserted in a bottle of water, in which it must be kept during the first season's growth, and the water occasionally changed.

The best time to carry out this work is about a month before the Vines are started into growth, and the graft should not be interfered with in any way whatever until towards the end of June, when it should be looked to in case, through the swelling of the grafted parts, the raffia may be cutting into the bark; before the matting is

loosened three other ties should be made around the grafted part, one at each end and one at the middle to make the grafts secure. If this is omitted and the grafts separated, then all labour is lost. Therefore take care that the grafts are made secure before the original matting is taken away. If the work has been well and properly carried out as directed the grafting will have been successful, and the joining of the scion and stem securely and permanently accomplished.

Should the three ties last made be found to have cut into the bark then three other ties should be applied before these are taken away, as you are not sure the graft will not separate from the stem until the parts have become hardened in the autumn. One only of the top buds of the grafted shoot should be allowed to grow, and in course of the season if the grafting is successful it will have made a long shoot, which in winter should be cut back to 12 inches or longer, according to its strength. That part of the shoot inserted in the bottle of water must be cut away at the time of pruning, close to the grafted part, as the water is no longer of any use. As the grafted shoot increases in strength and size, so must the Vine to be discarded be cut away to make room for it, until in two or three years the new variety will take the place of the old.

The other operation, namely, "inarching," is of a similar nature, only it is carried out in summer, when two green shoots are grafted together in the same way as directed for bottle grafting. In this case the variety you wish to substitute for the one you are doing away with should be grown in a pot, and as soon as the young Vine has produced a shoot large enough this should be grafted on to a similar green shoot of the Vine to be discarded. This should be selected from a position as near the base of the stem as possible. This is an excellent way of finding out expeditiously the value of a new Grape, as by inarching a shoot one year it is possible to obtain fruit the next, whereas if the new Vine were planted out in the ordinary way it would at least take two years. A. P. H.

A REMINDER—THE NEW HORTICULTURAL HALL.

"AND a Man shall ever see that when Ages grow to Civility and Elegance, Men come to Build Stately sooner than to Garden Finely; as if Gardening were the Greater Perfection. I do hold it in the Royall Ordering of Gardens there ought to be Gardens for all the Months in the

Year; In which severally Things of Beautie may be there in Season."

There are some of us who may think it would have been better to "garden finely" than to build at all. But, since we are to build for man's sake, let it be to build "stately" and not vulgarly, but in a manner worthy of the things of beauty that it is hoped will be found there in all the months of the year.

THE WRITER OF "IN A TUSCAN GARDEN."

THE KITCHEN GARDEN.

NEGLECTED VEGETABLES.

ARTICHOKES.

OF Artichokes there are three distinct kinds—the Globe, the Jerusalem, and the Chinese. The Globe is quite different to the others, and requires special consideration. It is not largely grown and varies greatly in quality, the finest forms being those which produce large succulent heads. The plants are at times grown from seed, but it is unwise to rely upon seedlings, as they are usually poor spiny productions of little value; it is better to propagate by suckers when a good strain has been secured. The Globe Artichoke also is not hardy in severe winters, the plants frequently dying even when well protected, but much depends upon the locality, the growth in some districts being stronger than in others. Whether hardy or otherwise make a new plantation every three or four years, as the old stools exhaust the soil and the heads dwindle in size as the plants age.

The Jerusalem Artichoke is tuberous and generally placed in any out of the way corner, and there remains for many years, but by giving a change of soil and selecting the seed carefully much better tubers are obtained.

The Chinese Artichoke is an excellent vegetable, but the small size of the tubers is against a wide popularity.

GLOBE ARTICHOKE.—Ample space is necessary for this Artichoke, a distance of 4 feet between the rows being none too much, and half that distance from plant to plant. The suckers should be placed three together, as a clump gives a better return. Trench the land deeply, manure heavily, and prepare some time in advance of planting. In heavy land it will be advisable to incorporate lighter soil or burnt refuse with the soil, also to take care that the plot is well drained. April is a good month to plant, and in dry seasons give water freely with liquid manure and salt dressings in showery weather from June to September. Guano and salt form one of the best foods for older plants not recently manured. Give protection in the late autumn, and after the old growths are cut away place some fine ashes over the roots, and pack dry Bracken or litter round the young growths, as these supply heads for the following May. In cold or wet soils detach a few suckers from the finest forms and place in boxes or frames for the next spring planting. When seed is sown sow it under glass in pots or in rows in April, but it is a mistake to raise plants in this way. Globe Artichokes yield from May till September, and it is well to cut the heads and place them in water when full grown, as if left too long they harden and lose flavour.

JERUSALEM ARTICHOKE.—This Artichoke will grow in any soil, but is most successful in a deep, well manured friable loam and open situation. We enjoy it in winter as a change from Potatoes, and since Messrs. Sutton introduced the smoother white tuber, which has fewer eyes, and is of better flavour than the older types, the Jerusalem Artichoke is regarded with greater favour. It is profitable for the reason that though it



JERUSALEM ARTICHOSES.

needs considerable space the crop is in proportion. Many object to this root when served in the same way as Potatoes, but there is no need to do this. There are quite a dozen methods of cooking, and few roots are better for soups and gravies. It should be remembered that once the plant is grown it will reappear from the smallest portion of root, and doubtless that is one reason why the seeds are not given new quarters so often as they deserve. It is an easy matter, however, to clear the soil if care is taken when digging. Always purchase or save good seed, trusting nothing that will not give shapely roots, and change the stock when disease is probable or the plants fail to crop well. February and March are the best months to plant. There must be a space of 3 feet between the rows and 12 inches between the sets. More room may be given if available, and planting may also be done much earlier. Cover the sets with 6 inches of soil and leave the tubers in their growing quarters, digging them up as required or clamp them in the same way as Potatoes are frequently treated; they are best when not housed in a warm store, but kept as cool as possible.

CHINESE ARTICHOKE (*Stachys tuberosa*).—Owing to the small size of the curiously crinkled tubers this has not become so popular as it deserves. It needs good land and a little more attention to culture than the Jerusalem Artichoke. The tubers are small, white, with a clear skin, and produced freely. Overcrowding is a mistake. It does well in a light, freely manured loam, with the sets in rows 2 feet apart and 6 inches between the seed. The tubers are much finer when there is no lack of moisture. It is a good plan to mulch between the rows in dry years. The tubers are ready for use early in the autumn, and though not suitable where quantities are needed this little root makes a good vegetable for game and *entrées*.

MUSHROOM GROWING IN GARDEN, FIELD, AND COTTAGE PLOT.

(Continued from page 78.)

MANUFACTURE OF SPAWN.

This is now practically a lost art among private gardeners, Chatsworth, so far as I know, being the only private garden where the article is manufactured. Better crops of Mushrooms have never been obtained than from the home-made article, one of the reasons for this being that the spawn is fresh and not kept over from the previous season.

The work of making the spawn is a very simple matter, and once the details are understood a handy and careful labourer can manage the work splendidly. Quantities, of course, will be decided by the amount of spawn required and the principle of making is the same for large or small lots.

Take a barrow-load of cow manure, the same of horse manure, and the same of mould or garden soil. Mix the whole well together, and by watering bring the material to a consistency of dough. Have ready moulds made of any rough bits of wood 9 inches long, 6 inches wide, and 2 inches deep. Place the material on the potting bench or some other convenient place and commence to fill the moulds. This is done by placing the mould on the bench and when full making the contents as hard as possible, and finishing the brick off level with the edge of the mould. Have ready in the middle of an airy shed a shelf placed in such a position that the air can circulate round it from all sides. On this place the mould sideways (not



GLOBE ARTICHOSES.

flat). You will require to have the same number of moulds as the number of bricks you intend making (once made they will last for years). When the moulds are all filled and placed in the shed to dry they will require no further attention for, say, ten days or a fortnight, by which time they will have attained such consistency, dryness, and toughness as to be in a condition to bear puncturing; make five shallow holes in each, one at each corner and one in the middle, ready to receive the spawn. Upon the quality of the spawn will depend almost entirely the success of the operation. Under proper conditions the vitality of spawn may be preserved for a number of years. The length of time depends on the temperature and dryness of the atmosphere in which it is kept. The mycelium of the Mushroom is of so sensitive a nature that, once exposed to over moist or too warm an atmosphere, it commences to grow and spread, after which its efficacy for producing satisfactory crops is all but destroyed. Spawn therefore to be satisfactory must not be more than a year old, and should be kept in a dry store room, where the temperature in winter ranges from 45° to 50° Fahr.; in summer it should be kept as cool as possible. To find out the quality of the spawn break up the brick into four or five pieces, and if it is permeated with a network of the most minute thread-like veins nearly of the colour of flour you may be satisfied that the spawn is all right; if, on the contrary, those thread-like veins are swollen and spreading more or less about, you may conclude that fermentation has taken place at some time to the detriment of the spawn. Sometimes only a part of the brick may be affected, the other portion being good. In any case doubtful spawn must not be used in impregnating the new bricks. Shallow holes having been made in the bricks as advised, a lump of spawn must now be placed in holes about 2 inches wide by 1 inch deep, well pressed in and sealed over with some of the material left from forming the bricks. As soon as this sealing material is sufficiently dry, which will be in the course of three or four days, the bricks should be turned out of the mould, and built up on

the top of one another sideways and crossways, leaving small spaces between for air to permeate the whole heap. The heap may be built up of any size, according to the number of bricks one has to deal with, but 4 feet square and about 5 feet high is a convenient size. They should be stacked in a fairly warm room and covered over with a quantity of littery straw or mats; these in the course of a few days will generate more or less heat, which is, of course, required, in order to induce the spawn to run and permeate the brick. This it will do in the course of nine or ten days, when the covering may be taken off, the bricks allowed to dry and harden, then they may be stored in their proper quarters until wanted for use.

A thermometer should be placed in the heap and carefully watched, and the heat should range from 60° to 65°. The bricks must not be exposed to this heat an hour longer than is necessary for the filling of the brick with mycelium.* Spawn may be manufactured at any time of the year, but the best time is September, when the spores naturally run out of doors in our fields.

O. THOMAS.

BOOKS.

The Amateur's Greenhouse.†—This is a book for the amateur gardener, and takes the place of the late Mr. Shirley Hibberd's "Amateur's Greenhouse and Conservatory." The author is Mr. T. W. Sanders, F.L.S., who has had the good sense to come down to the level of the many thousands of amateurs and others whose gardens and means are small. Greenhouse construction is fully dealt with, and special information for the erection of both large and small greenhouses is clearly defined. Numerous plans and illustrations, showing the forms of glass structures best suited to plant life, should simplify the work of those who desire to erect their own glass houses. Chapters are devoted to such important considerations as "Site and Position," "Mode of Construction," "Greenhouse Heating," and the much-voiced question of "What Constitutes a Tenant's Fixture." "Greenhouse Management" is a very

* This can be ascertained by breaking up a brick or two.
 † "The Amateur's Greenhouse." By T. W. Sanders, F.L.S., F.R.H.S. W. H. and L. Collingridge, 148 and 149, Aldersgate Street, London, E.C. Price 5s.

important feature in this work. The arrangement of the plants for effect is carefully considered, and words of wisdom given respecting "overcrowding." Mr. Sanders writes: "One of the greatest mistakes made by novices in greenhouse management is that of overcrowding the house with an assemblage of plants that differ largely in cultural requirements. Some of these probably require a low, and others a high temperature; others, again, a dry or a moist atmosphere. It is impossible to grow plants needing such divergent conditions of culture together successfully in one house. Nor is it wise to crowd too many plants together. Each plant requires its proper share of light and air, and unless it obtains these essentials weakly growth will be the inevitable result. . . . The man who succeeds in the management of a greenhouse is he who grows one or two classes of plants only, and gives each plenty of room to develop." The above quotation is characteristic of the advice given throughout the book. About thirty pages are devoted to greenhouse pests. Each pest is described in such a way that the merest novice cannot fail to understand what is intended, and the remedies in each case follow the description. Popular greenhouse plants, arranged in alphabetical order, and covering no less than 277 pages, are fully described. The species are also described, and their culture and methods of propagation each dealt with in turn. Owners of small greenhouses should find a store house of information in this book. It is, however, badly printed.—D.

GARDENING OF THE WEEK.

FLOWER GARDEN.

DIGGING SHRUBBERIES.

IN many gardens this operation is done very carelessly. All interference with the roots should be carefully avoided. Newly-planted shrubberies may be carefully gone over, and all vacant ground turned up and exposed to the light and air, as this will sweeten and pulverise the soil, give it a neat appearance, and at the same time encourage root action to the newly-planted shrubs. In all established shrubberies the better practice is to top-dress the soil over the roots with some rich compost, or, if a vigorous growth is desired, give a good dressing of rotten manure. All decaying leaves and other vegetable matter which accumulates under them should be annually raked up and carried to a convenient spot to decompose, and if afterwards mixed with soil and manure may be used as a top-dressing with advantage. If shrubberies are neglected they soon become unsightly, even injurious to the health of those who live near them.

AMARYLLIS BELLADONNA (BELLADONNA LILY).

This is much admired for its soft colouring and effective display in the garden, with its tall robust stem and large trumpet-shaped flowers. It is one of the most interesting of all our autumn-flowering bulbous plants. The flowers vary from pale blush to dark red, and are produced after the leaves have died off. They will now be pushing through the soil and will need slight protection. It is well to remember that in all bulbs the leaves are the means by which the roots are brought to maturity, and as the bloom is the result of this maturity care must be taken that nothing interferes with their proper development. This beautiful Lily does well if planted 10 inches or 12 inches deep in good soil under a south wall, and hardly ever fails to bloom if the young leaves are protected in early spring. Any light material such as dry straw, Moss, or a few Laurel branches placed in front of them I have often found sufficient to keep them from all harm. I never find snails or slugs attack them. Their only enemies are shallow planting and damp and frost in early spring.

CAMPANULA CARPATICA (CARPATHIAN BELL-FLOWER).

This little blue Campanula is one of the most useful hardy edging plants we have. It grows

about a foot high, is easily propagated either by division of the roots in spring or by seeds, from which it comes perfectly true. Now is the best time to sow the seed. If sown in a temperature of 55° or 60° it will soon germinate, and when large enough to handle prick off the seedlings into boxes and keep in heat for a few days till they begin to grow freely, then turn them into a cold frame and plant out early in May in rich soil. This plant lasts a long time in bloom on heavy rich soils, but in hot situations and on light soils is apt to succumb before autumn. If watered occasionally in dry weather it will greatly prolong its flowering season. This is a very useful plant for those who have no glass as it is perfectly hardy and easily increased.

T. B. FIELD.
Ashwellthorpe Hall Gardens, Norwich.

INDOOR GARDEN.

MALMAISON AND BORDER CARNATIONS.

YOUNG plants from the latest layers will now be ready for their final shift into 6-inch or 7-inch pots, according to their vigour. Prepare a compost of three parts good fibrous loam, with all the finer particles shaken out, one part fibrous peat, with a good admixture of rough charcoal and coarse silver sand. Also add one 6-inch potful of Clay's Fertilizer to each barrowload of soil, drain the pots thoroughly, and pot firmly, using a thin stick to work the soil round the lower part of the roots. Avoid injury to the young roots when removing the crocks. These plants do best on raised stages where the air can circulate freely among them; damp the house slightly about 9 a.m. on clear fine mornings. Plants previously potted should by this time have rooted through the soil, in which case a very light dressing of Bentley's Carnation manure may be sprinkled on the surface soil of each pot. Each plant should now have the assistance of a small stick, to which tie the young plants very loosely. Remove all foliage that exhibits traces of disease and ventilate the house freely; in very damp or foggy weather have a little fire-heat in the pipes.

HERBACEOUS CALCEOLARIAS

should now be placed in their flowering pots. Avoid as far as possible using very large pots, those of 7 inches or 8 inches in diameter should be ample for the largest plants when grown singly. A compost containing a rather large proportion of humus suits the Calceolaria, consequently leaf-soil or dry horse or cow manure rubbed through a fine sieve may be used to the extent of one-fourth of the whole soil. If the loam is a little heavy add extra coarse sand and finely broken crocks or oyster shells. Before potting remove all decayed leaves and fumigate for the destruction of aphids. Keep the plants in a temperature of 40° or 45° by night. A cold pit or frame sufficiently protected suits them well, in any case avoid fire-heat if possible.

LILiums, GLADIOLI IN POTS,

and other bulbous plants now plunged in cold frames require occasional inspection, and as growth progresses inure them to the light gradually. Introduce a batch of Gloxinia tubers to the stove or forcing house, selecting those which have already started. Where the tubers have been stored in boxes and slightly covered with fibre they can be easily examined. A light, rich soil suits Gloxinias, and for the first potting I consider it unnecessary to add any manure. Start them in a minimum temperature of 60° in a moist atmosphere, and as the young growth progresses dust them with Tobacco powder to prevent the injurious effects of thrips or mite.

Wendover.

J. JAKES.

KITCHEN GARDEN.

SEAKALE.

CONTINUE to introduce the crowns into the Mushroom house or other forcing structure according to the demand. Slow forcing in the open for a later supply may be resorted to, and the present time is opportune for covering over the crowns. The material I find best is that from a spent Mushroom

bed. This is placed over the crowns in the form of a ridge 15 inches deep, and the gentle warmth imparted by this material will ensure the production of fine, clean, well blanched Seakale for use throughout March and part of April; then the produce from the forcing house is either exhausted or has deteriorated in quality. At that time good vegetables will be none too plentiful, and a good dish of Seakale daily will be much appreciated.

GARLIC AND SHALLOTS

may now be planted, choosing a warm sunny border that has been dug and manured. I prefer to have these on the herb border, but where large quantities are grown this is seldom possible. The largest cloves only of the Garlic should be planted, and these may be dibbled in rows 10 inches apart and 15 inches from row to row, covering the cloves with 3 inches of soil. Shallots should not be entirely buried; a slight impression may be made with the hand and the bulbs pressed into it.

RHUBARB.

Large quantities of forced Rhubarb will be wanted at this time owing to the scarcity of Apples in most districts. Some of the old crowns may now be covered with pots, tubs, or boxes, and these should be covered with stable litter to exclude light and provide warmth. The Rhubarb will grow slowly, and will succeed that forced in the Mushroom house.

SEEDS TO BE SOWN UNDER GLASS

are Lettuce of the Golden Queen type (and if pricked out into other boxes as soon as large enough to handle they will make useful plants to succeed those raised last August), Brussels Sprouts for very early pickings, and early white Celery. The sowing of all seeds in the open should be deferred for a few days, though every preparation should be made in order that when the weather is favourable and the ground suitable there may be no delay. Proceed with digging and trenching as fast as the weather will allow. Plots for the main crop Onions and Parsnips should be the first completed. Examine the stores of

CARROTS, POTATOES, BEET, ONIONS, &c.,

removing all that show the least signs of decay. Potato tubers for seed purposes should be laid out thinly on shelves or trays in a cool structure from which frost is excluded. If covered for protection from frost they must be exposed on every favourable opportunity to ensure the sprouts being strong and green. If time can be spared it is a good practice to rub off all these with the exception of one or two of the strongest at the apex of the tuber. Maintain a supply of

TARRAGON AND MINT

by inserting rooted pieces from the old plants, 2 inches apart, in pans or pots filled with old potting soil, and place them in a warm house. This is a much more satisfactory method than lifting the old plants.

Stonleigh Abbey Gardens.

H. T. MARTIN.

THE FRUIT GARDEN.

PRUNING AND MANURING IN ORCHARDS.

THE pruning of all fruit trees should be completed before the sap is in motion, if we except Nuts, which are usually left until the tiny little female blossoms can be discerned. A Kentish Filbert or Cob Nut bush looks almost as bare as a vine when pruned, yet the crops gathered testify to the soundness of the practice. In counties in which Filberts are allowed to grow on the extension system the fruit is neither so numerous nor so fine. All young Apple, Pear, Plum, or Damson trees are now having their strong leaders cut back; the trees require strength of branch to carry a crop, and the only way this can be secured in the case of young trees is to prune the erect shoots to at least one-third of their length. We have ample proof of what the result is when this is neglected. The trees grow upwards instead of filling out laterally; the first crop bears them down so much that the limbs have to be supported, or they inevitably get broken off, and nothing is gained as regards quantity or quality of fruit.

If the rampant erect shoots are checked in their upward career the weakly undergrowth comes into bearing far more quickly and the fruits are finer. Market gardeners look to quality as much as quantity, and if pruning did not pay they would not do it. One sieve of good high-priced fruit is worth two or three of seconds, and the expenses of transit and commission are the same in each case. Manuring is done also on a liberal scale; where are the orchards attached to private gardens that are supplied with manure at the rate at which they are by market growers?

A GARDEN HALF STARVED

is bad enough, but a starved orchard is worse; it can yield nothing. If we would but take that old advice—viz., "I will dig about it and manure it, and look for fruit another year," we might find that the seasons were improving, at least as regards fruitfulness. Some growers have had plenty of fruit, even in bad seasons, some none; moderate pruning and more than moderate manuring is the secret in the case of those who are successful.

PEACH AND NECTARINE TREES

on south walls are, of course, detached, pruned, and securely supported by means of stakes and ties some distance away from the walls, and in this position they must remain until we have a change in the weather. In the absence of frost a little extra care in washing the walls and trees to free them from the larvæ of insects will be well repaid. For stone fruit trees, after they are nailed in, a barrel of soap-suds from the laundry, with 2lb. or 3lb. of sulphur and a like quantity of soft soap added, will make an inexpensive wash, which may be applied freely without fear of injury to the most tender buds.

GOOSEBERRIES.

If these have not been pruned the sooner they are done the better, as a crowded state induces early growth and pruning checks it. An idea prevails that birds are not so likely to spoil an unpruned tree, but it matters little whether the tree is pruned or unpruned if a pair of bullfinches find their way into it. The safest and best way is to prune and dress with a mixture of soot and lime reduced to the consistency of cream, and passed through a fine sieve to admit of its being taken up and discharged by an old syringe. If time admits, trees and orchards should be thinned out and divested of moss which may have gathered on the stems and branches by scraping with a piece of hoop iron. When this has been done, wash with the composition recommended for Gooseberries and top-dress the roots with fresh soil, road scrapings, or rotten manure.

Madresfield Court.

W. CRUMP.

ORCHIDS.

SELENIPEDIUMS.

AMONG these there are many of the autumn and winter-blooming plants that may now be repotted should this be necessary. The majority need attention in this way more frequently than many of the Cypripediums, as many have a tendency to grow direct out of the compost, and as the roots of this class of Orchids seldom thrive so well when exposed the plants will in most cases need repotting every other year to bring the base of the young growths down near the compost. To do this the plants must often be divided up, otherwise the back growths would be too deeply buried in the compost. Selenipediums generally are not so fastidious as some Orchids in the matter of root disturbance, for if repotted in the usual way in equal proportions of good fibrous peat and sphagnum moss, it is only a short time before they become well rooted, though there are exceptions.

Selenipedium caudatum, for instance, does not yield to cultivation so readily as its allied species and hybrids. It needs very careful handling to keep it in perfect health. When dividing the plants sever the rhizome, leaving two growths either way. Each piece may be potted up singly, or numerous leads may be placed together to form specimen plants. The back growths should be

placed together in the same manner or potted up singly. Either way they soon produce young growths and make good healthy plants. If one desires to make as many plants as possible it is quite safe to divide the plants, leaving but one growth each way, providing each piece has a few roots attached, or the leading growth is about to emit roots. After repotting water rather sparingly until the roots have taken to the new material. These require the same treatment generally as the warm-growing Cypripediums, with the exception of overhead syringing, which must be strictly modified, for the young growths are liable to damp off if water lodges in them.

MILTONIAS.

Such plants as *M. Bluntii*, *M. candida*, *M. Clowesii*, *M. cuneata*, *M. flavescens*, *M. Regnelii*, and *M. spectabilis* are beginning to grow, and as new roots push from the base of the young growths when but a few inches long it is then that any necessary repotting or top-dressing should be done. Use pots or pans half filled with crocks or Fern roots. Either will do, as the plants are principally surface rooters. Free the plants from all old worn-out compost, and repot in good fibrous peat and sphagnum moss in equal parts. Press the same moderately firm, keep the base of the plant level or a little below the rim of the pot, water sparingly until the new roots have taken to the fresh compost and the growths further advanced. Grow the plants at the coolest part of the stove or the Cattleya house, and syringe among the pots on bright days.

DENDROBIUMS.

Many of these are now pushing out their flower-buds and will require more heat to properly develop their flowers. A temperature of 65° by night and 70° by day should be maintained. The plants will also need more water at the roots; apply it when the plants have become properly dry, as too much would cause the young growths to damp off. The atmosphere should be kept moderately moist until many of the flowers have expanded. Then it is best to have less moisture in the atmosphere until the flowers are taken from the plants or they will not last their usual time.

PLATYCLINIS GLUMACEA.

This is an elegant species, its graceful drooping spikes of greenish white fragrant flowers being very attractive. When in bloom they should be suspended where they may show their beauty in the most effective manner. The plants after a long season of rest are producing new growths, and will need more heat and moisture both at the root and in the atmosphere. They should now be placed in the stove or the warmest part of the Cattleya house, and as the growths develop the plant must not be allowed to become dry at the roots until growth has finished. Any necessary repotting should be done when new roots issue from the base of the growths.

SHADING.

This should now be had in readiness, for in houses where a maximum amount of light is obtained many

tender subjects, such as *Phalenopsis*, *Cypripediums*, *Zygopetalums* of the *Bollea* section, *Odontoglossums*, *Masdevallias*, &c., will now require shading on bright days for a short time.

F. W. THURGOOD.

Roslyn Gardens, Stamford Hill, London, N.

ORCHIDS.

CALADENIA CARNEA ALBA.

AUSTRALIA contributes little to the usual British Orchid house. A few *Dendrobium*s and other genera, together with numbers of terrestrial Orchids, make up this portion of its flora. Many possess considerable beauty, but in most cases this is overshadowed by uncertainty of results obtained under cultivation. The ground Orchids are usually small and fragile, generally with bulbous roots. Few of them have been grown in this country, but now that many people appreciate small alpine plants perhaps Orchid growers may take up small things like these. The *Caladenias* are very pretty. Give them light soil, putting a dozen or so plants in a pot, and water freely during the growing period, hardly any is required when the leaves turn yellow and disappear for a season.

The photograph represents *Caladenia carnea*



CALADENIA CARNEA ALBA.

alba, and was taken last year. The plants were imported early in 1897, and have since then flowered well every year in the Cattleya house. Another beautiful species is *Caladenia cerulea*, a counterpart of the preceding, but with lovely blue blossoms. These species usually flower during winter, and remain in perfection for weeks, so that they are far from being curiosities only.

DAVID S. FISH.

NURSERY GARDENS.

MESSRS. SUTTON'S CHINESE PRIMULAS.

THIRTEEN thousand Primulas, all in 5-inch pots, and every one in the respective forty varieties so exactly alike its neighbour in plant as pot is to pot. It is a surprising flower show, one of which even the great firm of Sutton and Sons may be proud, and they have shown many big things in their time. Such was the sight which greeted the eyes of the numerous representatives of the horticultural press who met at the Reading seed grounds and in the superb new range of glass houses that now forms so conspicuous an object from the adjoining railways on the 23rd ult. Apart altogether from the singular excellence of cultivation shown in the presentation of this great number of plants, all from seed sown last July, in their fine even condition of growth and bloom, there was the evidence perhaps most remarkable of all of what has been evolved out of the Chinese Primrose since its introduction here in all its native simplicity and plainness. Every plant is from seed, and every one is grown to produce seed, for the demands on the firm's stock are enormous. There are several sections in certain diverse habits or characters, yet in most there is duplication of colouring in the flowers. Thus there are of both palmate leaf and of Fern leaf many varieties, singles and doubles, and florally, though not in foliage, reproductions of each other. Even with these sections there are those having pale green leaves and stalks as there are others having dark leafage and stalks.

Farther off there are the huge flowered giant single forms in several colours, and some ten or twelve varieties, the blooms generally as large as crown pieces and finely fimbriated. There is also the stellata strain, or by some called pyramidal, in several colours. Another, not least, the doubles, or as commonly called, to distinguish them from the non-seeding doubles, semi-doubles. It is therefore not difficult to understand how the forty varieties, all distinct, are made up, and even now new ones are constantly cropping up because the work of intercrossing varieties to produce novelties goes on unceasingly.

One of the most remarkable and beautiful of the more recent introductions is named The Duchess. There is of this singularly beautiful variety from 800 to 900 plants in one huge group, and so fine throughout, every one being in equal bloom, that, while the quality is of the very best, not two flowers differ in form or colouring. It presents, indeed, a marvellous break, and has also even produced a double form as well. Round the eye of each flower is a band of rich reddish crimson, and the ground of the outer margin being of silvery peach, shading to pale lilac. All flowers are of good size and form, and charmingly fringed. A brilliant comparison to this is *Crimson King*, which has, too, a band of deep maroon round the eye, the ground being of blood crimson. This in the full light at Reading is indeed a glorious variety. Of whites there are several. *Royal White* has full pure blooms of good size over dark foliage, and is a capital companion plant to *The Pearl*, which has pale green foliage, and also to the fine selection of the moss curled-leaf form of *alba magnifica*. *Snowdrift* is a beautiful Fern-leaved variety.

Very lovely also is the Fern leaf *Rosy Queen*, flowers pale pink or flesh white, whilst deeper and a singularly lovely form is *Reading Pink*, which seen in bulk has a splendid effect. A glorious rosy red is *Brilliant Rose*, the flowers having clear lemon eyes that add so much to their beauty. How charming, too, are the blues. There is first a very pallid blue, well named *Cambridge*, and then there is a fine selection known as the *Reading Blue*, which is much richer in colour, and even now, though only in process of selection, is a much deeper blue; indeed, the richest blue tint we have yet seen in the *Primula*. But it is possible only to mention a few of the large quantities. There are so many others, and, not least, some of striking colour in new clothes that must, a year or two hence, be seen in considerable bulk. The giant forms are all that it is possible to desire in size, substance, form, and beauty of flower. Most of these are rather late, but plenty were open, and the quality was seen to be of the very finest conceivable. In the stellata section it is interesting to see a blue is being introduced. The most effective, whether as pot plants or for picking from for table decorations, are *Ruby* (a real rich scarlet), *White Queen Star*, *Mont Blanc Star* (both white, yet diverse in form), and *Carmine Star*. Great care has been exercised to retain in these stellata forms the free-flowering and pyramidal habit which has made them such favourites for winter use. The doubles are indeed glorious, and are yearly being increased. Singularly beautiful were the *Double White*, so free and pure in colour; *Double Scarlet*, giving intense rich colour in great profusion of bloom; *Double Blue*, giving, because of the greater abundance of petals, very effective colour; *Double Pink*, really lovely, so pleasing and so refined is its colouration; also a beautiful *Carnation-flaked* variety in great quantity, most delightful to have. These are not all, as the *Double Duchess* and some others evidence. It is a singularly attractive section, and must grow into popularity yearly. It is not possible to close a brief notice of this wonderful *Primula* show without paying to the growers of these myriads of plants the compliment of saying that they have done their work splendidly, and none other would have done it better.

OBITUARY.

MR. RUSSELL HALLACK.

FOR some time past South African affairs—from politics down to botany—have been among the dominant topics, and the interest with which they are invested has certainly not been diminished by the trip made by Mr. Chamberlain, whose penchant for Orchids is so well known, while in a minor way the letters from the Cape which have been published in *THE GARDEN* have also directed attention to Cape flowers. Most tourists from the Cape are greatly interested in Kew Gardens and the North Gallery. Among the places visited by the famous floral artist was Port Elizabeth, and many of her admirers will remember that in her work, "The Recollections of a Happy Life," she mentioned that she, like all other travellers interested in flowers, called upon Mr. Hallack, who, in addition to taking a prominent and active part in public affairs and different useful institutions, devoted considerable time and study to botany, which was one of his great hobbies. He made a special excursion with Miss North to Van Staadens, which abounds not only in flowers but in rambles, scrambles, and drives; a well-known charming spot and a place of great natural beauty.

In this locality, full of scenic attractions, Miss North both painted and described many of the beautiful flowers of the Cape. Her excursion in this part of the colony is described with much enthusiasm, and the well-known gallery is embellished with several specimens from that favoured locality, where there are many of the most famous wild flowers in South Africa. The grand blue patches of *Agapanthus*, well known in cultivation,

evidently took her fancy. She also painted one of the *Harveyas* (root parasites), many of the species of which are very showy and gorgeous, but they, unfortunately, are never likely to be introduced into England. As president of the Eastern Province Naturalists' Society, Mr. Hallack took a most active interest in his favourite study—botany. Few people are absolutely without some interest in flowers, and he soon kindled the enthusiasm of members for a science, his knowledge of which was by no means small. It invariably formed the subject of his frequent addresses. As a companion he was one of the most delightful of men; in fact, he was of a stamp not quite as plentiful as Blackberries.

Few men were better read than Mr. Hallack in an age when books are many, and the leisure to read them increasingly scanty. Those who had the honour of his friendship breathed the refining air of taste, knowledge, and goodness. He had a great natural gift of memory, and he was, as the French aptly say, a *grand charmeur* in conversation. There were few circles of society where he was not welcome, and he will have a most enduring hold upon the hearts of many friends not only in this colony but also in England. The news of his death which has just taken place will touch a chord of thoughtful sadness among all those who knew the Cape and its beautiful wild flowers. Like most men of his years he found the multiplying gaps around him one of the chief trials of old age.

In the Cape where the sun shines gloriously forth in the manner of Italy the flowers have more gorgeous tints than in many countries. Now that the war is over it is to be hoped that botany like the other sciences may exert some slight influence in binding together the English and the Dutch—the two different races of the Cape, and both of them are proverbially fond of flowers.

MR. WILLIAM WILDER.

THIS well-known inhabitant of Slough, who had been at the Royal Nursery, Slough, all his lifetime, died there on the 28th ult., aged 64. He was one of three brothers who were at one time in the employ of Mr. Turner. Going to the nursery on leaving school he was placed in the seed shop, and rose in time to be head shopman, in which capacity he died. He was well known and highly respected at Slough, and a trusted and industrious servant. For the space of forty-four years he had been a chorister in the parish church. In sending the notice of his death Mr. Harry Turner states: "We shall soon have lost all our old hands."

MISS ARNOTT.

WE much regret to learn that Harriet Mary, daughter of Mr. Samuel Arnett, Rosedene, Carsethorn, by Dumfries, N.B., died on Thursday, the 29th ult. The many friends of Mr. Arnett will be sorry to hear of his loss.

MR. L. G. KING.

WE much regret to announce the death of Mr. L. G. King, of the firm of Messrs. John K. King and Sons (seedsmen to His Majesty the King), of Coggeshall, Essex, and Reading, Berks, who passed away peacefully at Matlock on the 30th ult., at the early age of thirty-five years. The deceased gentleman took an active and practical interest in the business. He was much esteemed in the neighbourhood of Coggeshall, where he resided, and was highly respected on Mark Lane and other markets by all who had business transactions with him. As an employer he was kind and considerate, and his death is deeply regretted by all who were under him. In athletics, Mr. L. G. King took a keen interest. He was a good cricketer, and as a football player will be remembered as being at one time a prominent member of the Essex County Eleven. The greatest sympathy has been shown to his widow and other relations, who are held in the highest esteem throughout the whole of the Eastern Counties.

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ROYAL HORTICULTURAL SOCIETY'S ANNUAL MEETING.

THE annual meeting in one of the upper rooms of the Drill Hall, Westminster, was one of the largest held in connexion with the society.

We gave last week a *resumé* of the report, and a full account of Tuesday's proceedings will be found on another page. The meeting was presided over by Sir Trevor Lawrence, the president, who spoke of various items in the report, the two principal points being the new Hall and the Chiswick gardens.

With reference to the Hall, we presume from the remarks made that the plans are definitely settled upon, but we strongly object to the view adopted by the president when declaring that he never knew a building that pleased everyone. The structure that is to be is utterly without architectural charm, and the general opinion is that it is unsuitable pictorially as a temple for all that is beautiful in the world of flowers. Our earnest hope, however, is that the sum of about £22,000 still required will be quickly forthcoming, and that the thousands who have not yet subscribed will do so, so that the building now begun may be ready for the opening ceremony next year.

Mr. Elwes, in opposing the report, mentioned that the council had not taken the Fellows into their confidence, either with regard to the plans or the disposal of the lease of the Chiswick gardens. We venture to think that if the plans had been hung in the Drill Hall for some time previously and objections carefully considered, the Fellows would have thought better of the council; but a great work has been begun, and we hope it will be carried to a successful conclusion. Our hope is that the society will not in the near future suffer from a surfeit of bills in the shape of taxes, rates, and the general burden of maintaining a large establishment.

Mr. Elwes asked the chairman whether the council had power to dispose of the lease of the Chiswick gardens, and he said that such was the case; and, further, we understand that it has been practically parted with for the sum of £5,000, which will be devoted to a new garden elsewhere. We understood that the surplus funds of the society, amounting to about £1,600, may be devoured by the new Hall, but we think this will rest with the

Fellows. If they wish to avoid this undesirable proceeding they must subscribe to the building fund.

A garden is necessary to the society's existence. Thousands of Fellows would at once stop their subscription if the society were without a garden. An honourable institution would practically cease to exist, and become of value merely for its Hall and the flowers to be seen there by those who live in London or the neighbourhood.

The chairman alluded to the expense of maintaining Chiswick; but what is the society for but to possess a garden for holding trials and as a means of distributing seeds and plants? Some may consider the plant distribution somewhat farcical, but many Fellows who have never seen a London show and are therefore quite indifferent about a new building, regard this part of the society's work as of great interest and importance.

As the days of the Chiswick gardens are numbered, we take the following from this year's report of the society. The council here speak for themselves:—

"The society's gardens were first established at Chiswick in 1822, and since that time have been looked upon as a leading and important help to horticulture. The new plants discovered by Reeves, Potts, Damper Parks, and Fortune in China and in the East Indies; by Don on the West Coast of Africa, South America, and the West Indies; by Forbes at the Cape of Good Hope and the Zambesi region; by Douglas in North America; and by Hartweg in Central America, were all first grown at or introduced to Chiswick, and from thence afterwards distributed over the British Islands and the continent.

"The council being anxious to make the gardens (as far as the funds at their command will allow) a school of practical and scientific horticulture, and of increased value and interest to the Fellows, have given careful attention to their present condition. The gardens are devoted (1) to the cultivation of all such fruits, vegetables, stove, greenhouse, and hardy plants and flowers as are found to be most generally useful or ornamental; (2) to the trial of new sorts side by side with established varieties; (3) to the hybridisation of plants and the raising of new varieties; (4) to experiments in the culture and treatment of those plants which possess a floral or decorative as distinguished from a merely scientific value and interest. To these may be added (5) the trial of such horticultural appliances and materials as may from time to time be submitted.

"The cultivation, trial, &c., of fruits have always been considered as of the utmost importance, and happily forms one of the most valuable features of the gardens. There is an almost unique collection of the best varieties of fruits, and it is intended to maintain and extend it by the trial of such novelties as the raisers may be good enough to bestow on the society.

"The cultivation of Grapes is conducted on a large scale, and the great conservatory, 180 feet by 30 feet and 26 feet in height (one of the largest and noblest structures devoted to Grapes in this country), affords at all seasons ready examples of, and instruction in, successful Grape culture, which might be of service to many of the Fellows; and when the fruit is ripe is an object of the greatest possible beauty. House No. 14 has been planted with Muscats, and is similarly useful and instructive.

"House No. 5, which is devoted to Peaches trained on the back wall, has also been furnished with bush trees in front of them, and their culture will, it is hoped, prove extremely interesting to many Fellows.

"Two of the largest houses—Nos. 2 and 6—are devoted to the cultivation of Figs in pots, forming, without doubt, the finest and most varied collection of Figs to be found in this or any country, and will well repay the attention of all lovers of this particular fruit.

"A collection of standard and typical varieties of different vegetables will again be grown (as far as space permits) for comparison with new varieties, both to assist the committee in recommending their awards and for the general information of the Fellows. Besides this general collection, specially exhaustive trials of certain classes of vegetables are made every few years in rotation, and descriptive reports given.

"The Floral department includes plants and flowers of a distinctly decorative garden character, whether for cultivation under glass or out of doors. A few classes only can be illustrated each year. The collections of Cannas, Phloxes, Herbaceous Peonies, Iris, Perennial Asters, Ivies, Early and Late Chrysanthemums, Cape and Zonal Pelargoniums are very extensive. A large number of Carnations have been planted. Hybrid Tea and China Roses, and Cactus Dahlias, as well as other subjects, will receive special attention this year.

"The officials of the society will give any information and render every assistance in their power to all Fellows. Anyone wishing to study any particular branch of gardening operations, or to make any special observations on different subjects, should make direct application to the secretary, 117, Victoria Street, Westminster."

One or two speakers alluded to the grounds of the Royal Botanic Society as a likely refuge for the new garden. Amalgamation with that society, which is in debt and devotes its beautiful gardens to amusements, is impossible. The council are happily entirely opposed to such a course.

Special allusion was made to the value of the Journal. We believe the remarkable increase in the list of Fellows is in no small measure due to this excellent production. It is a famous work, and the greatest credit is due to Mr. Wilks for his diligence in maintaining its usefulness. It is a record valuable to the present generation, and will be more so to lovers of gardening, practical and scientific in the future.

NOTES ON LILIES.

LILIES IN POTS.

SEVERAL Lilies are justly valued for pot culture, and, grown under these conditions, they are useful for various decorations. As this treatment admits of ready removal from one place to another, Lilies can, when grown in pots, be taken into the conservatory or the dwelling-house just as the blossoms are on the point of expanding, hence they impart quite a new feature and a pleasing variety to the plants then in bloom. In the large floral nurseries two species are grown in immense numbers in pots; *L. longiflorum*—of which we derive our supplies principally from Japan, but also from Holland, Bermuda, and South Africa. The second species is *L. speciosum*, vast numbers of which reach here from Japan, and a lesser number from Holland. Other species that may be also grown in pots, but of which only a limited number are so treated compared with the preceding, are *L. auratum*, *Brownii*, *croceum*, *elegans* or *thunbergianum*, *Hansoni*, *Henryi*, *Krameri*, *odorum*, *rubellum*, *testaceum*, *tigrinum splendens*, and *umbellatum* or *davuricum*.

L. speciosum roseum makes a grand effect for conservatory decoration in late summer and early autumn, that is just as most summer-flowering subjects are on the wane and before the advent of the *Chrysanthemum*, is a great point in favour of this Lily and its varieties. Single bulbs of *L. speciosum* may be grown in the market cultivator's favourite—the 5-inch pot—but for the largest pots 6 inches and 7 inches in diameter will not be too big. Effective masses may also be formed in large pots or tubs by increasing the number of bulbs. A cold frame where they are just protected from sharp frosts, and that also serves as a shelter from very heavy rains, is the place for them, and as soon as the spring frosts are over they may be stood in the open ground. There they can be allowed to remain till the earliest buds are on the point of expanding, when, if taken indoors, they will continue to open without a check. This Lily possesses two valuable advantages over several other sorts—firstly, the plants are during the growing season rarely, if ever, troubled by insect pests; and, secondly, the flowers have not that all-powerful perfume that greatly limits the use of others in confined places.

One thing especially to bear in mind in the case of *L. speciosum* is that it is a vigorous stem-rooter, hence in potting ample space should be left for a good top-dressing at a time when it is most useful, that is, just as the young roots are ready to take possession of it at once. As the pots get full of roots a little weak liquid manure occasionally will be of service. Of the numerous varieties all the following are good: *L. album* (of the Dutch), white when fully expanded, but with the outside of the buds as well as the stems and leaf-stalk brownish; *Kratzeri*, sometimes sent here from Japan as *album*, flowers white, centre tinged with green, while the buds and leaf-stalks are also green; *album novum*, much like the last, but the flowers are more massive,

while the anthers are bright yellow instead of the chocolate-tinted ones of *Kratzeri*; *roseum*, white, tinged with rose; *rubrum*, of a somewhat deeper tint; *Melpomene* (from Japan), the deepest tinted of all, the petals being bright carmine-crimson, edged with white; and *rubrum superbum*, from Japan, a larger and finer flower than the Dutch *rubrum*. *Lilium speciosum* is of all Lilies one of the most amenable to permanent pot culture, for it may be kept in health and flowered year after year provided the bulbs are repotted when they die down in the autumn. In carrying this out remove as much of the old soil as can be done without injuring the roots.

Lilium longiflorum.—The bulbs of the variety *Harrisii* of this Lily reach here in August, and if potted and brought on in a greenhouse temperature they flower in early spring. Those from Japan and Holland which arrive later may be potted and grown under glass to give a succession to the pre-

shelter in the unfolding leaves and may cause a good deal of damage before they are detected. Of the other Lilies above alluded to, *L. croceum*, *L. elegans* or *thunbergianum* and its varieties, and *L. umbellatum* or *davuricum* all belong to the upright-flowered section, that bloom for the greater part in June, and, except a few varieties of *L. elegans*, the flowers of nearly all of them are of some shade of orange-red. After potting these only need protection from actual frost. *L. auratum* thrives best where its roots are cool and moist, with the tops just protected from direct sunshine. *L. Brownii*, its near ally *L. odorum*, with *Hansoni*, *Henryi*, *Krameri*, and *rubellum* may be treated as recommended for the latest batch of *L. longiflorum*, while *L. testaceum* and *L. tigrinum splendens* simply need a little protection from sharp frosts.

RETARDED BULBS.

Of late years a system of retarding Lily bulbs has been tried with such success that



THE ENTRANCE TO THE KITCHEN GARDEN AT MALSHANGER.

A lesson to those who consider this part of a garden unworthy of being made beautiful and interesting.

ceding, while if they are potted and placed in a cold frame protected only from absolute frost, and stood out in the open as soon as this can be safely done, they will flower about midsummer. The bulbs being smaller than those of *L. speciosum*, a 5-inch pot is large enough for all, while three of medium size may be grouped in a 6-inch pot. One particular advantage in growing *L. longiflorum* in pots is that owing to heavy rains, which usually occur at about its flowering period, the pollen is washed over the flower and destroys its spotless purity, but if the plants are in pots they can be taken under cover just as the buds are expanding, and the trouble is thus obviated. *Lilium longiflorum* is, when under glass, liable to aphides or green fly, but they may be kept down by regular fumigation, or, better still, vaporising. A little tobacco powder dusted in the apices is also helpful. This caution is particularly necessary, as the insects will

immense numbers are now so treated, and a considerable amount of capital has been sunk in the enterprise. It consists in storing the bulbs in refrigerators so that they are kept quite dormant till removed, when they start into growth without a check. The splendid flowers of *L. longiflorum* and *L. speciosum* that were so noticeable in the florists' shops of London in December were all the produce of retarded bulbs, and would even if planted out of doors at the proper season have flowered in July and August respectively. Such a sight as this would a few years ago have startled everyone, but this system of retarding bids fair to revolutionise plant growing in general, for it is questionable where it will stop. Dealers talk glibly of millions in connexion with Lily of the Valley that have been treated in this way, while *Lilacs*, *Azalea mollis*, *Spiræas*, and *Lilium auratum*, as well as *Seakale*, may all be obtained in a retarded state. H. P.

KEW NOTES.

INTERESTING PLANTS IN FLOWER.

Temperate House.

ACACIA ACINACEA, *A. juniperina*, *A. obliqua*, *Barosma fetidissima*, *Cestrum elegans*, *C. fasciculatum*, *Lissanthe strigosa*, *Melaleuca densa*, and *Senecio Petasites*.

Palm House.

Brownea grandiceps.

† *Range.*

Hemantus Lindenii, *Pitcairnia corallina*, and *P. darblayana*.

Succulent House.

Agave Sartorii, *Aloe ciliaris*, *A. insignis*, and *Protea cynaroides*.

Orchid Houses.

Acridis Vandarum, *Brassavola grandiflora*, *Broughtonia lilacina*, *Bulbophyllum neilgherrense*, *Cymbidium hookerianum*, *C. lowianum*, *Cynorchis compacta*, *Dendrobium burfordiense*, *D. Curtisii*, *D. dominianum*, *D. eudocharis*, *D. Euryalus*, *D. fytchianum*, *D. Madonna*, *D. nobile*, *D. n. Cooksoni*, *D. primulinum*, *D. sarmentosum*, *D. splendissimum*, *D. wardiano-japonicum*, *Epidendrum calamarium*, *E. stanfordianum*, *E. Wallisii*, *E. xanthinum*, *Eulophia saundersiana*, *Lælia harpophylla*, *Odontoglossum andersonianum*, *O. a. var. ruckerianum*, *O. cariniferum*, *O. Rossii majus*, *Oncidium batemanianum*, *O. splendidum*, *Ornithidium coccineum*, *Phaius assamicum* × *P. Marthe*, *P. tuberculosus*, *Platyclinis arachnites*, *Satyrium odorum*, *Tainia penangiana*, *Trias picta*, and *Vanda amesiana*.

Greenhouse.

Forced shrubs and bulbs, *Primula sinensis*, and various *Ericas* are the principal things in flower. *Rhododendron præcox* and *Wistaria sinensis* are specially noteworthy.

Alpine House.

Anemone blanda, *Bulbocodium vernum*, *Colchicum hydrophyllum*, *Coptis orientalis*, *C. trifolia*, *Crocus* (collection of species), *Corydalis rutæfolia*, *Cyclamen Coum*, *C. ibericum*, *Eranthis cilicica*, *Hyacinthus azureus var. robustus*, *Ionopsidium acaule*, *Iris* (collection of species), *Merendera caucasica*, *Orchis longibracteata*, *Primula megasæfolia*, and *Scoliopus Bigelovii*.

Rock Garden and Herbaceous Ground.

Adonis amurensis, *Galanthus* (collection of species), *Iberis gibraltaria*, *Iris lanfordiæ*, *I. Histrio*, *I. histrioides*, *I. reticulata*, *I. r. Krelagei*, *I. stenophylla*, *I. Tauri*, *Leucojum vernum*, and *Narcissus minor var. minimus*.

Arboretum.

Cornus Mas, *Daphne Mezereum*, *Erica carnea*, *E. lusitanica*, *E. mediterranea var. hybrida*, *Garrya elliptica*, *Nuttallia cerasiformis*, *Prunus davidiana*, *P. d. var. alba*, *P. triloba var. Petzoldii*, *Rhododendron præcox*, and *R. nobleanum*.

NOTES OF THE WEEK.

National Rose Society.—The exhibition of Roses on July 15 next in St. Andrew's Hall, Glasgow, promises to be of exceptional interest. We are pleased to find the society holding an exhibition in Scotland.

A note on Lenten Roses.—These are very peculiar in their liking, for I have a plant in the sunniest and driest part of my garden, and it is in splendid health year after year. Another clump now in the shade is not half so beautiful. They were put there ten years ago and have never been disturbed since.—L. CUENOD, *Fevry*.

Fragrance of the larger Christmas Rose.—Is it generally known that the flowers of *Helleborus niger maximus* (syn. *altifolius*) are sweetly scented? I have not seen anything to that effect in descriptions or on notes on the plant, neither have I noticed the fact

before this winter, when several plants flowering here were unmistakably strongly scented. The scent very much resembles that of *Daphne indica*, at the same time suggesting sweet Violets. Perhaps some of your numerous correspondents on the subject of hardy plants may have had a similar experience.—E. HORTON, *Harthorn Cottage, Park Road, Hale, Altrincham*.

Increased popularity of Bananas. In round figures the consumption of Bananas during the past two years—*i.e.*, since Mr. Chamberlain's effort to aid Jamaica—has risen from 1,500,000 to 3,500,000 bunches per annum, which speaks eloquently for the growing popularity of this fruit.—ELDERS AND FYFFES, Limited, 9 to 12, Bow Street, Covent Garden.

Retirement of Mr. Browne of Hyde Park.—Mr. W. Browne, after thirty years' service, is retiring on a Civil Service pension from the superintendentship of the Royal Central Parks, London. We hope Mr. Browne will enjoy for many years a life of repose after the onerous duties connected with the management of the Central Parks, and Hyde Park in particular. The flower planting of Hyde Park has been much criticised, but the general opinion is that Mr. Browne has accomplished much good work. We have enjoyed and learned much from the beautiful grouping in spring and summer. Mr. Browne was one of the first, we believe, to use the large specimen *Heliotrope*, *Fuchsias*, and other plants which English gardeners had almost forgotten, and all who know the London parks will remember with pleasure the beautiful effects gained by the right use of a few things.

A seedling from La France Rose.—It is well known that the *Rose La France* does not seed freely; nevertheless, M. Dienemann of Klein-Furra (Thuringia) writes to the *Rosen-Zeitung* that he once obtained a ripe fruit on a specimen of this variety. M. Dienemann sowed the three seeds, however, and obtained from them three plants. The first soon bloomed, but it had single flowers. The second produced flowers analogous to those of the variety, Mme. Julie Weidmann, but still paler. The third acted in a peculiar manner; it developed considerably in height, but did not blossom. M. Dienemann then grafted it upon other stocks, but had to wait a long time before obtaining a flower. The shoots produced many buds, but as soon as these had reached a certain size they withered and fell. At length, during a spell of dry and warm weather, a bud opened into flower. "The flower," says M. Dienemann, "was unique both in form and colour." Nevertheless the grower abandoned the plant because of its difficulty in flowering. Still this important fact remains—namely, that it is not absolutely impossible to obtain seeds from *Rose La France*.—*Revue Horticole*.

Spring flowers at Hampton Court. It was interesting on a fine sunny day in the first week of February to note in these gardens in charming bloom those now all too rare hardy plants, the single and double red Hepaticas. The Winter Aconite was likewise blooming profusely as a sort of carpet to a shrub bed; also that the double *Arabis* was as precocious to flower as the single one. Many of the myriads of *Polyanthuses* put out in the autumn in beds were showing flowers, and, indeed, had been most of the winter. Many of the early-blooming Heaths were also in charming flower, and of shrubs both the red and white forms of *Daphne Mezereum* were full of bloom, the white especially, in clumps of several bushes being most effective. I could but notice how remarkably fresh and nice the Wallflowers were in the beds, a condition no doubt materially due to the provision of wind-breaks about the plants and round the beds, formed of branches of Yew, which had kept quite green. In a few weeks these famous gardens will be very attractive with spring flowers, and it will be possible for Londoners to reach them from Hammersmith or Shepherd's Bush per electric tram, thus seeing *en route* a large portion of the Thames valley. I confess to having a desire to see at Hampton Court some of the back beds devoted to special flowering shrubs, such as *Forsythias*, *Ribes*, *Azaleas*, *Philadelphuses*,

Berberis, *Viburnums*, *Ceanothus*, *Rhus Cotinus*, *Hydrangeas*, *Brooms*, *Deutzias*, and other similar suitable representatives of beautiful hardy shrubs. No doubt in public gardens such as those at Hampton Court much has to be considered; but it is equally important that the public taste be educated to appreciate the beautiful in gardening material. Even now in what are regarded as good private gardens, the best flowering shrubs and trees also are very indifferently represented.—A. D.

Ardisia crenata.—The above, according to the "Kew Hand List," is the correct name of the plant so long grown in gardens as *Ardisia crenulata* and *A. crispa*. A generation or two ago it was far more popular than it is now, but why it has been allowed to drop out so far in favour is hard to say, as its brilliant scarlet-coloured berries form an attractive feature at this season of the year. This fact is well illustrated just now in the † range at Kew, where there is a small group consisting of half a dozen plants or so, each about 18 inches high, and all profusely berried. The rich green of the prettily crisped foliage is also another notable feature. There is besides these a specimen of the variety *alba*, with rather larger berries than those of the type, and of an ivory-white tint. The leafage of this last is, as a rule, not so rich in colour as the red berried form. This *Ardisia* is a native of China, and in this country needs a warm greenhouse or intermediate temperature. I have seen a variety with variegated leaves, but was rather surprised to read the following in a catalogue of one of the principal nursery firms in Japan: "More than twenty varieties of variegation are known, either marginal, speckled, or striped." Of the smaller-growing *Ardisia japonica*, which is rarely seen in this country, the just named catalogue also mentions twenty variegated leaved forms.—H. P.

Alcohol in Agaves.—M. R. Roland-Gosselin points out in the "Bulletin de la Société Centrale d'Agriculture, &c." of Nice, the value of certain Agaves for the production of alcohol, of which the industrial use is becoming daily of more importance. We think it will be interesting to quote the essential passages of this article. "In Mexico (the country of nearly all the Agaves) an alcohol of variable quality, from which brandies are made, is produced in great quantities under the name of 'Mezcal.' The plant which furnishes this alcohol is a variety of medium height of *Agave rigida*. It is true that from its size it is not likely to yield an abundant supply; but if good quality can be obtained the quantity is considered of secondary importance. It is not the same, however, with some large varieties of *Agave salmiana*, whose thick and fleshy leaves, full of juice, yield from the same plant more than a ton of matter to be distilled, without counting the stems, &c., which are capable of doubling the weight. The late M. Madinier some twelve years ago introduced from the high lands a variety called in Mexico 'Maguey verdé,' which is remarkable in this respect, and which is specially cultivated with the object of producing alcohol. I cultivate this plant here. It has not yet produced a flower-spike, but it presents all the appearances (except the colour, which is very peculiar) of *A. salmiana*. Instead of the characteristic dark green, which has caused *A. salmiana* to be described by the synonym of *A. atrovirens*, 'Maguey verdé' has leaves of grass almost Spinach green. Making the alcohol is very simple. The leaves, methodically cut as they are wanted, are placed in a crushing machine, which reduces them to a thick pulp, sufficiently aqueous in the large varieties to be submitted to distillation without further moistening. The American Agave can also be used, but its yield, it appears, is not sufficiently remunerative. It is important to make trial only of those Agaves recognised in Mexico as meritorious, either for yielding the best quality or for the greatest quantity of alcohol. Preference should be given to the latter for experiments in the district of Nice, where so much unused land would suit this culture. The Agave may become the Beet-root of the littoral."—*Revue Horticole*.

Tomato Veitch's Golden Jubilee. It is surprising that this splendid variety does not find more general favour. For some reason or another yellow varieties are not so popular as the red ones. We find this to be so, not only at our horticultural exhibitions, but also with the general public. I cannot help thinking that prejudice must have something to do with this, as no variety is of better quality both for flavour and solidity of flesh, and when well ripened it has a most pleasing appearance. It is also very prolific. I believe I am right in saying this was a sport from one of the best-known red varieties, and where Tomatoes are appreciated in a raw state this should most certainly be grown. I should like to see yellow varieties receive more encouragement at our exhibitions.—E. BECKETT.

Blackberries in a Peach house.—In the gardens of A. Coates, Esq., Woodside House, Paisley, under the care of Mr. Hogg, there are in a Peach house two plants which at first look like vigorous Crimson Rambler Roses, but are really the Wilson Junior Bramble. One of the plants has about eight shoots from 8 feet to 14 feet long trained up the back wall of the house, the rods being about 12 inches apart. The wood is well ripened, and, under such conditions, must produce splendid fruits. Anyone fond of Blackberrying could do it at home if they would devote a little space and care to this splendid Bramble.—SPECTATOR.

Bulbous Irises at Kew.—In the alpine house at Kew one may always feel certain of seeing some little gems at this season, the various bulbous forms of Iris being conspicuous; but these beautiful plants are not limited to the glass structures, as on the last day of January they formed one of the brightest features of the outdoor garden. Nestling at the foot of a wall in the herbaceous ground was a representative collection of these charming forms, not singly, but in most cases a little clump or colony of each served to brighten up a winter's day. One of the showiest of all was the comparatively new *I. Tauri*, the flowers of which are of a rich reddish purple colour, though some might prefer the smaller bright yellow flowers of *I. Danfordiae*, known also as *I. Bornmulleri*. A clump of this is conspicuous, more especially in dull weather. The pretty pale blue *I. Vartani* that usually flowers earlier in the winter was in bloom, and furnished a distinct shade of colour among these little gems. *I. stenophylla*, which by the way is more frequently known as *I. Heldreichii*, was beautifully in flower, the colour being a kind of purplish blue, with dark velvety blotches on the outer petals. *I. Histrio*, with its light blue mottled flowers, was also represented, as well as the allied *I. histrioides*, the blooms of which are of a deeper colour, but mottled as in the preceding. That distinct form of the Netted Iris (*I. reticulata Krolagei*) had just unfolded the first of its claret-purple flowers. Under glass most of the forms above mentioned were represented, and in addition were some delightful masses of the Algerian Iris (*I. alata*), whose comparatively large flowers are of a bright purplish lilac colour. This, one of the oldest of the section, was first introduced so long ago as 1801. Most of the forms of these bulbous Irises are by no means expensive to purchase, but it is difficult in many gardens to establish them permanently.—H. P.

Gardening at Exeter.—There are but few cities or county towns that can compare with Exeter in the interest taken by its inhabitants or by its local press in furthering the knowledge of the natural beauties of the city or county, or by encouraging the people to protect places and native plants from destruction, that have either historical or scientific interest attached to them. The Exeter folk are naturally proud of their public garden at Northernhay, where, notwithstanding its elevated position above the railway, flowering plants are always in a forward condition and mostly ahead of the season. It is therefore interesting to note, on the authority of the *Devon and Exeter Gazette*, that Kew has recently lent a helping hand to this western city. A writer in our provincial contemporary says: "Northernhay, I

am glad to see, is receiving attention. Some specimen shrubs have been given to the council by the authorities at Kew. I hope that only just so many will be used on Northernhay as are really desirable. I am not sure that the slope in front of the castle has been improved by the bushes planted there. The graceful sweep of turf laid with an artistic eye, and broken only by the rock, needed nothing to add to its effect." As a further illustration that the true principles of gardening are encouraged and practically demonstrated the same paper contains a notice of a meeting of the Devon and Exeter Gardeners' Association—a flourishing institution—where Mr. S. Radley, of Messrs. R. Veitch and Son's nurseries, opened a "demonstration of the various methods of preparing cuttings." The value of the instruction so given and obtained is thus set forth in the report: "The senior members, with specimens provided for the purpose, showed the juniors of the gardening craft how they prepared cuttings of the various kinds of plants, and gave their reasons for adopting the methods they preferred, for there are many. Surely no better mode of mutual improvement in their art could be practised than this, and the large number of members present was proof of their appreciation. Societies working in the practical and friendly manner in which the members of this particular association do, must assuredly do good, and should be encouraged. The committee have been happy and fortunate in their selection of subjects, and the infinite variety provided has had the beneficial effect of sustaining the interest of the members and furthering the aims with which they first set out."

Stuartia pentagyna.—This, the so-called American Camellia, is one of the most beautiful of all North American shrubs as well as one of the most rare, and has been much sought after for many years, being sparingly offered at times by a very few nurserymen in America and Europe. *Stuartia pentagyna* is the only American representative of the Tea and Camellia family which can be grown in the latitude of New England, and a few very fine clumps are now growing in the vicinity of Boston. It flourishes and flowers to perfection in the Arnold Arboretum, Jamaica Plain, Boston. It is an erect shrub, 10 feet or 12 feet high, well foliaged, and with large axillary flowers, 3 inches or 4 inches across, with white creamy petals, deeply crenulated on the margins, and resembling those of some of the single Camellias. Altogether it is one of the finest of all shrubs for single or mass planting and thrives in damp situations as well as in drier garden soil. *Stuartia pentagyna* is worthy a place in the smallest and most carefully selected gardens, and we take the greatest pleasure in being able to offer this rare and beautiful shrub to our customers.—H. P. KELSEY, *Boston, Mass.*

Weather prognostics.—It will indeed be delightful when, as your correspondent "E. K. R." prophesies in your issue of the 24th ult., it is possible to predict what the weather will be on a given day with as much certainty as we can the tides, so that we shall be able to know on what day a hailstorm may be expected, or what day will be hot and fine. What a change will be made in our lives! No more flower shows ruined, or garden parties marred; no more hats or ladies dresses spoiled by unforeseen storms, or pleasure trips taken in unsuitable weather. Surely then the millennium will not be far off. Unfortunately, however, it is not easy to see on what grounds "E. K. R." builds his hopes. What are the irregularities of the moon's movements that he alludes to? If they are apparent in the changes of the atmosphere they should be more in evidence in the tides, which can be calculated for many years in advance, and do not show any aberrations from their usual course. No doubt there is a tide in the air just as there is in water or any other fluid, but owing to the greater rarity of the air the attraction of the sun and moon does not have so much effect upon it as it does on a denser fluid, but such tides as there are must be as regular and as frequent as those in water. Even in the finest and most settled weather I have never heard that any meteorologist has been able to detect them.

If "the wind is an air wave caused like the tide of the sea when she pulls in conjunction with the sun," why does it blow as it often does for several days in the same direction? It should ebb and flow like the sea. "E. K. R." gives certain predictions for the first six months of this year, and then says: "They are based upon scientific grounds, but if they are not fulfilled it will be because the savants have made errors in their calculations." Is not this begging the question? I do not for a moment imagine that we know all about meteorology. Most undoubtedly we do not, but that the cyclones which come to us from the Atlantic Ocean, or the thunderstorms that sometimes develop with so little warning, will ever be shown to have the same regular periods as the tides, I cannot for a moment believe to be possible. It would be most useful to all gardeners to study the weather. By watching the form of the clouds and the direction in which they move, and the rise or fall of the barometer, frosts and gales can generally be foretold a few hours beforehand by these simple observations, and everybody knows what that means in a garden.—G. S. S.

Cypripedium spectabile.—This is the handsomest and one of the rarest of all hardy Orchids, and is really more known and cultivated in England and Ireland than in America, where alone it is native. The broadly ovate sepals and petals are pure white, while the large inflated pouch is a beautiful soft rich rose colour. It is a strong grower, often reaching 3 feet in height, the stems being leafy and the leaves profusely furnished with soft white downy hairs. In places where the soil is not naturally peat or rich vegetable matter, this fine plant will succeed admirably in the prepared Rhododendron bed, but in any case it should be planted deep, as the roots are then cool and moist during the hot weather and do not suffer from frost in winter. The Moccasin Flower is an admirable bog plant, will succeed fairly well in any shrub border affording shade, and is an excellent pot plant.—HARLAN P. KELSEY, *Boston, Mass.*

Chrysanthemum rust.—This is now most prevalent; there are few growers who have not had to contend with it. It may be worth while asking cultivators to give their experience of its origin in their own gardens and how they treat plants when badly affected. We grow many varieties principally for cut flowers, and have been troubled with rust more or less for five years. It attacks some varieties more severely than others, and some of our old favourites have become so weak as to be hardly worth keeping—for instance, *W. H. Lincoln*, *Peter the Great*, *Florence Percy*, *Tokio*, and *Cullingfordii*. Nothing could have been more vigorous than these were some years ago. Last year I obtained cuttings from five or six different places—from Jersey among others. Even this did not ensure freedom from rust. We find the best way to keep it down is to syringe the plants occasionally with soot water and with Abol insecticide. Nothing keeps them quite free from rust, however, so I regard this as having come to stay. It occurred to me that feeding the plants, and as soon as the flowers are over cutting down the stems close to the pot, may have something to do with the question. Has any grower tried to obtain stock from plants which have not been fed and whose stems are not cut?—J. CROOK.

Specimen Frankoas.—*Frankoa ramosa* is well known as an extremely graceful and useful plant for the greenhouse, and it is also useful to associate with other flowering plants in the formation of outside groups in various positions where colour is required. When the stocks of large Pelargoniums, Hydrangeas, and things of similar character are overhauled, it is a good plan to transfer a few Frankoas to 12-inch pots, selecting good stout plants that are carrying from half a dozen to a dozen breaks. Soil that will suit the Pelargonium will do well for them, and after potting they can be staked out to the edges of the pot to allow plenty of space for the individual spikes of flowers. Plants of this description look charming standing up well above a groundwork of scarlet or crimson Pelargoniums or pink Hydrangeas.—E. BURRELL.

Dendrobium wardianum in Glasgow.—The way to grow the charming *Dendrobium wardianum* has certainly been demonstrated in a very practical manner by Mr. McIver at Camp Hill Gardens, Queen's Park, Glasgow. Plants imported four years ago have now pseudo-bulbs from 2 feet to over 3 feet long; but it is not the length which strikes one so much as the thickness of the bulbs, the nodes bristling with buds. *Dendrobium nobile* is also especially good, with thick bulbs of good length, well furnished with healthy leaves, and at the same time full of flower-buds. Mr. Whitton, Superintendent of the Parks and Gardens of Glasgow, is convinced that less heat and more air have brought about these excellent results.—SPECTATOR.

Chrysanthemum Golden Gem.

On page 50 Mr. Jenkins asks why I so favourably regard Golden Gem as a late-flowering variety. I can assure him Golden Gem has been grown here for many years without the least sign of the defects he mentions in his note. We have never tried H. W. Rieman, but Golden Dart certainly cannot take its place if we are unable to depend upon its flowering in January. At this date (January 29) Golden Gem is at its best, and it is likely to give a good supply of flowers well into February. I did not mean to infer that the whole batch of this variety was struck in June. We grow from 600 to 700, many of which are already planted. The plants which are struck in June are grown especially for grouping, for which purpose they are invaluable where groups have to be made in limited space. Lady Canning, too, makes charming little plants when grown in this way, and I have noticed that these late-struck plants have a much smaller percentage of blind shoots; but good strong cuttings must be obtained to ensure success. The flowers of Golden Gem are not so large as some varieties, but I fail to see that impairs in any way its value for ordinary decorations.—E. HARRISS, *Royal Gardens, Frogmore.*

TREES AND SHRUBS.

JAMESIA AMERICANA.

A PRETTY dwarf shrub is this, and we are pleased to show a small bed of it in the Botanic Gardens at Edinburgh. It is just the shrub for a lawn, though one rarely sees the *Jamesia* in gardens. It is the only species of the family, was first introduced into England in 1865, and blooms in early summer, every shoot bearing clusters of white flowers, which are individually about half an inch across. It grows usually between 2 feet and 3 feet in height, is of bushy growth, and produces a wealth of neat, whitish Raspberry-like leaves.

SHRUBBERIES.

THAT most charming production "Trees and Shrubs for English Gardens" cannot fail to draw still further attention to the wealth of beauty which is lost by the neglect of trees and shrubs. Most striking of all is the fact that in spite of the general improvement in gardens little is discernible in shrubberies—still the old jumbled up muddle which Mr. Robinson laments in "The English Flower Garden." During the last few years it has fallen to my lot to have to deal with a shrubbery mainly composed of Laurels, Privet, Snowberry, and Lilacs, all much overgrown and neglected. Renovation was out of the question; in fact, nothing was possible except to make a clean sweep of everything. The Lilacs were scraggy and a mass of suckers, the Laurels were in complete decay, while Snowberry in our



JAMESIA AMERICANA IN FLOWER IN THE BOTANIC GARDENS, EDINBURGH.

light sandy soil is an almost ineradicable pest, so that we decided to choose its room in preference to its company. In this district Holly, Yew, and Box are our mainstays among the evergreens, and these we have made most use of. When once established—rather a difficulty when the solid sandstone rock crops up at a depth of 4 feet, and above this is at least a foot of coarse gravel!—they grow well, and benefit greatly by an annual mulch of leaf-mould and burnt garden refuse. But even with this attention many deciduous shrubs fail, and sooner or later one has to fall in line with Nature, and remember that on poor and hungry soils it is simply courting failure to plant promiscuously subjects which one may happen to have seen succeeding in more fertile districts. In a hot and dry season the ravages of drought are soon apparent, and do what one may losses are inevitable. Perhaps the following (necessarily restricted) list of the deciduous shrubs, which really are a success on the shallow soil of this district may be helpful to some readers: Almonds, *Berberis vulgaris* and its varieties, *Buddleia globosa*, *Colutea arborescens*, whose good qualities are ignored around here; *Cornus*, some varieties do fairly well; Hawthorns, very well; *Cydonia japonica* and its varieties, Gorse and Brooms, *Deutzia crenata*, most excellent, even in the shade of large trees; *Halesia tetraptera*, very good; *Hypericums*, *Kerria*, Lilacs, very well; *Lonicera* (shrub Honeysuckles), of which *tatarica* makes a lovely hedge, and *Morrowi* is one of the most beautiful of May-flowering shrubs; *Philadelphus*, *Prunus Pissardi*, and the wild Sloe, Crabs, *Rhus Cotinus* and *typhina*, flowering Currants, Elders, *Spartium junceum*, most *Spiraeas*, *Viburnum Lantana* and *Opulus*, and *Weigelas*.

Returning to the subject of evergreens, I was very pleased to read the appreciative note on Yews by Mr. Clayton (page 20), and am in full agreement with him as to the beauty of the Golden Yews at Elvaston. Unfortunately, there is such a preponderance of evergreen trees and shrubs at Elvaston that the general effect (to my mind) is not so pleasing as it would have been had more of the deciduous trees and shrubs been given a place. This overuse of evergreens has since been explained to me when reading "The British Winter Garden: being a Practical Treatise on Evergreens; showing their general utility in the

Formation of Garden and Landscape Scenery, and their mode of Propagating, Planting, and Removal, from 1 foot to 50 feet in height, as practised at Elvaston Castle. By William Barron, Head Gardener." In this little work Mr. Barron states at page 11 that "nothing is so common as to see close to our mansions such commonplace things as Elms, Ashes, Sycamores, Poplars, or any other rubbish that the nearest provincial nursery may happen to be overstocked with; all stuck in to produce either immediate or lasting effect! The immediate effects I shall not describe, but some of the lasting ones are these—a continual litter of decayed leaves during that period of the year when our gardens are expected to look their best; and an assemblage of leafless stems without either beauty of form or outline, and affording neither shelter nor protection from bleak winds for seven months in the year; a want of protection in winter and early spring; the absence of colour (being without leaves) during the same period; the constant litter from falling leaves during the late summer and autumn months; and the unwholesome effluvia arising from decaying leaves in autumn and winter, form insuperable objections to deciduous trees being planted, or indifferent and uninteresting ones remaining, wherever grounds are intended to be well kept, or where snugness and neatness are expected. All deciduous trees, then, should be so disposed as to secure the greatest possible advantage from their beauty; but should never be allowed to occupy the space of such as will be both more useful and ornamental in a shorter space of time. I must be honest to confess that had I a place of my own to lay out I should infinitely prefer planting it *exclusively* with *evergreens* wherever beauty or shelter was my motive for planting." And so on, with the result that the carrying out of these ideas has made the Elvaston arboretum of too sombre a character, and the contrasting harmony which might have been produced by the use of a liberal proportion of the best deciduous trees and shrubs is sacrificed.

Unlike the Box, the Yew nowadays seems to have lost its commercial importance. It was at one time in great request for bows; and Caesar tells us that it was very plentiful in Central Europe, but that it was so esteemed by turners and carvers that whole districts were stripped of it. Frequently one sees splendid specimens of the Yew

in churchyards, and there is a remarkable example in the little churchyard of Stanford Bishop, not far from Worcester, whose girth at 6 feet from the ground is no less than 24 feet.

In a recent number of *Chambers's Journal* a writer gives an interesting account of the manufacture of the rosary or chaplet. The Pyrenees are noted for the Box trees that clothe the lower slopes in a mantle of picturesque green. There are also numerous very rapid streams, or *gaves*, as they are called, which, fed by the glaciers in the higher ranges, fling their brawling torrents down every ravine and valley. Man has hastened to take advantage of the combination, and often in most unfrequented and unexpected places you come across the homely mill-dam and roughly built sawmill which, worked by water-power, converts the neighbouring Box trees into chaplets. Every little Pyrenean village, however small, is sure to be the centre of a *commune* or parish owning extensive forest and pasturage rights on the wild mountain slopes around it. Once yearly, on a Sunday, its mayor and councillors solemnly assemble in the little *Mairie* and put up for sale these rights, the bidders being, of course, only the inhabitants of the commune. The Box trees fit for cutting are an important item. After a spirited competition, much helped by good wine, the sale is over, and he who has bought the Box trees is alternately congratulated and chafed by his friends, and he wonders what on earth made him do it, and whether or no he will make anything out of his purchase. However, in due course he cuts a load and conveys the ugly, whitey brown sticks to the sawmill and sells them to the chaplet makers. At the sawmill they are sawn up into small pieces, and after being turned, polished, and dyed, finally emerge as *perles* (beads) on a rosary. And thus in its majestic Pyrenean home is the humble Box tree converted into the many-coloured chaplet, and sent broadcast over the land.

At the beginning of these notes I referred to the lack of interest in the shrubbery. As a child one used to love the dark labyrinths and secret caverns formed by Yew and Laurel as being safe retreats where "grown-ups" with clothes to spoil would not dare to penetrate. It is the same now as then. Most people leave the shrubbery severely alone, and children alone enjoy its cool recesses. I do not plead for the old-fashioned shrubbery—dark, dark, and depressing—but for the shrubbery beautiful through which it is ever a joy to wander at all seasons, and where one does not meet barriers of gloomy Laurel at every turn. Its airy paths are bestrewn with wild Thyme and wood plants, Daffodils wave their heads in its sheltered hollows, Foxgloves rear symmetrical spires of bloom, and the Evening Primrose gleams in the summer twilight.

Worcestershire.

ARTHUR R. GOODWIN.

LORD CAREW'S IRISH GARDEN.

THE first impression received by the visitor to Castle Boro is its high keeping, for though the spick and span appearance which characterises so many show places is happily absent, there is from lodge gate to kitchen garden a well-kept look, bearing silent testimony to the tastes of the owner and his able lieutenant, Mr. John McLennan.

TREES

are one of the most striking features of Castle Boro, the Beech being especially fine, and close to the drive is a huge circle of giant specimens, their branches being so thickly interlaced overhead that the strong sun of a hot July afternoon can hardly penetrate to the cool depths beneath. The memorial trees are of great interest. The Prince of Wales and the Duke of Clarence each planted a Chestnut while on a visit to Castle Boro in 1891. The latter now possesses a certain melancholy attraction, as it is believed to be the last tree planted by His Royal Highness. A Cupressus

macrocarpa is labelled as being planted in 1894 by the Duc d'Aosta, and the Comte de Turin chose an *Abies nordmanniana* to commemorate his visit in 1895. The wedding tree of Lord and Lady Carew is a splendid specimen of *Pinus insignis*, planted in 1888, and Mr. H. M. Stanley's Copper Beech thrives apace. The original

CASTLE BORO

was built about 1550, and is now little more than a picturesque ruin, though the help of a ladder and a considerable scramble will enable you, if you are fortunate enough to get permission from the present Lord Carew, to see the room in which many of his ancestors were born, and which is still in a fair state of preservation. The present house, a comparatively modern building, stands on high ground in the centre of the park, well above the Killigney, a tributary of the Boro river, and bordered as far as one can see by clumps of Nile Lilies. The approach from the river to the house is by terraced ground. Stonework and steps are all of Irish granite, and were built in the time of the famine to provide work for the starving population. A slight irregularity in the outline of one is shown in the work of these unskilled labourers. On the second terrace—one on each side of the steps—are two *Fleur de Lys* in box, fully 150 feet long, planted by the second Baron Carew. The collection of

HARDY FLOWERS,

both rare and well known, is very large. *Lupinus* of every shade, from Cambridge blue to royal purple, rear their stately spikes in the background, while *Galega officinalis*, or Goat's Rue, is seen in many shades, and the dainty sprays of lilac blossoms are useful for cutting. Of the varieties of *Spiræas* there is no end; *Morina longifolia*, with its Thistle-like foliage and wealth of pink blossoms, and some tiny bushes of *Weigela* are loaded with dark red flowers, forming a pleasant contrast to the pale pink variety which is better known; *Boussingaultia baselloides*, a very fine creeper, not nearly so much grown as its merits deserve, is being propagated for ultimate removal to the position which suits it best, namely, a dry or sandy bank; and *Buddleia globosa*, a mass of orange flower balls, is flourishing as though the County Wexford and not Chili were its natural habitat.

RANGES OF HOUSES

devoted to flowers, fruit, and foliage of all descriptions next claim attention. In the vineries, huge bunches of Hamburgs and the infinitely-to-be-preferred Muscat are ripening in a carefully regulated temperature, in another Peaches are colouring, while Melons are growing in an underground stove, the heat of which makes one give a gasp of relief on getting outside. Geraniums of every shade make one house a blaze of colour, trusses of blossom the size of a dinner plate being the rule and not the exception. A specially beautiful one, *Lady Anne Wilson*, is flame-coloured, with laced edges of delicate pink. From this house you enter a grotto. From roof to floor the rockwork is a mass of Ferns, *Selaginellas*, and small varieties of *Begonias*, forming a beautiful picture. In fact, one is often at a loss for words to express the beauties of these gardens, and photographs give no idea of the lovely colouring. Another grotto, much larger, is treated in the same way as the one before described, has Ferns of a more delicate character, growing in such luxuriance that shows how thoroughly this natural method of growing suits them, and

the walls of the Palm house are similarly planted, but here *Begonia Rex* is used in far greater number and variety. The fame of the Castle Boro collection of this *Begonia* is well known, being probably the largest private one in existence.

Lord Carew will soon have to pay the penalty of the successful cultivation of Palms, namely, sacrifice his Palms or raise the roof of the house, for though it is now an imposing structure of at least 50 feet, the trees have grown so that the great umbrella leaves are within a very short distance of the roof.

Carnations are filling another house with perfume. Yellow, peach, pink, flame, scarlet, and the old-fashioned dark red clove make up a fragrant bunch, though many new varieties of colour are not wanting, notably a large pink striped and splashed with warm heliotrope, though with this typically old-world flower it is in most cases the well known kinds which are most liked, and let us hope the day of that monstrosity the green Carnation is over.

ROSES

are everywhere, standards, bushes, and climbers, and in the nursery garden many of the less known kinds are being grown on probation as it were till they are proved worthy of a more important position. I am told the yellow Banksian flourishes in this kindly soil, and wonder that more people who can do not grow this charmingly fragrant Rose. Bunches of its dainty blossoms mixed with Scarlet Rambler give a most effective combination of colour, and for the hiding of an unsightly bit of wall where it need neither be disturbed nor pruned there is no more delicate screen. Yellow Banksians always take me back to an old Elizabethan manor house in the heart of the English shires, where they fought for the supremacy with everything else planted against the garden front of the house. They scented the morning room through the windows, looked in at the bedrooms, and waved great bunches of blossom triumphantly from the chimney stacks; but, alas! someone one day used the word old-fashioned, and the owner, all unworthy to be the possessor of so much beauty, had them pruned and reduced to reasonable proportions. The Roses naturally resented this, and now their place knows them no more.

A *Yucca* on the lawn is signing its own death warrant by showing flower, and spikes of creamy blossoms are half coming out, though still partly cased in their red-brown outer sheaths. A particularly fine specimen of the Lebanon Cedar is in close proximity to a huge Oak, affording a fine contrast and most grateful shade, and if I were asked for a suggestion where to spend a nice long happy day in the country I can think of no pleasanter spot than a secluded corner of this garden. Fortunately, many are able to enjoy this, for permission is liberally granted to residents in the surrounding districts to picnic in the park and visit the glass houses and gardens. One is glad to hear this permission is not abused, for in only too many cases acts of wanton mischief have forced the owners of beautiful places to close them to all but a favoured few.

In the kitchen garden flowers occur in odd corners, and fine hedges of Sweet Peas promise quantities of bloom. Espaliers of great age are loaded with fruit, and Jerusalem Artichokes with many heads and Poppy-like foliage strike an ornamental note amongst the more homely Cabbage and Onion beds.

But time is flying, and even an enthusiast has some conscience which gives uncomfortable qualms at having monopolised the undivided

attention of Lord Carew, his gardener and forester, and likewise his steward, who have devoted themselves for a whole afternoon to pointing out all the spots and objects of interest in and about Castle Boro.

Wexford.

B.

THE FLOWER GARDEN.

NOTES ON THE GENUS ERODIUM.

ON the whole the Erodiums do not receive quite the attention they deserve from lovers of hardy plants. Provided they are given a sunny position and well drained calcareous soil all the dwarf species may be successfully grown in the rock garden, and are especially suitable for

cuttings refuse to root, and division is sometimes impossible and always a hazardous method of propagation, it is scarcely likely to become a common plant in gardens. However, I would most strongly recommend it to all who appreciate alpine gems as a plant for the choice rock garden or for a sunny chink in a wall.

E. supracanum is another member of the family which is rarely seen and certainly ought to be included amongst the choicer rock plants. The foliage is silvery, but not so beautiful as that of the first-named plant, while the flowers are of a peculiar greyish white colour, marked with coloured veins. It is much more amenable to cultivation than *E. chrysanthum*, and ripens seed which readily germinates.

E. trichomanefolium (syn. *cheilanthifolium*) is a lovely little plant with very finely cut dark green foliage. This species will bloom into winter, and a patch of it in full bloom on a sunny bank in the rock garden will prove attractive for a long period. The flowers are

deep flesh colour with darker veins. It is a native of Mount Lebanon.

E. guttatum is one of the showiest species and a free grower of easy culture. It can be easily distinguished by the almost pure white petals, the larger of which are heavily blotched with dark lilac-purple.

E. chamaedryoides (syn. *Reichardi*) is a tiny species from the Balearic Islands. I have it doing well here at the edge of a bed of Tea Roses in moist loamy (made) soil, where it forms quite a carpet with its mass of heart-shaped miniature leaves, flecked here and there with little white flowers that are delicately veined. I see that in "Nicholson's Dictionary" it is said to be half hardy, but it proves to be quite hardy here. Of the tall growing

E. Manescavi I need say but little, as it appears to be known to most hardy plant lovers.

A group of half-a-dozen plants in the mixed border will produce a striking effect during the whole summer and autumn, more especially if the plants are prevented from setting seed.

E. micradenum hails from the Pyrenees, and is quite distinct from the other species, owing to the dark blotches on the two upper petals, the remainder of the flower being white, tinted flesh colour and veined with purple. It is a free grower, and forms handsome tufts if given a sunny position in any well-drained soil. All the species to which I have so far referred can generally be found mentioned in the lists of those nurserymen who make a speciality of choice rock plants. It seems

remarkable that although hardy plants generally have of late years received a great deal of attention, and the world is being ransacked for novelties, many good plants—swept away from gardens by the disastrous bedding craze—have not been reintroduced. The subject of the illustration,

E. pelargoniflorum, which was introduced to this country many years ago, is a case in point. Anyone who has a dry arid soil such as we have in this neighbourhood knows what a trouble it is to persuade many of the best herbaceous plants even to exist—much less to grow satisfactorily. Thus one is always pleased to add a fresh name to the list of plants which prefer such a soil, and *E. pelargoniflorum* can certainly be included in this list, as I find it succeeds far better with me than in the garden of a friend on heavier soil. Finding that this species is so little known to hardy plant growers, I have been at considerable pains to ascertain its history, and will relate what little I have been able to gather about it. Those who have access to the *Botanical Magazine* will find it figured in the volume for 1860 (t. 5206), accompanied by a description of its specific character by Boissier, and the following note, which reveals the fact that even a staid and scientific work such as this was influenced by the then prevailing tyranny of "bedding-out" gardening: "*Erodium pelargoniflorum*, from the collection of W. Wilson Saunders, Esq., Hillfield, Reigate, where the shelves of a very cool, airy greenhouse were enlivened by its sparkling blossoms. In the days when the Geraniaceæ were cultivated extensively as botanical objects, this would have been very much prized; but that time is gone by, and their place is taken by the General Tom Thumb, the Golden Chain, and others, which render our flower-beds in summer objects of such universal admiration. The present is a recently-discovered species, by Heldreich, of the *Erodium* genus, in Anatolia, growing on shady rocks and among caves between Karaman and Ermenek, at an elevation of 3,000 feet above the level of the sea. It may therefore be expected to succeed in the open air in summer, but at its period of rest in the winter the roots will require protection."

From another source I learn that Boissier discovered this plant about forty years ago amongst shady rocks on Mount Ghelipel (Taurus Mountains) close by Ermenek. I first made its acquaintance a few years ago when a small seedling plant of it was sent to me under the name of *Erodium pelargonifolium*. Not knowing its origin, and suspecting its hardiness, I planted it out at the end of May against the foot of a south wall and amongst some pieces of sandstone rock. Here it grew into a large plant, but did not attempt to flower, and as it was still making growth in the following November I decided not to disturb it, but to give protection if needful. This, however, was not accorded, and in spite of our exposed thermometer that winter registering 23° (Fahr.) of frost, the plant remained perfectly evergreen, and only suffered the loss of some of its leaves. The first blossoms expanded during the last week of March—although the flower-buds were visible in February—while the photograph, from which the illustration was prepared, was taken early in May, and the plant continued to bloom on and off right into the late autumn. This species is in fact extraordinarily free blooming—more so in fact than any other member of the genus with which I am so far acquainted. The inflorescence consists of eight to ten flowers, which are white, blotched with purple spots at the base, and veined with five branch-



ERODIUM PELARGONIFLORUM AT FOOT OF WALL.

planting on steep banks and in crevices of old walls. They cannot be considered the best of plants for a cold, wet, or stiff soil, as they are prone to damp off during the winter months—at least I have heard this complaint made against them. On the shallow sandy soil of this garden all the species I have tried grow admirably, and most of them bloom profusely the summer through. Undoubtedly the daintiest member of the family is

E. chrysanthum (L'Hérit), which hails from the mountains of Greece. It forms a tuft of bright silvery Fern-like leaves and bears numerous small light yellow flowers. Nothing will induce it to seed in this garden, and as

FASCIATED LILY (*L. SPECIOSUM*).

ing lines extending to the edge of the petals, and as a rule not more than five blossoms are expanded at once on an individual cyme. The leaves are radical, and borne on long stalks covered with silky hairs, while in shape they are ovate-cordate, rather sharply toothed. The upper surface is shiny, and remarkable on account of its stickiness, while the underneath surface is furnished with rough hairs. The rhizome is scaly and pink in colour, going almost woody with age. In spite of the fact that it is classed as a perennial it should rather be considered a monocarpic or biennial plant, although my original plant has produced a crop of seed and is still (January, 1903) alive. Seed, in fact, forms an easy method of propagation, and should be sown in a cool frame as soon as gathered, while cuttings, if given cool treatment, will soon root and form good plants.

E. hymenodes (a species from Mount Atlas of little garden value) appears to be its nearest ally, but it is in every way superior to this. *Erodium pelargoniflorum* can be summed up as a most beautiful and desirable hardy plant, and one that in the near future is bound to become popular, and I see no reason why by crossing it with *E. Manescavi* and other species it should not be possible to obtain some valuable results. As far as I am able to ascertain the only hybrid *Erodiums* at present obtainable are *Erodium pelargoniflorum* × *E. hymenodes*, and *E. macradenum* × *E. trichomanefolium*. As with many other families of hardy plants a burden of synonyms surrounds this genus, and it is not an easy matter for an amateur to avoid pitfalls when attempting to unravel the diversities of nomenclature.

In addition to the species mentioned already there are many others, and I append a list of just those which occur to me:—

Erodium carviifolium.—Mountains of Central Spain.

E. chium.—Mediterranean region.

E. cicutum.—Mediterranean region.

E. corsicum.

E. daucoides.—Spain.

E. gruinum.—South Europe.

E. maluchoides.—Mediterranean region.

E. macrophyllum (biennial).—California.

E. romanum.—Described in Robinson's "Hardy Flowers" as a perennial, but is only biennial here.

E. Salzmanni.—South Spain.

E. Semenovi.—Central Asia. I have not seen this species, but have lately obtained seed of it from Thompson and Morgan, Ipswich.

E. serotinum.—Caucasus.

E. sibthorpiannum.—Orient. I have obtained a plant under this name, but am not certain whether it is true.

E. tmoleum.—Asia Minor.

Some of these I already possess, others I have noticed in various botanic and private gardens, or seen mentioned in books. No doubt amongst them are plants of little garden interest, but the main object of these notes is to promote if possible a discussion, and thus help to sift out the species of the most garden value.

Worcestershire. A. GOODWIN.

FASCIATION IN LILIES.

(Extract from a Letter.)

SPEAKING of this, I turned up the word in Nicholson's "Dictionary of Gardening" (Supplement), where this passage occurs: "Recently some interesting experiments have been conducted by M. L. Geneau de Lamarrière with the object of producing fasciation in the stems and inflorescences of plants. . . . It was found that mutilations practised upon the principal stems and branches favoured the formation and development of dormant abnormal buds, and thus gave rise to branches and inflorescences more or less fasciated. Mutilation of the principal axes, then, we are told, is a cause of teratological growths; an indirect cause, certainly, but none the less effectual." Just as this particular group of *Lilium speciosum*, some ten shoots, were breaking through the ground this early spring (1902) my pigeons badly broke them while sunning themselves on them. I had to put sticks to stop them lying there. Four were broken quite off and five threw up fasciated stems.

Dawlish, Devon.

A. BAYLTON.

HARDINESS OF THE FINER EARLY-FLOWERING CHRYSANTHEMUMS.

The variable weather so far experienced during the winter has put to the test the hardy qualities of the early-flowering Chrysanthemums. For years they have been regarded as needing some protection during winter, but this does not apply to many of the better sorts. The less robust kinds are usually lifted and placed in cold frames or other equally cool and suitable quarters before winter. Some may wonder why such care is taken to perpetuate these weaker sorts when there are so many vigorous ones in commerce. The reason why the less hardy Chrysanthemums are grown is because they have some characteristic trait which will continue to be appreciated until something better comes along. Lyon and its beautiful sport Alice Butcher are instances. Well-grown plants of these two varieties are among the handsomest and best of the early-flowering Pompon Chrysanthemums, and until plants with flowers of equal

merit and with a constitution of a more robust kind are introduced these two varieties will be generally cultivated. The display made by these two sorts fully justifies one in continuing their cultivation. Plants of this type just now present a sorry spectacle, and those who have been so unwise as to leave them in their beds and borders run considerable risk of losing them altogether. The newer race of plants which may be said to have been introduced with the distribution of Mme. Marie Masse, a very excellent, free-flowering Japanese kind of a lilac-mauve colour, promises to completely eclipse all others. This variety is represented by plants of robust growth capable of withstanding the ill-effects of our most severe winter. This plant has been introduced some years now, and has sported in a very remarkable way. The first sport was a creamy white flower, and this was distributed under the name of Ralph Curtis. About the same time there appeared in the garden of a southern market grower a beautiful chestnut-bronze sport from the same variety, and so quickly was stock available that the latter sport was distributed in the succeeding spring as Crimson Marie Masse. In the following season there was still another sport of a salmon-cerise colour. This beautiful variety was sent out under the name of Rabbie Burns. A really good rich bright yellow early-flowering Japanese variety was much needed, and two seasons ago this was forthcoming in a beautiful sport from Crimson Marie Masse and named Horace Martin. This lovely yellow sort has completed a valuable and interesting quintette of members of the Mme. Marie Masse family of Chrysanthemums. This family represents all that is required of these plants for outdoor culture. In the course of a season's growth they assume quite large proportions, bearing in the greatest profusion flowers on a useful length of stalk, and this without disbudding. Most important of all, the plant develops quite a large number of basal sucker-like shoots, which extend far from the main stem of the plant and provide sufficient stock to satisfy the heaviest demands made upon it. These plants appear to stand well the most rigorous weather of our English climate when many other highly-regarded ones fail. For this reason the future of the early-flowering Chrysanthemums seems to depend largely on further sports from these excellent varieties, and also from seedlings which result from crosses made with them by the hybridiser. There is already evidence that certain trade specialists are keenly alive to the excellent attributes of the Mme. Marie Masse family of plants, for there is now a good list of seedlings which include the progeny of this race of plants. During the past season it has been my pleasure to carefully inspect many of these varieties; some are now two seasons old. The range of colours was considerably extended, and the beauty of the majority of the flowers proves most conclusively that the near future has much in store for admirers of these early autumn flowers.

Highgate, N.

D. B. CRANE.

THE ROSE GARDEN.

ROSES WITH BEAUTIFUL WOOD.

OF the various groups of Roses none can furnish us with species whose wood is more ornamental than that of *R. cinnamomea*. In the case of *R. blanda* the purplish crimson of the wood just now is most showy, and I am rather surprised that this plant has not been utilised more for its attractive colouring in winter. In comparison to the bark of the Dogwood, *R. blanda* is not quite so bright, but when it is remembered that there are flowers also, even if somewhat insignificant, it has a claim on our regard and should be more frequently planted. *R. cinnamomea* with its brownish red wood is a species of much beauty in winter. *R. alpina* must not be omitted, for some of its vigorous

growing varieties have very beautifully coloured wood, notably Amadis and Morletti.

R. acicularis, too, is not to be despised, and there may be others of the group known to botanists that would come within the scope of my present remarks. I do not include R. rugosa and its varieties, though these are very distinct, their greyish wood and numerous prickles in many instances being most attractive, even when denuded of all foliage. Where the species and varieties alluded to are planted only for their decorative value in winter, I would advise hard pruning each spring of some, if not all, of the growths, for undoubtedly the most brilliant colour is obtained on one-year growths. I believe there is a great future for this group of R. cinnamomea, and anticipate that hybridists will get some elegant shrub Roses from it by judicious blending with other types.

MERVEILLE DE LYON AND CRIMSON RAMBLER.

I AM not sure that we always obtain the best possible effect from our plantations of Roses. Contrast of colour and habit is not thought out so much as it might be. A very beautiful arrangement, and one I can commend to all who seek a fine display in July, is to plant a few pillar Roses of Crimson Rambler in a good large bed, at the same time providing a groundwork of white by freely planting that fine Rose Merveille de Lyon. The stiff and regular growths of the latter give it a pronounced decorative value, every flower standing erect on the rigid stems. As soon as the Crimson Ramblers have attained their third year a magnificent bed of blossom will be the result. I know of no better way of displaying the gorgeous beauty of the Crimson Rambler, the white of Merveille de Lyon accentuating yet toning down the gorgeous Rambler. Should this seem a long time to wait, the Ramblers could be planted from pots, and the plants then grow away without hindrance.

Although we cannot claim for the Hybrid Perpetuals the continuous flowering habit of the Tea-scented, there can be no doubt about their effectiveness when at their best, and Merveille de Lyon, though scentless, is one of the most valuable. The bold white flowers when slightly flushed with delicate pink are superb.

EDGINGS TO ROSE-BEDS.

SOMETHING depends upon circumstances whether edgings to Rose-beds should be of flowers or leaves. If the paths of the rosary are gravel, I imagine foliage would be more welcome than blossom. But supposing the two can be had well together, then surely this would be the most suitable. Of all the varieties contained in the Rose family, the wichurianas are the best for the purpose named. Of this rapidly increasing group the varieties Evergreen Gem and Jersey Beauty are most commendable for edgings. As a foliage plant, whether as a trailer on the ground, or over an archway, or as a pendulous standard, Evergreen Gem is the best. If used for edging few plants would be required, for they make in one season growths of 4 feet to 5 feet in length. I would advise that some supports be given to the growths, such as galvanised hoops, so that they may be kept away from the ground, and yet answer the purpose of supplying an edging to the Rose-beds. Subsequent treatment would mainly consist in cutting away the old growths and tying down the new, and by so doing a pretty boundary of foliage would always be present. If it is desired to provide for flowers as well, then one or more of the older growths must be retained; but, as I

said before, if there were no flowers at all, this sort and Jersey Beauty would be worth growing for their foliage alone. The latter is worthy of special commendation for its blossoms. It possesses the simple beauty of a Cherokee Rose, with a hardiness and general adaptability to our climate that this lovely species does not possess. I hope hybridisers will raise more of the single wichurianas. They are extremely beautiful. If one has an odd bit of terrace wall to cover these are just the thing. They will tumble over a 4 feet wall and hang down the other side with a gracefulness peculiarly their own, and that makes a refreshing variation from Ivy and such like things.

PHILOMEL.

NOTES ON HARDY PLANTS

ÆTHIONEMA DIASTROPHIS.

I N the nurseries of Messrs. Robert Veitch and Son, at Exeter, the plant here illustrated was photographed, where it has grown freely and flowered abundantly. It is a native of the mountains of Armenia. It was planted at Exeter about five years ago, and has now developed into a very handsome specimen. It is not truly herbaceous but shrubby, and loses all its leaves in winter, and during that time of the year it looks to be simply a small bush formed of apparently dry and leafless branches; but in the summer season it is a perfect gem for the rock garden. It is not to be reckoned among the minutest gems of the mountain flora, for it will form a bush some 20 inches to 24 inches in diameter and 10 inches high, but it is so unlike anything else, and above all so free-flowering, that it is worthy a place in the rock garden. The leaves are linear in shape and somewhat glaucous. The flowers are borne in large round terminal racemes 2 inches to 2½ inches in diameter, densely crowded, and of a pleasing pale rosy lilac colour. The flowering season is from June to August, but frequently it will flower

a second time during autumn. The plant which I photographed has never been protected in any way, and seems of the easiest possible cultivation. Here at Exeter it is growing in somewhat heavy loam, which has received an admixture of limestone chippings. It has never suffered in any way, and I have known its flowers to last from six to eight weeks.

Elmside, Exeter.

F. W. MEYER.

MIDWINTER FLOWERS IN SOUTHPORT.

"And spring comes slowly up the way,
And paints the laughing soil."

WE were very forcibly reminded of these beautiful lines of Coleridge, as we looked into the eyes of the first Primrose which greeted us with such delight upon the first day in the new year, and which has even stood without flinching the cold of the late severe frosts. The flowers that bloom in the spring are always looked upon with pleasure and delight even to the casual observer. The advance guards of the grand pageantry of spring and the beautiful summer days are already here, and we welcome them with joyful hearts, reminding us, as they do, of the sure returning of the long summer days.

Even before the year had passed away we had a few Primroses in our gardens at the foot of some limestone rockwork, where they had been planted with a purpose in a sheltered position so that they might have a chance of blooming at a very early period in the year; but we did not expect them to put on their bridal garments so soon.

The Primrose, this little first one, is essentially the flower of our youth—the irresistible Primrose, which has so often led us into forbidden ground. The Primrose was not the only flower to cheer us with the advent of the glad new year. A little distance away, upon the same piece of rockwork, was a sister plant, the Polyanthus. These two, along with the Christmas Roses, have been flowering all through the keen frosty weather, and now, under a more genial sky, they are again lifting up their heads in joy and gladness as if to greet the glorious sunshine which is bathing the world with light.



ÆTHIONEMA DIASTROPHIS GROWING ON ROCKWORK IN THE NURSERIES OF MESSRS. ROBERT VEITCH AND SON, EXETER.

As the days advance they are being joined with a noble company of midwinter flowers. These include the beautiful Siberian *Adonis amurensis*, which has bravely held up its golden flowers to keen frosty air.

Another and still rarer *Adonis*, hailing from the Japanese Alps, is *Adonis Naderkato*. What the meaning of this singular Japanese name is I cannot say. The plant was received here from a friend in Japan. It is, however, entirely new to this country, and not even in cultivation in the Western Hemisphere. The flowers are a beautiful orange-lemon colour. We have still another hardy plant in flower—the beautiful Chinese *Jasminum nudiflorum*, which for eight weeks has been covered with its charming lemon-coloured flowers.

At the present time we have some Himalayan Primroses and Saxifrages pushing up their flower-stems, with the petals opening to the response of the genial sunshine and the greater amount of light which is now experienced with the advancing length of days.

CAMPANULA PORTENSCHLAGIANA MAJOR.

CAMPANULA PORTENSCHLAGIANA is "as old as the hills," but it is only during recent years that the variety here illustrated was introduced. The photograph is of a plant in Messrs. Robert Veitch and Son's nursery, Exeter, where the plant has been growing in an exposed position for about eight or ten years. As the name implies, the plant is larger in all its parts than the well-known type. It also seems more robust. At Exeter its large deep blue flowers form a pleasing contrast to the white flint rock on which the plant has become established, spreading about 3 feet. It must rank among those rock plants which may be described as being very beautiful without requiring a lot of extra attention or special treatment of any kind. My experience is that it will grow anywhere, and is not at all par-

at such moments, and the gardens where everything has been swept away to make room for grass lawns and Palm groups afford no protection to anything but the plants directly underneath the Palm shade. The blue Fern-leaved

CHINESE PRIMULAS are excellent in any such shelter, and mark a distinct advance towards the really sky-blue Primula we all long for. Each year there comes some fresh development, so perhaps the true blue will arrive ere long. Meanwhile this Fern-leaved variety and a new rich red, which deepens rather than fades in the sunshine, are the two best varieties this season.

EUPATORIUM PURPURI seems the nearest approach to the much-desired white *Ageratum* I have yet seen. It has been a surprise to me, as one associates the name of Purpus with strictly American and alpine plants, and this plant, which has all the effect of an *Ageratum*, certainly cannot have sprung from such surroundings. Some day I hope to hear its "whence and how." It seems as if the earliest forms of

ANEMONE BLANDA were of the deepest blue; those now out are so deeply dark blue they might pass for a distinct variety, while those large "Scythian" forms, which bloom much later, are sky blue and pure white, or white tipped with sky blue, perhaps the loveliest of all; but they flower so late that *A. apennina* is then flowering, so these early forms are the most welcome as winter flowers after all. This is not the season for

ROSES in any great quantity; the December crop is exhausted, and the florists' shops are being supplied with forced blooms, so I was glad to see a strong plant of that delightful yellow Tea *M. Georges Schwartz* with several good blooms and buds on it that had not suffered at all from the two or three frosty nights I mentioned. Out here I think it is a most promising winter Rose, as its habit is like *Safrano*, and its colour and quality infinitely richer and better. Were I a market gardener I should most certainly make a large plantation of it, and as an amateur I shall equally desire a good lot of it for winter-cut flowers. There are few varieties that do equally well in England and out here, and this is another example, as in England *M. Georges Schwartz* has the reputation of being a weakly grower. Any Rose I think that does exceedingly well in England is less good here, and *vice versa*, so we feel pleased when a good Rose falls to our share in winter.

IRISES are flowering well this winter, but the *Reticulata* group seem less desirable here than in the north. The beautiful *Iris tingitana* is in big bud and demands much manure and moisture. Planted on a dry bank, where I first placed it, it did not thrive or flower, but when a friend advised me to plant it in a moister spot, and put a good spadeful or two of manure under each group, it grew away strongly the next autumn and is now promising well for flower.

The clumps of *Iris stylosa magnifica*, major, or whatever the fine large and high coloured form may be named, are one mass of bloom, solid patches of colour, while the old and inferior variety goes too much to leaf, and is of comparatively little value save for its drooping leaves, which are useful as an edging to shrubs.

EDWARD H. WOODALL.
[Mr. Woodall's reference to *Iris tingitana* is instructive.—Ed.]



CAMPANULA PORTENSCHLAGIANA MAJOR.

The Snowdrop has put in an appearance along with the rest of the midwinter flowers.

"Already now the Snowdrop does appear,
The first pale blossom of the unripened year;
As Flora's breath, by some transforming power,
Had changed an icicle into a flower.
Its name and hue the scentless plant retains,
And winter lingers in its icy veins."

This little harbinger, along with the Primrose, bears the palm of captivating elegance, and must be looked upon as one of the universal favourites of the infant spring. Besides the plants in flower already mentioned, we have the little single blue and red *Hepatica* unfolding their sweet charms. A few Pansies have managed to keep in flower in sheltered places, besides some beautiful *Arbutus*, better known as the Killarney trees, comprising such as the *Arbutus Unedo*, *A. Croomii*, and *A. Andrachne*. These have all been in flower since last October, beautiful alike both in foliage and their wax-like flowers. Last, but not least, is the charming little *Erica carnea*, a most beautiful little Heather hailing from the Pyrenees and south-eastern Europe. This is a very fair record for this season of the year, and bears ample testimony to the bright and genial climate of Southport.

Kew, Southport.

W. H. STANSFIELD.

tical as to soil. Its bright green leaves are ornamental even in the depth of winter; its flowers appear in abundance from June to August, and very frequently there is a second display of blooms as late as September and October.

Elmside, Exeter.

F. W. MEYER.

RIVIERA NOTES.

PSADIA GLUTINOSA, an elegant shrub belonging to the great *Senecio* or *Groundsel* family, is new to me this winter. Though it has no ray petals, yet the closely-packed heads of yellow capitules are quite showy, and the shining, slender, pointed leaves attract attention by their distinctiveness. It is decidedly hardier than many members of the family, for the week of frosty nights which we lately endured has left no mark on it, while shrubs like *Wigandias* and *Daturas* are injured unless they have some protecting spray overhead. The value of the Olive's silvery shade is untold

AN ARTIST'S NOTE-BOOK.

CLIANTHUS PUNICEUS.

FLOWER OF GLORY, Glory Pea, and Parrot's Bill, the common names under which this plant is known, suggest beautiful and curiously-shaped flowers, the former two names referring to brilliant colouring, while the latter name is given on account of a fancied resemblance between the shape of the flower and a parrot's bill. It is a New Zealand shrub, and is said to have been first discovered by Sir Joseph Banks in 1769, though it was not introduced to British gardens until 1831. In the article accompanying the figure

Floriculture Cabinet for 1835, and three guineas appears to have been the price asked for plants.

From the time of its introduction until the present it has held its own among other garden plants, and particularly in the warmer counties it is an extremely useful plant for clothing walls and trellises, and even for the open border. In less favoured localities it has to be grown in a sunny greenhouse, but even in Scotland good plants are noticeable from time to time on warm walls out of doors. Whether grown indoors or out, against walls, trellises, on a roof, or as a bush, it is a very desirable plant, the rich red flowers, upwards of 3 inches in length, which are freely borne in dense axillary racemes, being extremely showy, while the bright green pinnate leaves are light

NEW PLANTS OF 1902.

(Continued from page 92.)

DAHLIA MANXMAN (Cactus).—A very showy variety, the chief colour of which is a flame-red, and the base of florets light orange. The handsome flowers are well set up on good stalks. A.M., September 23. From Mr. S. Mortimer, Swiss Nursery, Farnham.

D. Lucifer (Cactus).—This is a brilliantly coloured flower of good form. The dominant tone is salmon-orange with reddish crimson centre; flower very large and showy. A.M., September 23. From Mr. P. Tulloch, Hove, Brighton.

D. Clarence Webb (Cactus).—A distinct flower of orange and fawn, the outer florets strongly incurving to the centre. A very



CLIANTHUS PUNICEUS. (About three-quarters natural size. From a drawing by Miss I. M. Charters.)

in the *Botanical Magazine*, t. 3584, it is stated that seeds were sent by Mr. Richard Davis, Missionary Catechist in New Zealand, to the Rev. John Noble Coleman, 5, Terrace, Ryde, Isle of Wight, in the autumn of 1831, and the plants produced from these seeds flowered during the spring and early summer of 1833.

From the first it was marked as an extremely useful garden plant, but was more often recommended for outdoor than indoor culture. Plants were given by Mr. Coleman to Mr. Leveson-Gower of Titsey, near Godstone, and these two gentlemen experimented with various kinds of soil, finding eventually that soil of a peaty nature suited it best. Messrs. Young, nurserymen, of Epsom, appear to have been the first people to advertise it for sale, mention being made of it in the

and pretty. It can be readily increased by means of seed or cuttings, which quickly make good-sized plants. On walls out of doors it grows 9 feet or 10 feet high and from 12 feet to 18 feet across. When planted outside it should be protected by mats or straw in severe weather.

The specimen from which the figure here given was taken is growing outside in a Devonshire garden; the flowers in the figure are represented rather less than natural size. Several varieties have from time to time been noted, of which *magnificus* (with darker flowers than the type) and *albus* (with white blossoms) are the best known. The latter plant does not appear to flower so freely as the type, and is not so showy; it is, however, useful, as it makes a good contrast to the type.

W. DALLIMORE.

beautiful and well-filled flower. A.M., September 23.

D. Miss J. Cherry (Cactus).—A pretty shade of cerise-red, in which there is an infusion of yellow. A.M., September 23.

D. Coronation (Cactus).—A very bright flower, yet not of the largest size. The brilliant scarlet-crimson, however, is sure to attract, while the moderately sized blossoms would render it extremely welcome in the garden. A.M., September 23. The three last-named all came from Messrs. Keynes, Williams, and Co., Salisbury.

D. Albion (Cactus).—This is a pure white of good size and the best form, the florets spreading out in a rather horizontal way and attracting much attention. It is a first-class novelty. A.M., September 23. From Messrs. J. Burrell and Co., nurserymen, Cambridge.

D. Winsome (Cactus).—Prettily formed flowers of a creamy white, they are moderately large, full, and with cupped or incurving florets. A.M., September 23. From Hobbies and Co., Limited, Dereham.

D. Mrs. W. Treseder (show).—On the pale ground the florets are edged somewhat deeply with rose-carmine; a solid, high-centred flower of capital form. A.M., September 23. From Mr. H. T. West, Brentwood.

D. A. M. Burnie (show).—A flower of excellent form, good in petal, and well built to the centre; the colour is buff with orange, and is deeper in tone at the base. A.M., September 23. From Mr. St. P. Harriss, Hill House, Orpington.

D. Rosea (Pompon).—A prettily formed flower of a nearly rose self tone, close, and compact. A.M., September 23. From Messrs. Keynes, Williams, and Co., Salisbury.

D. Serita (single).—A flower of beautiful form and petal of fine substance; the colour is crimson with magenta shading, with a deep crimson zone around the central disc. A.M., September 23.

D. Snowdrop (single).—Excellent in form and of medium size, this nearly pure white sort should prove a distinct gain. There is a shading of yellow surrounding the disc which in older flowers may be less pronounced. A.M., September 23. From Messrs. J. Cheal and Sons, Crawley.

Hippeastrum Sir Christopher Wren.—A beautifully formed flower with stout, well-imbriicated segments and of rich crimson tone; a bold and handsome variety. A.M., March 25. From Captain Holford, Westonbirt, Gloucestershire.

H. Nysa.—A very striking, if not exceptionally large, flower. The colour is of the deepest and most intense crimson; it is one of the finest of crimson selfs; the segments are much imbricated. A.M., April 8.

H. Sylvanus.—This is one of the netted class, the well-formed segments being of a clear scarlet colour, strongly and clearly reticulated with white. The effect is very good. A.M., April 8.

H. Mrs. Bilney.—A beautiful flower; scarlet, much chequered with white. A.M., April 22.

H. General Buller.—A fine flower of rich orange-scarlet shade, tempered in its dazzling brilliancy by a pale greenish band in the centre of each petal. The variety has short and broad petals, and with recurving tips. A.M., April 22.

H. Queen Alexandra.—This is another of the chequered flowered sorts, less so than the others already noted. The petal is good and of quite firm substance. A.M., April 22. The above five meritorious varieties are from Messrs. J. Veitch and Sons, Limited, Chelsea.

Nymphaea stellata W. Stone.—The most distinct feature in this is the colour, which is violet-blue shaded with purple, and golden centre; attractive. The stout stem keeps the flower head well out of the water as in all this group. F.C.C., May 28.

N. Mrs. Ward.—This is virtually a rose-coloured variety of *N. stellata*, with the pointed petals and general character of that group clearly seen. A.M., September 2. From Leopold de Rothschild, Esq., Gunnersbury House, Acton (Mr. J. Hudson, gardener).

Pelargonium Colonel Baden-Powell.—An addition to the Ivy-leaved section. The flowers are large and freely produced. The colour is blush or flesh pink, occasionally striped carmine. A.M., May 6. From Mr. Charles Turner, Slough.

Pea Dorothy Eckford.—This is the white Sweet Pea that has caused some controversy as to its name, and the above, we believe, is the result. It is a very fine variety, and to say it is the best white to date is to convey no small tribute to its qualities. A.M., September 2. From Hobbies, Limited, East Dereham, Norfolk.

Primula obconica semi-plena.—This is probably the forerunner of a really double-flowered variety, which may or may not be an improvement. Hitherto variations in colour and size only have appeared, and some of these are very beautiful. The new comer in the present instance is of the same shade as the typical species, with an extra arrangement of petals. A.M., December 9. From Sir Trevor Lawrence, Bart., Burford, Dorking (gardener, Mr. Bain).

Rose Peace.—A sweetly-scented Tea Rose of a creamy tone throughout. The variety is wonderfully free flowering, and has much of the habit of *G. Nabonnand*. A.M., September 2. From Mr. G. W. Piper, Uckfield, Sussex.

R. sulphurea.—Also a Tea Rose, and, as the name implies, the flowers are of a sulphur yellow tone; very free, and exceptionally good as a decorative Rose. A.M., September 23.

R. Mme. Antoine Marie.—This also belongs to the Tea and decorative classes. The creamy white tone with its suffusion of rose on the outer petals gives it a distinct charm. It is very beautiful. A.M., September 23.

R. Field Marshal.—A climbing monthly Rose of considerable vigour and freedom. Flowers large, full, and rich crimson. To climbing Roses this should prove a good addition. A.M., July 22. From Messrs. W. Paul and Son, Waltham Cross.

R. Frau Karl Druschki (H.P.).—A large imposing white—nearly pure white—variety, and sweetly scented. The expanded blossoms are very large, and attract the attention of all. This fine sort should be extremely popular in the garden and for exhibition. A.M., July 8. From Messrs. F. Cant and Co., Colchester.

R. Ben Cant (H.P.).—This is a decided gain to the crimsons of the Hybrid Perpetual class. Its huge size and fine proportions generally are among the main features of this handsome Rose. The size, texture of petal, good form, and fine fragrance are its great attractions. A.M., July 22. From Messrs. B. R. Cant and Co., Colchester.

R. Dorothy Perkins.—A very beautiful hybrid of the wichuriana class, with pink flowers nearly or quite 2 inches across and rather light in the centre. The glossy foliage is distinctly pleasing, and closely approaches to evergreen in this section. A very charming variety. A.M., May 20. From Mr. E. Potten, Cranbrook, Kent.

NOTES FROM SWANSWICK.

HAVING had my economic hopes as regards *Prunus Pissardi* somewhat dashed, I now want to know what may be expected of

Diospyros Lotus and *Eleagnus edulis* planted in good soil under a sunny wall, south-east aspect, but more south than east. The latter, I believe, ought to be in poor soil, but perhaps its being close to a path may do as well. The Persimmon is against a buttress that gets well baked in summer. On reperusal of the last Royal Horticultural Society budget, I see a complaint that

SAXIFRAGE SEED

is troublesome about germinating. Two years ago I sowed a packet of mixed mossy Saxi-

frage. Every seed seemed to "arrive," and that without undue delay, but there was no variety, all the resultant plants being exactly alike, and closely resembling *S. ajugifolia*. My horticultural life, which has only been a serious one for between ten and fifteen years, has not been nearly long enough for me to learn Saxifrages, especially as I wish to be *au fait* of Campanulas first, so I only advance this latter statement—*re S. ajugifolia*—very tentatively. Anyway, it is not material, the issue being that the seed germinated speedily and well under no specially favourable condition, merely sown in a box in a shady cold frame in March. However, the encrusted section may be meant: these I have never tried, but I have sown *Sempervivums* without result—foreign seed. Seeds, by the way, are, or ought to be, the refuge of the ambitious but impecunious gardener, and yet it generally seems as if just the people who cannot afford to buy new and good plants in any quantity are those who set least store by culture from seed. They refuse to take any interest in beautiful things like *Gerbera Jamesoni*, blue Primroses, blue Polyanthus, *Incarvilleas*, choice Carnations, *Romneya Coulteri*, and *Eremuri*, on the score of impossible expense, because they cannot get plants all ready grown for twopence apiece; yet they will not see how heavily they could score from the economic point of view by growing dozens of each for the paltry price of seeds. To be sure these people generally are the unlucky ones who keep hide-bound single-handed gardeners. I remember a long succession of these in the gardens of my youth, each one more invincibly ensconced in his own practice than the last. None of them ever read anything, and the only way to induce them to try new and grow new or improved flowers was to show them something someone else's factotum had produced—a difficult thing to do, since the said individuals were mostly on the same lines with themselves.

GARDEN JOURNALS.

Of course, there were not so many garden papers then, and some of our gardeners could not read, while the literature of the day was perhaps above the heads of those who could. But even in the present day it is curious how little a certain class of working man—and usually the valuable, industrious, country-loving class that gives by far the best service—grasps or retains from reading. From a week's evening perusal, very solemnly undertaken, and asserted to be thorough, of three "easy" garden papers, our particular treasure does not, at any rate, carry away one single *name*, whatever else may be imprinted on his mind, and I have never discovered that the smallest result of a practical kind followed his painstaking perusals.

Such village traditions of garden practice, frequently of a highly mischievous nature, as that which ordains that on transplanting Leeks you are to cut off their leaves and expect stumps to go ahead faster than perfect plants, are much too firmly imbedded to be shaken, either by the written word, or by the example of our unmutilated ranks, thrusting twice as lustily as those of our cottage neighbours, though not at all more favoured in the matter of manure and soil. You hear terrible prophecies of the evil to come to the young folk of the working-classes from their habit of reading fictional rubbish, but if it only flows over their minds as superficially as garden literature does over those of rusticity, it will not leave many stains. From the internal evidence they themselves offer it would appear

that the smaller garden papers are circulated almost entirely among townfolk, and this bears out most completely what was remarked upon as Mr. Pearson's experience at a recent discussion of the Horticultural Club.

M. L. W.

ORCHIDS.

LÆLIA ANCEPS SANDERIANA.

OUR note was taken of the plant which has been grown in the collection of Sir John Edwards-Moss, Bart., Thamesfield, Henley-on-Thames. It has been in Sir John's collection for several years, and improves annually. This season it carried six fine spikes of flowers, and is one of the finest varieties of *L. a. sanderiana*, being large in size, of grand form, and good substance. It is a much showier plant than *L. a. Dawsoni* and much freer in growth. It is true the petals have not the beautiful rhomboid form and breadth of *L. a. Dawsoni*, but more flowers are borne on the spike and on longer and thicker stems, and the flower-spikes are produced more freely.

Botanically it is not distinct from *Dawsoni*, but for horticultural purposes it is quite superior. For this and many other of the finest varieties of the white anceps we are indebted to the zeal of the firm of Messrs. Sander and Sons, of St. Albans. *Lælia anceps sanderiana* was found by the collectors of the firm on the Pacific coast and *L. a. Dawsoni* at Orizaba and Cordoba, on the Atlantic side. For six months in the growing season these *Lælias* are subjected to torrents of rain daily for several consecutive hours. Besides this the plants are thoroughly wet all the night through—every night; but in the early morning the wind blows fresh and sharp from the snow-capped peaks of the Cordilleras, when the greater part of the moisture which has been upon them all night dries up like the heaviest of heavy dews, and the scorching sun following soon dries up every vestige of moisture from the leaves and bulbs. Daily drenching storms, daily fresh morning breezes, daily hot blazing sun—these are the conditions under which *Lælia anceps sanderiana* flourishes in its native habitat.

Probably these plants are taking in food day and night in the growing season. The air is no doubt impregnated with ammonia and other plant food. The manure of birds and animals and many decaying substances no doubt provide food for aerial plants in great abundance. If we could only give Orchids under cultivation the sunlight and heat that they get, for instance, in a country like Mexico, we could supply the moisture, and we should be astonished with the results obtained.

ARGUTUS.

PERISTERIA ELATA.

VERY few Orchids now in cultivation possess such a fascination for the general public as the Dove Orchid, introduced from Panama in 1826. Its long, handsome green leaves, which under good cultivation are from 2½ feet to 3 feet long, and the strong flower-stems, bearing waxy dove-like flowers deliciously scented, should encourage many to take it in hand. Either a stove or Orchid house will do equally well for its accommodation. In dealing with its culture it may at once be said that it is

strong and fleshy rooted, and delights in a good compost with plenty of water when in active growth.

Although September is the best time for potting, those who have not already done this should now lose no time. For the largest bulbs one in a 7-inch pot will be found quite enough, usually three bulbs will be sufficient for a 9-inch pot; ample drainage is most essential. The soil I have used with success consists of two parts fibrous peat, one part fibrous loam with all loose particles shaken out, some soft red sandstone broken fairly small, and coarse silver sand, mixing all well together. Over the drainage place a thin layer of sphagnum moss, then the rougher compost, until the pot is almost filled. Fix the bulbs into position, securing each with a neat stake and surface with a little sphagnum moss. A few lumps of the compost should then be placed among the roots, and a little sphagnum.

With the exception of an occasional slight syringing, no water will be required until growth commences, when the supply can be gradually increased and weak liquid manure given once a week. When active growth has ceased less water



LÆLIA ANCEPS VAR. SANDERIANA IN THE COLLECTION OF SIR JOHN EDWARDS-MOSS, BART.

should be given, and dry off until the flower spikes are well advanced, then a little water may be given with advantage. If the plants are kept in a moderately warm temperature the flowers will keep well for several weeks. The pseudo-bulbs are often attacked with the black spot, which I have found is often caused by insufficient drainage, too close a compost, or deep potting. White scale often infests the leaves, but this can be easily removed by careful sponging with soapy water, taking care not to damage the leaves. A. B.

PROPAGATING DENDROBIUMS.

AT this time of the year Dendrobiums are easily increased by means of older growths, provided they are plump. These should be cut into lengths of about 6 inches and laid in a receptacle filled with sphagnum moss in a temperature of 60° to 65°. When signs of growth are apparent the shoots should be removed to a close case, where a temperature of 70° to 75° is maintained. As soon as they have started rooting the young plants may be transferred into very small Orchid pots, using only live sphagnum moss as a rooting medium. All the Dendrobiums cannot be increased

by this method, but among those that usually do well may be mentioned *D. nobile* and its variety *nobilius*, *D. wardianum* and its variety *Lowii*, *D. thyrsoflorum* and *densiflorum*, and numerous others.

J. DENSMAN.

THE LATE MR. GEORGE RAWLINGS.

A GREAT DAHLIA RAISER.

THIS well-known Dahlia specialist and one of my oldest floricultural friends, whose death was recorded in THE GARDEN recently, left Romford some years ago, where he had established himself in business as a Dahlia specialist, and went to Monmouth to end his days, his sons succeeding him in his business. To the last he maintained his interest in the Dahlia. I had an occasional letter from him in reference to the flower, to the improvement of which he gave the best years of his life. He remained a subscriber to the National Dahlia Society. He lies in Llandogo Churchyard, by the side of his wife, whom he had outlived eleven years.

In 1851 George Rawlings was living in the Globe Road, Bethnal Green, and had already commenced work as a raiser of Dahlias. It is possible to conjecture that Bethnal Green was then a semi-country district, and there were several florists in that neighbourhood at that time. The National Floricultural Society was formed in 1851, and held its first meeting in April of that year. George Rawlings was one of the 207 original members of the society, and with Mr. William Paul of Waltham Cross were the two remaining members of this roll of worthies. In August, 1851, he obtained from the National Floricultural Society a label of commendation for Dahlia *Dr. Tramp-ton*, a pale ground show variety edged with purple; in the following month, through being shown in improved character, it was awarded a first-class certificate of merit; and it received the same award at other London Dahlia exhibitions, as several were held in the metropolis in those days. Other new varieties shown by Mr. Rawlings that year were *Sir F. Thesiger*, which received a certificate of merit in 1852; this was a popular lilac self; *Louisa Glenny*, deep yellow; *Defiance*, blush white; *Rose of England*, rosy purple, &c. *Lilac King*, a lilac self, which subsequently became a very popular exhibition variety, gained a certificate that year or the year following. Many were engaged in raising seedling Dahlias in the early fifties. Rapid improvement was being made, and no flower unless of extraordinary quality could hope to maintain a supremacy for more than two or three years. At the outset of his career as a raiser, Mr. Rawlings set before himself a high ideal flower, and strove to reach it, and he selected from among his seedlings nothing but what he considered to be of the best character.

In course of time the growth of London, the formation of new neighbourhoods, and the erection of works and factories, compelled Mr. Rawlings to go farther afield—to Romford, and while there he prosecuted his work as a raiser with great vigour, and produced seedling after seedling of great merit. Several of his raising occupy a high position in selected lists of the present day. Mention may be made of *Arthur Coocek*, *Clara*, *George Gordon*, *George Rawlings*, *Harrison Weir*, *Harry Turner*, *John Bennett*, *J. T. West*, *Mr. G. Harris*, *Mr. Glasscock*, *Mrs. Glasscock*, *Mrs. Shirley Hibberd*, *Queen of the Belgians*, still one of the very best light varieties; *R. T. Rawlings*, a superb yellow self; *Shirley Hibberd*, *T. J. Saltmarsh*, *Thomas S. Ware*, *William Dodds*, and *William Rawlings*. All the foregoing are approved present-day exhibition varieties, and some of them are high up in the Dahlia analysis prepared by Mr. E. Mawley, and published in the recently issued annual report of the National Dahlia Society. All these show that fine quality of

outline, petal, and centre which is so characteristic of Mr. Rawlings' seedlings. Most of them will rank as exhibition varieties for some years to come. One fancy variety raised by Mr. Rawlings, Mrs. N. Halls, scarlet, tipped with white, is also a popular exhibition flower.

Such is the record of a long and useful life. Mr. Rawlings had outlived many of his earlier contemporaries, still there are many lovers of the Dahlia about the country who will learn of his recent death with regret. His son William was with him at the end. R. DEAN.

CORRESPONDENCE.

(The Editor is not responsible for the opinions expressed by correspondents.)

MELONS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—On page 43 a very interesting note is sent by "A. D." referring to an earlier article on page 10 by "A. P. H." My remarks will be brief, though I crave a little space to support "A. P. H." as, though his list was a long one, it was sent doubtless to show special sorts from various raisers. I am unable to support "A. D.'s" theory that little progress has been made of late years, but does this not apply to all other fruits? Take Grapes, for instance. Has any new Grape been raised equal to the Muscat of Alexandria, or a new Peach of better flavour than the oldest varieties, such as Royal George? I admit we have had no lack of awards for Apples and Pears during the past ten years, but are the fruits superior to Doyenné du Comice Pear or Cox's Orange Apple? We do not hear the same objections made to the introduction of other new fruits in the same way as are made to Melons. Probably "A. D." knows that Melons do not keep true so long as one could wish, as the flowers are so soon fertilised by bees. A large grower such as Mr. Mortimer of Farnham would tell us that even he is at times deceived, and that a Melon grown under the best possible conditions may not when cut be equal to expectations, though the greatest care has been taken in the parentage and culture.

To sum up briefly, Melons are not reliable. I have, when judging large classes at flower shows, dreaded the Melon competition, many being bad, and at times none really worth a first prize. I have before me a list of Melons grown twenty-five years ago, which is not a long period when we think of the age of other standard fruits. I find very few of the old kinds are grown at the present time, and this shows the need of "A. P. H.'s" list, some of which will doubtless drop out in time; but those that remain will have served a good purpose. I can assure "A. D." that most growers endeavour to get fruits of the best flavour, and because all are not so I would ask him also to note that all Melons are not well grown. Some are badly cultivated, and others fed too highly. Personally, I am loth to condemn good intentions, but I am not adverse to consigning a new Melon I have raised to the rubbish heap if I find it is of inferior quality. A Melon should not be condemned because someone grows it badly; some Melons are also wretched growers, and many fail to set freely. This "A. D." overlooks. The plant should be of good habit and the fruits of the right quality. S. H. B.

MAKING A ROSEMARY HEDGE.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—A member of our horticultural society wants some instructions as to the best way of making a Rosemary hedge to divide a flower garden. Would you publish a short article on this subject in THE GARDEN, please? A.

[Given good bushy plants, such as may be obtained from some nurseries, the making of a Rosemary hedge is a simple matter. The Rosemary succeeds best in a warm, deep, well-drained loam, which should be thoroughly dug, but unless

it is very poor no manure will be needed. The plants should be put 18 inches apart in the row, that is if they are sturdy little bushes. This planting must be carried out with as little delay as possible, and if it is followed by a dry period two or three good waterings will be of value. Then, in the latter half of April the hedge must be gone over, and any shoots that have a straggling tendency shortened, but the plants must not be cut back hard. Preserve the natural beauty of the Rosemary as much as possible. A slight pruning each spring is all the after treatment that will be needed if the hedge is in a sunny position, but if shaded there is more likelihood of the plants growing tall and getting bare at the base, in which case the spring pruning must be more severe.

If the intention is not to purchase plants, but to propagate from a few bushes that may be available for the purpose, a different way will be needed, and, of course, a longer time will elapse before the hedge reaches a good size. The best time of the year to put in cuttings of Rosemary is during the summer months. A length of 6 inches is very suitable for the cuttings, which should have the leaves cut off the basal half, and be then inserted in a shady border and covered with a handlight. In this way they will be well rooted by autumn, when they can be planted out. Should the spot for the prospective hedge be an open one they may be permanently planted at from 9 inches to 12 inches apart, according to the vigour of the plants. In the spring just pinch out the tops of the shoots in order to ensure a bushy habit of growth. If the spot selected for the hedge is so situated that the little plants will be overshadowed by larger neighbours, the better way will be to plant the rooted cuttings out in an open space for a year before they are permanently planted.—ED.]

CHRYSANTHEMUMS FOR CUTTING.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Mr. D. B. Crane's note on "Chrysanthemums for Cutting" on page 83 of THE GARDEN is most opportune. The value of these plants cannot be overrated. The Kent County Chrysanthemum Society have an open class in their schedule for four vases of decorative Chrysanthemums, four distinct varieties, three sprays (not disbudded) of one colour in each vase, to show not more than 18 inches of stem above vase, any foliage. It is a most attractive class, especially with the lady visitors, and helps to break up the monotony of the boards.

Lee.

GEO. D. JUDGE.

THE FRUIT GARDEN.

OUTDOOR TOMATOES.

FOR a great number of years the cultivation of this fruit in warm positions on walls out of doors has been successfully practised in British gardens, and little need be said on this aspect of the question as the subject is well understood, but the practice of growing it in the open quarter of the garden and the field is of more recent date and is as yet of restricted dimensions, but when better understood and more suitable and hardier varieties have been introduced this aspect of its culture opens out a very interesting and profitable field for the development of the industry. It is important to bear in mind that the Tomato plant when planted outside occupies the ground but for a very short time—say from early June to the beginning of October, only some four months—so that every condition likely to favour rapid growth and maturity must be taken advantage of. The first, and one of the most important of these, is the position and quality of the land, which should be of a warm and dry nature and fully exposed to the sun. (It is useless to attempt their culture on heavy, cold land.) The ground should be well trenched and heavily manured (which should be well decayed) in the course of the previous winter and spring. It is futile to

expect a heavy and well-ripened crop from poor land, and this has been one of the chief causes of failure in the past. Having satisfied ourselves that the condition of the land is in every way suitable, our next duty will be to see that the plants are in the best possible condition for planting when the time arrives for this operation to be carried out early in June. More depends on this than on anything else, as if our plants are weak and poor at this season there is no time for them to recuperate and to bear a good crop of fruit as well before the season is over. Therefore, let the grower make up his mind that before he can expect to succeed he must be prepared to have his young plants well grown, healthy, and sturdy, and not less than 1½ feet or 2 feet high, and with several bunches of fruit already set on the stem at the time of planting. In order to do this, if they are to be grown on a large scale, it is imperative to possess a goodly number of cold frames or pits with a covering of glass, so as to enable us to grow and prepare the plants for planting. The seeds should be sown at the end of March in pans or boxes and placed in a warm frame near the glass. If the grower does not possess a frame or house which is artificially heated, he should make a small hotbed on which to place the frame. This will afford excellent and ample provision in the way of heat to raise the young plants in.

As soon as they are large enough to handle they should be potted singly into 3-inch pots, placed back in the warm frame, and kept there until they are well rooted, which will be in about a fortnight, when they may be removed into a cool frame and given a little more room. They should still be kept warm even in the cold frame by giving but little air for some time and closing early in the afternoon, running the temperature up to 70° or 75° for a few hours, and covering the frame with mats or some other material at night. When the plants are about 5 inches high and have filled their pots with roots, they should be potted into 6-inch pots in soil composed of ordinary loam three parts and one part of some light manure passed through a three-quarter inch sieve, with a sprinkling of lime and soot. They must now be given more room in order to make them strong and sturdy. For the first week after this second potting they should be kept fairly warm until the roots have taken hold of the new soil, when more air must be admitted and the plants grown as hardily as possible, but never subjecting them to a temperature below 40°. Towards the end of April and through the month of May the lights may be taken off the frames altogether each day for a few hours when the weather is warm and bright. Towards the end of May the plants should be showing flower, and if the frames are wanted for some other purpose temporary cover should be provided in some sheltered place out of doors. This may be furnished by driving stakes into the ground at distances of 6 feet apart and tying mats to these to form sides, and for a covering a lath should be nailed to the top of the stake crossways in the way of a rafter, on which mats could be placed at night.

Caution must be exercised not to plant in the open quarters too soon, as the Tomato is a tender plant, and one exposure to a frosty night would throw them back and cripple them for the season. Therefore do not be in a hurry to plant out too soon. From June 10 to 16 I have found to be the best time. They should be planted in rows 2 feet apart, and the same distance from plant to plant. The work should be done when the ground is in a suitable condition for planting, neither too wet nor too dry, and the ground round the ball of the plant should be made firm by treading after planting. Stout stakes about 4½ feet high should be provided, to which the plants should be secured as they develop; from 3 feet to 4 feet is as long as it is advisable to let the stem grow, as there will be no time to set and ripen the fruit which may form after the stem has attained this height. Therefore the stem should be stopped at about 4 feet. The side shoots or laterals should be cut out close to the stem as they appear, so that the whole energy of the plant may be utilised for the benefit of the fruit. A good watering must be

given the plants after planting, and the precaution should be taken to have the roots sufficiently moist at the time of planting, or it will be difficult to moisten them thoroughly afterwards.

Should the weather prove dry immediately after planting, the plants should receive occasional waterings until such time as they have rooted into the soil. When this is the case a mulching of short manure should be placed round the roots, then the crop will give little further trouble for some time, except that the ground must be kept free from weeds by hoeing, the laterals stopped, and occasional waterings given should the weather be exceptionally dry. It will take 10,890 plants to plant an imperial acre at 2 feet apart, and if the season proves favourable, and all has gone on well, each plant should yield 3lb. of ripe fruit at a low estimate, and the price for it should average 2d., the best would be 3d. or more. This would give a return of £272 per acre, giving at least a clear £100 profit after all expenses were paid. I do not know of another crop capable of extracting so rich a return from the land in so short a time.

A. P. H.

THE KITCHEN GARDEN.

EXHIBITION VEGETABLES

MANY who have read the interesting series of articles by Mr. Beckett in THE GARDEN of last year will be interested in the accompanying illustration, which represents a group specially taken in the Aldenham Gardens of certain varieties. It needs no explanation. Gardeners and others interested in vegetables should read that series, and as in the coming autumn an exhibition and conference are to take place at Chiswick Mr. Beckett's advice should prove of considerable value to intending exhibitors.

NEW VEGETABLES OF 1902.

THE list of new vegetables is necessarily a small one, as even under the best conditions the same progress is not made with what may be termed a limited class, as in the case of flowers. Another point is that the new vegetables are only new varieties, but at the same time some of these add greatly to the interest taken in this department of horticulture. Doubtless the coming year will show greater progress than the past, as we are to have either a congress or series of meetings (prizes also) in the Royal Horticultural Society's Gardens at Chiswick in the early autumn months, and I welcome this announcement, as, though I have no authority for my statement, I have during the past months, in conversation with a well-known horticulturist, been told that we are to have trials at Chiswick in addition, and certainly these are always interesting and of educational value. Our thanks are largely due to the editor of THE GARDEN, who regularly gives vegetables a fair space and much encouragement. There is yet ample room for new vegetables. I wish we had harder Cauliflower or Broccoli, but we cannot expect too much when we find its parentage and country so different to our own. Again, what a boon would be a hardy Lettuce! Yet how can we expect it when the tenderness of the leaf is its greatest value. We may yet get these vegetables by selection or crossing. We see what

has been done during the past quarter of a century as regards Peas. Wonderful progress has been made both with respect to quality and quantity, and the same result has taken place with Potatoes. Magnum Bonum is now less grown than formerly, but what a revolution it created in the matter of cropping! I well remember having this by the side of one of its parents some twenty years or more ago, and the Victoria gave one peck to a hundredweight from the Magnum, and this progress has continued. There are splendid varieties, both as regards crop and freedom from disease. These are only a few instances of the progress made, and we can safely add that we have now finer stocks of other vegetables also.

CUCUMBER BRITISH KING.

This excellent Cucumber, staged at the Temple show by Mr. S. Mortimer, Rowledge, Farnham, was the result of a cross between Sensation and Famous, both very fine varieties and of good flavour. This is a long, very dark green, handsome fruit, having minute black spines, and stated to be enormously prolific. It should certainly be a favourite market variety. This new Cucumber is now the property of Messrs. Sutton, Reading, and has been renamed by them Satisfaction. Award of merit, May 28, 1902.

NEW POTATOES.

New Century.—This is a valuable early Potato, and most valuable to follow the very early Ashleafs. It is a white Kidney of very handsome shape, with few eyes, and of splendid table quality. A good cropper and dwarf growth. From Messrs. Dicksons, Chester. Award of merit, August 14, 1902.

Northumbria.—A very handsome white round tuber of splendid table quality, the parents being Syon House Prolific and Sutton's Seedling. A very good mid-season variety with us, with moderate haulm; keeps well, and is valuable for use between the early and late sorts. From Mr. G. Wythes, V.M.H., Syon House, Brentford. Award of merit, August 14, 1902.

Victoria Improved.—An excellent round variety, white skin, and of splendid quality, evidently a late variety, as when lifted in August it was immature. A very good cropper, and free from disease. From Messrs. Sharpe, Sleaford. Award of merit, December 5, 1902.

Scammell's Seedling.—A white, flattish round, and evidently a mid-season variety. It was of excellent flavour and a good cropper; free from disease. Award of merit, September 12, 1902.

It is only fair to add that there were several other promising varieties at the December trial for cooking, notably Alderman and Springfield. From Messrs. Dobbie. These just missed an award, and will be tried again next year.

NEW RHUBARB.

Sutton's Crimson.—This is a variety from abroad, and it differs greatly from our well-known sorts, as it grows readily without forcing, being fit for use early in the autumn. Not a large grower, but of a beautiful crimson colour and of good quality. From Messrs. Sutton and Sons, Reading. Award of merit, November 4, 1902.

Veitch's Christmas.—Evidently a similar Rhubarb to the last-named. Messrs. Veitch, Limited, Chelsea. Award of merit, November 4, 1902.

G. W.

GARDENING OF THE WEEK.

FLOWER GARDEN.

NEW LAWNS.

WHERE these are in contemplation the present is a good time to begin work. Before attempting to lay down turf or sow grass seeds the ground should be well trenched. There should be no hesitation in this respect, for if the ground is only dug to the depth of a few inches the turf during a dry summer would not preserve its freshness without constant watering. The difference in the aspect of a lawn prepared on trenched ground and that on ground merely dug up during



A COLLECTION OF EXHIBITION VEGETABLES.

the summer and after several years is most striking. The surface soil should, of course, be kept on the top and thoroughly pulverised and levelled evenly throughout. Provision ought to be made for carrying off storm waters and subsoil soakage, or in very wet weather the water would remain upon the lawns, injure them, and keep them damp for a long time. Before the turf is laid the surface should be rolled evenly with a moderately heavy roller. The same should be done whether the lawn is to be sown or turfed. However carefully lawns may at first be made they will not present a good appearance unless systematically mown and at times dressed with fine soil and rolled. In the course of several years the soil becomes impoverished, and it will be found necessary to dress with a fertiliser. Bone-dust and fine dry soil would be found a most effective means of renovating lawns. The best time to spread it is in early spring.

VERBENA VENOSA.

One seldom meets with this old favourite. When it does well it is one of the best plants we have for large beds. Seed should now be sown. I find it is a good plan to steep the seed for several days before sowing and never let it become dry afterwards. Sow the seed on an even surface of loam, leaf-mould, and sand in equal proportions and very slightly covered. After watering cover the pan or box with glass to prevent evaporation, and shade from the sun till the seed vegetates and the young seedlings appear; the seed is sometimes very irregular in its germination. Care should therefore be taken to prick off into rich soil the young plants as soon as they possess two rough leaves. Keep them in heat until they meet in the box or pan, then put them into a cool house near the glass.

T. B. FIELD.

Ashwellthorpe Hall Gardens, Norwich.

KITCHEN GARDEN.

GENERAL work in this department will be regulated to a great extent by the state of the weather and the ground. If sufficiently open and the ground fairly dry, seed sowing may be commenced, beginning with

PARSNIPS.

To grow clean, shapely roots of these the soil must be deeply dug or trenched some time before the seed is sown. This crop may well follow Celery, for the constant moving to a great depth of the soil for earthing purposes suits admirably for Parsnips and Long Carrots, which penetrate to a great depth. Such a plot will contain sufficient manure for these roots, and all that is necessary is to dig deeply, and during the operation distribute the manure from the old Celery trench evenly over the whole area. Excellent roots may be grown on such a plot without boring, but if exhibition roots are wanted holes should be bored with an iron bar to a depth of 3 feet or more and filled with fine sandy soil at a distance of 14 inches from each other in the row, and 18 inches from row to row. Press a small pinch of seed into the soil and cover it an inch deep.

SPINACH

of the round leaved variety may be sown on a warm south border; the produce from this will succeed the winter crop. I prefer to leave the early crops of summer Spinach unthinned, or if thinned at all do it but lightly, the plant being then cut clean off at the ground level instead of gathering the leaves singly.

TURNIPS

of the early Milan type may now be sown in a similar position for providing early dishes, as may also some seed of Horn Carrots to follow those grown in frames.

JERUSALEM ARTICHOKE

may be planted at any time now, and although these require and amply repay good culture, yet they are not a crop one cares to have in the kitchen garden proper unless to form a screen to an unsightly part of the garden. Outside the garden walls is best for these tall-growing plants if the soil is not too impoverished. The rows

may be 3 feet apart and the tubers placed 4 inches below the surface at 14 inches from each other. We invariably plant the sets as the digging is done, as Potatoes are planted in some localities. Sutton's White variety has superseded the older Purple. Cabbage beds should now be examined, and any plants that are not healthy pulled up and replaced with others from the reserve bed. Stir the surface of the beds with a Dutch hoe, but if earth was drawn against the stems for protection do not remove it; and if, on the other hand, this has not been done, it should now receive attention. Winter Spinach should also have the surface soil stirred in like manner after first removing any protecting material that may have been placed about the plants.

Stonleigh Abbey Gardens.

H. T. MARTIN.

INDOOR GARDEN.

EUPHORBIA JACQUINLEFLORA FULGENS.

In propagating this plant from cuttings it is necessary to take into consideration that they are succulents, and better results will be obtained by allowing the old plants to become dry at the roots for a few days prior to taking the cuttings. If possible take these with a bit of old wood at the base (what is generally termed a heel), insert them in very sandy porous soil six cuttings inside the rim of a 3-inch or 4-inch pot. Three or four of these pots may be placed in a seed pan of 6 inches or 7 inches in diameter, which place on a dry shelf in a stove or propagating house and cover with a bell-glass with a piece of paper or tiffany for shade; in such a position they root more freely than in a close moist frame.

RICHARDIA ELLIOTTIANA.

R. Pentlandii and their varieties intended for early blooming should now be brought into a temperature of 55°. Remove a little of the old surface soil and replace with fresh, rather light soil, and give one good watering. As many of the old roots from these tubers are perennial and dislike being disturbed now, I prefer to defer the repotting until after the plants have bloomed. These magnificent Richardias are deserving of all care and attention. I find they require an intermediate temperature, and are satisfied with much less water at the root than *R. aethiopica*.

EUCHARIS AMAZONICA

as grown in pots is frequently found in a more or less unsatisfactory condition. Where an entire house is devoted to their cultivation it is a much simpler matter to keep them well than where only a dozen or two plants are required and have frequently to be moved from house to house. I am convinced that submitting them to a low temperature for any length of time, or exposing them to a strong sun with insufficient moisture, are responsible for the condition in which they are often seen. Where narrow borders alongside paths in stove or other hot house, if partly under the side stages and near hot-water pipes, can be given up to them, so much the better, and the bulbs be there planted out in any light fibrous soil, they will simply luxuriate and flower profusely.

FUCHSIAS.

Old plants that have been stored away for the winter, and which are required for conservatory decoration during early summer, should now be placed in an intermediate house and pruned back to two or three buds at the base of last year's wood. Where the plants are old remove the loose bark from the stems and see that the plants are thoroughly cleared of all insect pests. Whatever means may be employed to effect this purpose avoid using too strong a wash. When the buds become active the plants may be repotted; replace the plants in pots one or two sizes smaller, using a rich light compost of loam and leaf-soil with one-eighth dry cow manure rubbed through a fine sieve and some sand and rough charcoal. Place the plants in a temperature of 50° by night, with an advance of 5° during the day, syringe them twice daily, and keep free from aphids by fumigation. Young plants struck from cuttings in September or October will now require a larger pot, and

must be exposed to as much light as possible. Pot Roses recently started should now be freely syringed on clear days, raising the day temperature 5°.

Wendover.

JOHN JAUQUES.

THE FRUIT GARDEN.

FIGS.

THROUGH the favourable weather early trees have made considerable progress, and many of the most forward Figs have reached a size which will not increase until the flowering process is complete, but this apparent standstill need not cause alarm. Hard forcing will not help them. If the weather continues favourable a steady night temperature of 60°, with a rise of 10° by day, and 5° more after shutting up, will be quite high enough for a considerable time, but in the event of a change to wintry weather 5° lower will form a safe working standard. Figs as a rule do best in shallow well-drained borders, therefore keep the roots well supplied with tepid liquid and guano water alternately, as the Fig when in growth is a gross feeder, and soon resents a falling off in quantity or quality. Be careful to keep the young growths and foliage firm and stout by means of liberal ventilation, and clean by a vigorous use of the syringe, particularly when the house is closed for the day, with plenty of solar heat. Guard against overcrowding by pinching side shoots to form spurs, and remove weakly growths entirely where there is not room for full development of the foliage and exposure of the fruit when it begins to ripen. Repeat former directions in the management of the succession house, always bearing in mind that a steady supply of heat, air, and moisture, combined with liberal feeding to well ripened trees which are not overcropped, are important points in the production of high class fruit. Get trees in late houses pruned or thinned, washed, and tied in as opportunities occur, as the time is near at hand when many matters will require prompt attention.

MELONS.

To maintain a steady supply of Melons throughout the season another sowing should at once be made to succeed the first batch now coming into rough leaf. If the bed intended for these is not ready give them a small shift and replunge in bottom heat near the glass. In the meantime prepare the fruiting pots and plunge them where they are to remain until the fruit is ripe. Prepare the soil (stiff calcareous loam, which has been stacked for some months in an open shed) by breaking it up with the hand. Place it loosely in the pots, to admit of the heat passing freely through it, then ram firmly and turn out the young plants before they become potbound. If the soil is poor add a 6-inch potful of bone-dust, or twice the quantity of dry rotten cow manure to a bushel of loam. Mix thoroughly some time before it is wanted, and see that a few of the roughest lumps are placed over the drainage. Give water sparingly until the roots reach the sides of the pots, and defer feeding until the fruit begins to swell, when the highest culture that can be given will be needful. Sow Blenheim Orange now for the main crops.

GRAPE ROOM.

Keep the room dark, dry, and well ventilated. A temperature from 40° to 50° is quite high enough for Lady Downe's, still the best and most profitable kind for keeping, until Black Hamburgh is ripe; and as the above figures can be maintained without the aid of fire-heat, all that is needed is just sufficient warmth on fine mornings to expel moisture.

WILLIAM CRUMP.

Madresfield Court Gardens.

CHRYSANTHEMUMS.

CUTTINGS.

THOSE propagated with the object of producing large flowers, whether they have been rooted singly in 2½-inch pots or in any other way, will now need shifting into other sizes. The majority should be sufficiently advanced to be placed into 3½-inch pots, but overpotting at this and all other stages

should be strictly avoided, consequently at every potting two or three different sized pots must be in readiness. As this potting will play an important part as to the future of the plants hardly too much care can be exercised with regard to details, and in the case of the weaker plants 3-inch pots will be amply large enough and far preferable to the larger size.

COMPOST.

Prepare this a few days before required and turn it every other day. The mixture should consist of three parts good fibrous loam, one part leaf-soil, one part half decayed horse manure, a liberal quantity of coarse silver sand, with a small amount of wood ashes, fine charcoal, and bone-meal, all thoroughly mixed before it is used. Warm this to the same temperature as that in which the plants are growing. The pots and drainage should be quite clean, and any new pots soaked and dried before using. Provide ample drainage to allow the water to pass away freely, and place over the crock some fibre taken from the loam. Heap with all the soil removed. Before beginning make quite sure that the soil is in a suitable condition, being neither too wet or dry, also carefully examine the plants and water any that are at all dry a few hours before turning out. Pot moderately firm, and see that each is carefully labelled.

The position which the plants are to occupy will of course depend upon circumstances, but an ideal place is a light pit facing south with a flow and return hot-water pipe through it, which can be used only as required. The less fire-heat the plants receive after now the better. The growths should be kept as close to the glass as possible. Place the plants upon a bed of finely sifted cinder ashes. Frequently damp over, but keep close to induce them to overcome the slight check as soon as possible, after which give air freely when the weather will permit. Strive to build up the growths in as sturdy and as natural a way as possible, and immediately the plants begin to make new growth thin them well out so that they do not suffer from overcrowding. It will be well while the plants are under glass to assign one or two lights to the more weakly and late-struck plants, where these can be nursed along more easily than if mixed about among the more robust and general collection. Watch minutely for any traces of aphid, rust, or mildew, and allow neither to gain the upper hand. Where any collection is free from rust every endeavour should be made to keep them so, as there are few so fortunate. Isolate any which are procured from other sources, and make quite certain that these are perfectly clean before bringing them into contact with the clean collection. Far better to destroy choice kinds than to contaminate a clean lot. Only those who have suffered from this pest can form any conception as to the trouble it occasions to hold it in check, especially in some seasons. E. BECKETT.

Aldenham House Gardens, Elstree, Herts.

EDITOR'S TABLE.

JASMINUM NUDIFLORUM.

"A Town Gardener" sends a beautiful bunch of the winter-flowering Jasmine (*Jasminum nudiflorum*), which, he says, "is flowering gaily in a garden not three miles from Charing Cross." We can well believe this. It is a Jasmine for the town garden, and makes a cheery picture for many weeks in the dulllest season of the year as far as a London suburb is concerned.

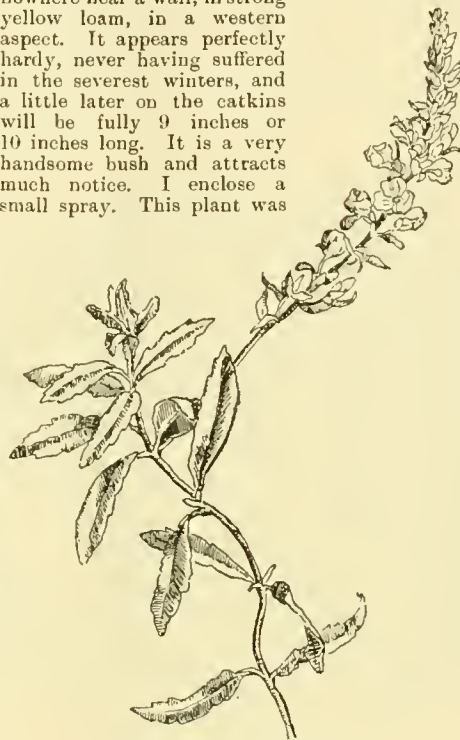
CHINESE PRIMULAS.

Messrs. William Bull and Sons, Chelsea, send us a selection of their Chinese Primula flowers, and among the many beautiful colours and pretty forms we have made note of the following: *Alba oculata-lutea*, large, fringed white, with bright yellow centre; *Brilliant*, a variety with fringed flowers of bright crimson-magenta, lemon-yellow eye; *Comet*, carmine-crimson, with yellow throat; *Countess*, blush pink, fringed; *Imperial Blue*, a beautiful lilac-coloured flower, large, and elegantly

fringed. *Mont Blanc* has splendid snow-white flowers, while *Ruby Queen* is a brilliant crimson-magenta fringed variety. The red and white strains of *P. sinensis fimbriata* are also very attractive. Among the double-flowered varieties, the best undoubtedly is *Bull's Blushing Beauty*, a new Primula, with large blooms of a lovely shade of blush pink; *Fulgens fl.-pl.*, one of the best deep-coloured doubles; *alba fl.-pl.* and *rubra fl.-pl.*, both good types of double flowers.

GARRYA ELLIPTICA.

I see in *THE GARDEN* of the 31st ult., a note headed the above, and I think it may be of interest to your readers to know that we have here a very fine plant of *Garrya elliptica*, the dimensions of which are: Height, 13 feet; depth through, 12 feet; circumference, 66 feet; length of catkins, now, 6½ inches, not yet fully developed. The plant stands out at the corner of a small plantation nowhere near a wall, in strong yellow loam, in a western aspect. It appears perfectly hardy, never having suffered in the severest winters, and a little later on the catkins will be fully 9 inches or 10 inches long. It is a very handsome bush and attracts much notice. I enclose a small spray. This plant was



LITHOSPERMUM PROSTRATUM.
(Gathered a few days ago.)

put in about thirty years ago.—*JANET PEEL, Hampton-in-Arden, Warwickshire.*

[We always welcome the beautiful *Garrya elliptica* upon our table, and it is interesting to know of so fine a plant.—*Ed.*]

LITHOSPERMUM PROSTRATUM.

Mr. Field sends from Ashwellthorpe Gardens, near Norwich, flowers of this beautiful blue trailer, of which we have made a much reduced illustration. It is interesting, of course, at this season, as the shoots sent were full of buds and flowers.

SEEDLING HELLEBORES FROM MR. ARCHER-HIND.

We have received from Coombefishacre House, Newton Abbot, a few of Mr. Archer-Hind's seedling Hellebores, which are now beginning to be very pretty in his garden. The flowers are of beautiful shape and varied colourings, some almost pure white, others delicately spotted, and a few of warm plum shades. The following are extracts from a letter from Mr. Archer-Hind in *THE GARDEN* of February last: "I really know of none more readily and easily amenable to treatment by amateurs; none more certain to show good results from careful selection within certain limits. You know beforehand how to adapt the

crossing to the production of new colour in a good shape, or new shape in a good colour, as well as how to improve the general habit of growth. As to the value of the flowers for their hardiness, time of blooming, and variety of colour, both at home and abroad, they have been the admiration of first-rate authorities. The display of really well-arranged jars or bowls of suitable colours and forms has excited constant admiration, the more so that even a very few years ago they were new to people in general. . . . Everyone knows that when the stalks are split up (and the further the better) Hellebore flowers will keep good and fresh for a week or even ten days."

MISCELLANEOUS.

MOLES.

MOLES are lauded by entomologists for the service which they render to agriculture by daily destroying a large number of cockchafer grubs, wire-worms, and earth-worms. This, however, does not prevent them from being regarded as formidable enemies to the gardener, with whose work they interfere, not by cutting the roots of his plants, but by lifting them out of their position when they are excavating their underground runs. If they confined themselves to burrowing only in the quarters in which large vegetables are grown, we think many gardeners would say nothing against them. But they follow the gardener whenever he sows any seed or sets out any valuable, carefully-grown plants. When he begins to water his seed-beds, flower-beds, and decorative plots of bedding-out subjects, immediately the moles tunnel their runs in all directions in the soil. And yet, they are only in search of earth-worms, which form the principal part of their food, and which are found in large numbers in any part of the soil which has been watered.

It is impossible for a gardener who cares anything about his work to regard with indifference the displacing of his plants and the frustration of his labour. He sets traps, and when a mole is caught he is well pleased. Often, indeed, owners of gardens will pay 25 centimes (2½d.) to professional mole-catchers for every mole they catch, to encourage them in their work of destroying them. What is needed, then, is some means of keeping away moles from select parts of the garden and banishing them to wooded parts, where they might burrow undisturbed and be useful without injuring anything. Last year we made use of an insecticide which proved very serviceable in banishing moles. Early in July we had a tennis ground made in a moist meadow, close to a river. Every day this ground, which was naturally very flat, was made perfectly level, but every succeeding morning we found it literally turned up into mole-hills. One would have said that all the moles in the neighbourhood had made the place their rendezvous. After two days' cogitation on the subject, we resolved to pour some petroleum into their runs, which we effected by opening the runs under the mole-hills and pouring in about one-third of a pint of petroleum at each opening. We then levelled the mole-hills over the openings. A second application of petroleum was necessary, after which we had no more mole-hills, and to this day the tennis ground has been quite free from them. If gardeners try this plan they will certainly be well pleased with the results.—*Revue Horticole.*

READING "THE GARDEN."

In an ordinary way I read, mark, learn, and inwardly digest the weekly numbers of *THE GARDEN* with commendable regularity, especially the "marking" noting in the weekly index (to be transferred later on to the half-yearly one) such things as I may wish to refer to at some future period, and entering in a note-book any special fads and fancies. But this autumn, being much engaged in other ways, I had neither time nor acuity to spare for this literature, and so deferred

the weekly readings till the end of the year, when I had leisure to take THE GARDEN of four months in sequence. But, on the whole, I find there is much to be said for this way of reading—you get question and answer together, and in many ways one seems to get a more thorough grasp of a subject than when taken in small doses. Take the papers on

SELECTIONS OF ROSES

for instance. These have been specially helpful, as I am just about to plant some climbers near trees—certainly, reading the various lists together has made it much easier to come to a decision than if weekly memoranda had had to be made. The correspondent who suggests "drain-pipes" draws a Michael Angelo statue to his own hook—one feels so small never to have thought of drain-pipes in this connexion. Will anyone who has tried the Afghanistan Rose *Eae* give their opinion of its wants and merits or demerits as the case may be? I noted it some two (?) years ago when mentioned in an account of the late Canon Swaynes' garden in the pages of THE GARDEN, but have never seen it in any catalogue till the other day, when I found it in Smith's of Newry.

The only fault to be found with THE GARDEN is that it distinctly breeds discontent—shall we say a *divine* discontent?—in people living out of England, not only of the stately homes with their thirty-eight gardeners and incomes to correspond, but of the general atmosphere of culture and intelligence on gardening matters which prevails at home; there is nothing like it elsewhere, least of all in Italy.

Some years ago I tried hard to get the right name of the big-leaved Mahonia; familiarly, it was a Mahonia, and that was sufficient. One morning I sent a spray of it to the Horticultural Gardens, and, as luck would have it, an Englishman was there who at once wrote down on his card for my gardener "Berbi. japonica." Reading in the issue of December 6 on the very interesting description of the two—Berberis, as they are there called, japonica and nepalensis—I began to have a hazy idea that I had seen it somewhere stated, on the authority of the "Kew Hand List," that these two species were synonymous, and, had I been reading the paper in the usual weekly fashion, would probably never have bothered the Editor with an enquiry as to whether this was really so or if I had dreamt it—when, lo! by waiting to peruse the issue of December 20 I find that for once my memory has not misled me. I happen to have several fine specimens of these Mahonias, and, notwithstanding a discouraging warning in THE GARDEN some little time back that they were very impatient of removal, we have lifted them this autumn, as they had quite outgrown their position, and as all such operations are done in this country on the most unscientific principles I await the result with some anxiety.

TUSCAN.

[An important description of the Barberries, by Mr. Bean, of Kew, is now appearing in THE GARDEN.—ED.]

YAMS AND SWEET POTATOES.

A SHORT time ago the fruit and vegetable committee of the Royal Horticultural Society had an exhibit of the above vegetables before them, and naturally they created much interest. Their preparation is an art. Of course, they may be cooked simply like a Potato. In tropical countries the Sweet Potato is often baked and roasted, and after the outer skin has been removed the tubers are mashed and mixed with butter, but I have heard that it takes some time to get accustomed to the taste of the Sweet Potato. In South Africa these roots do splendidly, but I have been told that the flavour is not equal to a Barbadoes tuber; the latter are drier. A great trade is done in these roots in the Colonies, and they are now being imported to this country by Messrs. Pink of Portsmouth, and will doubtless be welcomed by those who have resided in India and the warmer countries. As their price is not great they should become better known. It is only fair to state that the Sweet Potato cannot be grown with any success

in this country: the soil is not warm enough. It requires a porous, warm soil, and grows rapidly. A friend in the Colonies writes that he prefers the Yam and Sweet Potato before the kinds at home, and the same opinion is held in the East Indies. There the Sweet Potato is a general article of food. The Yam requires a rich, porous soil, and is much grown in hot countries. The roots of the Chinese Yam go down to a great depth. These have been grown in this country, but with little success.

G. WYTHES.

RECENT PLANT PORTRAITS.

THE *Botanical Magazine* for February contains portraits of

Sanseria grandis, a native of Tropical Africa. This is a handsome plant received from Cuba, where it is known as Cow's-tongue from the shape of its ornamental foliage, which produces a fine white silky fibre of extraordinary strength, far exceeding any other. A few strands of it are sufficient to hang a man. It has a long spike of white flowers, and bloomed in the temperate house at Kew in July of 1901 and 1902.

Impatiens Balfourii.—Native of North-western Himalayas; a pretty Balsam with large rosy white flowers.

Acidanthera candida.—Native of East Tropical Africa; a most beautiful bulbous plant with large, pure white flowers.

Astilbe Davidii.—Native of China. This is a very handsome form of *A. chinensis*, with flower-spikes reaching to a height of 6 feet. It was raised from seed sent to Messrs. Veitch by their collector, Mr. Wilson.

Rhododendron brachycarpum.—Native of Japan. This is a beautiful plant with delicate pale yellow flowers. Seed of this was received from the St. Petersburg Botanic Garden in 1895, and bloomed in the open air in 1902.

The February number of the *Revue de l'Horticulture Belge* figures

Cymbidium tracyanum.—This is a fine and distinct form of *C. lowianum*, amongst a lot of which bought at a sale it came to Mr. H. A. Tracy, after whom it was accordingly named. It is a very handsome Orchid.

Strobilanthes unisophyllus (syn. *Goldfussia angustifolia*).—This is a very pretty and free-blooming ornament of our warm greenhouses, but is much better known under its second name. Its flowers are tubular and of a pleasing shade of purple-lilac.

W. E. GUMBLETON.

BOOKS.

The Journal of the Royal Horticultural Society, December, 1902.—

The Journal of the society just issued contains the papers and other matters relating to the Rose conference held at Holland House last year. It is worth purchasing by those who are not Fellows (Fellows are fortunate in getting it free), although the price is 10s., but the Journal has become one of the most important publications of the time through the efforts of the Editor, who is also the secretary of the society. The contents are remarkably varied, and comprise the papers read before the society during the latter part of last year. "Fungoid Pests of the Garden" is continued by Dr. M. C. Cooke, M.A., V.M.H., and a valuable series this is with its many illustrations, coloured or otherwise. The disease of the Carnation is specially treated by Professor Potter, and "Trees and Shrubs," with many illustrations, by the Right Hon. the Earl of Annesley. The Rev. Professor Henslow and Professor Debono discourse upon the "Botanical Garden at Malta," and the lectures given by Mr. Henslow at Chiswick are also reproduced. These must be very helpful to young gardeners and students. The following articles are practical: "Small Fruits in Private Gardens," by Mr. James Smith, V.M.H.; "Hardy Fruit in Yorkshire," by Mr. A. Gaunt; "The Gooseberry Mildew in Europe," by Mr. Ernest S.

Salmon, F.L.S.; "Mendel's Theory and Orchid Hybrids," by Captain Hurst, F.L.S.; "Fruit Trees in Pots," by Mr. T. Alfred Rivers; "Horticulture in Egypt," by Mr. Lionel Sandars, with the instructive reports on Tomatoes, Michaelmas Daisies, Phloxes, Potatoes, dwarf and Runner Beans, &c., at Chiswick; and "Commonplace Notes," by the secretary and superintendent. The many illustrations, for the most part excellently reproduced, add to the interest of the volume. We have often congratulated the Editor (the Rev. W. Wilks) upon the way the Journal is managed. We do so again, more heartily than before; it is a great success, and a most helpful guide to the thousands of Fellows that have joined the society in recent years. The yearly volumes bound up are books for every country house library, and appeal also to the practical gardener.

OBITUARY.

MR. JOHN DICK.

MR. JOHN DICK died at Philadelphia, on the 13th ult., in his eighty-ninth year. Mr. Dick was born in Edinburgh, Scotland, in 1814. He came to this country in 1834, with no capital, but a sturdy constitution and a determination to succeed in his chosen calling. He first obtained employment with Andrew Dryberg. After several years he went into partnership with James Ritchie, his brother-in-law, at America and Oxford streets, where they were quite successful. In 1850 he bought a plot of ground and erected greenhouses at Fifty-second and Woodland Avenue, where by careful management he built up a large business, making a specialty of hard-wooded greenhouse plants, such as Camellias, Daphnes, and so forth. He retired from active business about fifteen years ago.

MR. FRED L. HARRIS.

MR. FRED L. HARRIS, former gardener at the H. H. Hunnewell estate, died at his home in Wellesley, Mass., on Sunday, the 11th ult., aged eighty years. Thus passes away the "grand old gardener," best beloved in his profession in America. He stood for all that was noble and manly in American horticulture; a shining example to the young gardener, his record is an encouragement and incentive to ambitious industry. Such men are an honour to any calling and an inspiration to their fellows. The far-famed estate by Lake Waban, the most beautiful example of landscape gardening art on this continent, which under his guidance and art was transformed from an unadorned waste, is an enduring monument to his ability in his profession.—*The American Florist*.

CAPTAIN ALFRED TORRENS.

CAPTAIN TORRENS, who died suddenly recently at his residence, Baston Manor, was perhaps one of the best known men in the horticultural world. He was greatly loved in the parish where he spent many happy years, at Hayes in Kent. I happened to be in the neighbourhood the day after his death, and there was hardly a person who did not know of the sad event and express sorrow and regret. Captain Torrens was one of the most generous, kind-hearted, and sympathetic of men, both in his official capacity as a J.P., and as an employer. His manly figure, kindly sympathetic face and cheery words will be sadly missed by friends and neighbours.

Captain Torrens, who was seventy-one years old when he died, carried his age well, and the soldier and officer could easily be discerned in his tall and erect figure. He was the son of the late Colonel Robert Torrens, C.B., who served as Quartermaster-General under Lord Wellington at Waterloo. He was educated at Harrow, serving later in the 66th Regiment, retiring in 1867 with the rank of Captain. The same year he married the sister of the late Sir Edward Scott, Bart., of Sundridge Park. He first lived at West Wickham and removed later to Baston Manor at Hayes, Kent. Captain

Torrens was a great traveller, and he made a trip round the world in company with Mrs. Torrens; but his favourite journeys were always to Canada, and in fact when I met him only a few months ago he mentioned to me that he intended to go there again shortly, and promised to bring me several rare plants from that country. I became first acquainted with Captain Torrens at one of the flower shows at the Crystal Palace in 1894, when I was attracted by a splendid specimen of the charming Japanese *Schizocodon soldanelloides* and *Shortia uniflora*, never again seen in such perfection. Although at the time quite a stranger, Captain Torrens invited me to Baston Manor, and when I went he presented me with a plant of the *Schizocodon*. Since then I have received many invitations, which I have never refused, as the garden, though not large, contains one of the best kept rockeries and one of the choicest collections of alpinists in the county. Captain Torrens was one of the most successful growers of Japanese Tree Paeonies. He was one of the most enthusiastic of lovers of hardy plants.

G. REUTHE.

[We well remember Captain Torrens, and first made his acquaintance at the Crystal Palace show referred to by our correspondent. He reintroduced the beautiful *Schizocodon*, which was shown by him at a meeting of the Royal Horticultural Society in the Drill Hall, when it received a first-class certificate.—Ed.]

MR. P. S. PETERSON.

MR. P. S. PETERSON, the Chicago nurseryman, who died of pneumonia on Monday morning, was one of the city's early settlers. He came to America from Sweden in 1851, and after following his profession in the Eastern States a few years, supplementing the training he had received in Europe, established his business in Chicago in 1856, and remained at the head of it until his death. Probably no one citizen has done more towards beautifying Chicago than he. The countless trees and shrubs that grace the parks, boulevards, and private grounds were to a large extent sprouted at the Peterson nursery. These and the 500 acre nursery and the private park of twelve acres form an enduring monument to the art and industry of Mr. Peterson. Though not a politician, Mr. Peterson served as a trustee of Jefferson many years, and most of the good roads and bridges in that district are due to his efforts. Peterson Avenue, which was named after him, he opened for a distance of three miles at his own expense. As a philanthropist his name is known from one end of Sweden to the other. Mr. Peterson was for many years a member of the Union League and Germania clubs, and of horticultural societies at home and abroad. In 1894 he was made a Knight of Vasa by the King of Sweden.—*American Daily Paper*.

SOCIETIES.

ROYAL HORTICULTURAL SOCIETY.

ORCHID COMMITTEE.

PRESENT: Harry J. Veitch, Esq. (chairman), Messrs. James O'Brien, de B. Crawshaw, H. Ballantine, Norman C. Cookson, Walter Cobb, W. F. Biney, E. Hill, Francis Wellesley, H. T. Pitt, J. Wilson Potter, H. A. Tracy, H. J. Chapman, T. W. Bond, A. McLean, M. Gleeson, J. W. Odell, W. Boxall, W. H. Young, F. J. Thorne, F. W. Ashton, W. H. White, H. Little, and J. G. Fowler.

In the group of Orchids shown by Messrs. Sander and Sons, St. Albans, Phaius were largely represented. The plants were carrying splendid racemes of flowers, were the picture of good health, and growing in leaf-soft in comparatively small pots. Other remarkable plants were *Odontoglossum wilckeanum* var. *illuminatum*, bearing seventeen flowers on one raceme; *O. w.* var. *Rex*, with sixteen flowers, also on one raceme; *O. harrayo-crispum* var., *Cypripedium Illione*, *C. illustre*, *Pleurothallis Roezlii*, *Tetramera bicolor*, &c. Silver-gilt Flora medal.

Messrs. James Veitch and Sons, Limited, Chelsea, in a small and choice collection showed *Platyclinis* (*Dendrobium latifolia*, *Laelio-Cattleya Lucilise* (*C. dowiana* × *L. elegans*), *Calanthe gigas*, *Dendrobium Scylla* (*D. japonicum* × *D. Cybele*), *D. Ainsworthii sulphureum* (a large flower with pale sulphur-coloured sepals and petals and purple lip, edged with white), *Cypripedium Eurycles*, *zuttatum*, *C. Leonidas albidum*, *C. lathamianum*, and others. Silver Flora medal.

Messrs. Hugh Low and Co., Bush Hill Park, Enfield, N., exhibited a group of Orchids, among which we noticed *Dendrobium Boxalli* (very well flowered), *D. brymerianum*, *D. rubens grandiflorum*, *D. wardianum* Lowii, *Cypripedium Olivia* (*C. toussim* × *C. niveum*), a very charming flower; *C. Leonidas*, *C. Eurycles*, *C. Chapmanii*, several beautiful *Lycastes*, notably *L. Skioneiri* *Glaflator*, *L. S. Enchantress*, several *Odontoglossums*, *Cymbidium traceyanum*, *Cattleya Triane*, and other choice Orchids. Silver Flora medal.

Captain Holford, C.I.E., Westonbirt, Tetbury (Orchid grower, Mr. Alexander), contributed several very choice Orchids, notably *Lycaste Mary Gratrix* (a rich rose buff), *Laelio-Cattleya Afterglow* (with beautiful yellow sepals and petals and brick-red lip), *Miltonia bleuana grandiflora*, *Odontoglossum crispum* (splendidly flowered), *O. loochristiense* Lord Howick, *O. Adriane* Countess of Morley, and others. Silver Flora medal.

The Orchids from Jeremiah Colman, Esq., Gatton Park, Reigate (gardener, Mr. W. P. Bound), comprised plants of *Laelia anceps* in several beautiful varieties. The choicest was *L. a. wadonensis*, with sepals and petals and the base of the lip pure white, with a yellow throat marked with faint purple. There were also *L. a. hilliana* *rosefeldense*,

tenebrosa × *C. anrea*, *C. Triane delicata*, *Odontoglossum harrayo-triumphans*, and *Cypripedium Hera* var. *Madeline*. Vote of thanks.

Sir Frederick Wigan, Bart., Clare Lawn, East Sheen (gardener, Mr. W. H. Young), sent *Cypripedium chamberlainianum* × *C. concolor*, *Odontoglossum Ruckeri* × *triumphans* was shown by Messrs. Stanley, Ashton and Co., Southgate, N.

Mr. H. A. Tracy, Orchid Nursery, Twickenham, sent *Cypripedium villosum* var. *anreum*.

F. Wellesley, Esq., Westfield Common, Woking (gardener, Mr. J. Gilbert), showed *Cattleya choecensis*, Westfield var., *C. wellsiana magnifica* (a large flower, with rich purple lip), and *Cypripedium Eurycles* × *Charlesworthii*.

W. Sampson, Esq., Walton Grange, Stone, Staffordshire (gardener, Mr. W. Stevens), sent a cut raceme of *Odontoglossum harrayo-crispum* *The Queen*, heavily marked with chocolate colour upon a very pale green ground.

Mr. James Douglas, Edenside, Great Bookham, sent a cut raceme of a white *Laelia* (? *L. anceps Stella*); the flowers were very fine. Mr. Douglas also sent *L. anceps percivaliana*.

Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne, showed *Phaios-Calanthe* × *Ruby*, and an unnamed hybrid.

H. Whately, Esq., Kenilworth, sent *Cypripedium aureum virginalis*, *C. Leonidas*, and other *Cypripediums*.

From W. M. Appleton, Esq., Tyn-y-Coed, Weston-super-Mare, were sent *Cypripedium Lady Roberts* (*C. harrisianum superbum* × *C. niveum*), *Cattleya Triane* (Appleton var.), and *Cypripedium lanthe superbum* (*C. harrisianum anpernum* × *C. venustum*).

A flower of *L.-C. luminosa* (*L. tenebrosa* × *C. anrea Rossita*) was shown by M. L. Fournier, Marseilles, France. The flower was somewhat faded, its petals and sepals were rich apricot-buff, and the large prominent lip crimson-purple.

CERTIFICATED ORCHIDS.

Dendrobium Wigauu xanthochilum.—A beautiful and dainty flower, of a uniform pale buff colour, except for a dark crimson-brown blotch bordered by yellow in the throat. The flowers are not large, the petals are somewhat twisted, and the base of the lip recurves slightly. The plant shown was splendidly flowered, the numerous closely placed blooms making a pretty display. From Sir Trevor Lawrence, Bart., Burford Lodge, Dorking (Orchid grower, Mr. W. H. White).

Odontoglossum wilckeanum var. *Rex*.—A very fine *Odontoglossum*, with petals and sepals tapering at base and apex, heavily blotched with chocolate-red upon a dull yellow ground. The sepals are more heavily marked than the petals, and are almost wholly coloured. The lip is blotched with shining brown and marked with yellow below the column. From Messrs. Sander and Sons, St. Albans. Award of merit.

Odontoglossum loochristiense Lord Howick. A very handsome flower, rich yellow being the predominating colour. Sepals and petals are almost wholly yellow, the former having a few blotches of chocolate-red, the latter scarcely any. It is not the marking of this flower, however, but the ground colour, which is a clear good yellow, that makes it so striking. Shown by Captain Holford, Westonbirt, Tetbury, Gloucester (Orchid grower, Mr. Alexander).

Cypripedium Minos Young's var.—A very pretty flower with a large broad dorsal sepal marked with irregular lines of purple upon a white ground, except around the centre, which is green. The petals are drooping and reach to just below the lip, they and the lip are shining brown. From R. Briggs-Bury, Esq., Bank House, Acreington (gardener, Mr. J. Wilkinson). Award of merit.

Odontoglossum crispum Cooksonii.—This new *Odontoglossum*, obtained among others in an importation, created a great deal of interest and attracted much attention. The flower is large, the sepals and petals broad, with slightly fringed edges. Both sepals and petals are marked with blotches of rich ruby-brown, so regularly as to form a circular band of this colour, leaving a white centre and white edges. The lip is small and insignificant, tapering towards the lower end, and with a blotch of pale ruby-brown. It is altogether a striking flower, symmetrical, and of good colour. Exhibited by Norman C. Cookson, Esq., Wylam-on-Tyne (gardener, Mr. H. J. Chapman), and given a gold medal and a first-class certificate.

Laelio-Cattleya wellsiana magnifica.—Exhibited by F. Wellesley, Esq., Westfield, Woking (gardener, Mr. Gilbert). Award of merit.

FLORAL COMMITTEE.

Present: W. Marshall, Esq. (chairman), Messrs. George Nicholson, R. Dean, John Green, Amos Perry, J. F. McLeod, James Hudson, J. Jennings, G. Reuthe, W. Howe, C. R. Fielder, Charles Dixon, C. G. Salter, W. Bain, Charles Jeffries, Herbert J. Cutbush, R. W. Wallace, W. Cuthbertson, R. Wilson Ker, W. P. Thomson, E. H. Jenkins, W. J. James, Harry Turner, and George Paul.

Messrs. William Bull and Sons, Chelsea, set up a large group of Palms that included several species of *Livistonia*, *Thrinax*, *Phoenix*, *Cocos*, *Kentia Pritchardii*, *Areca*, and the like. Indeed, all the best-known species were fully represented in a large array of plants. Most of the plants were of the useful size, others again were large towering examples suited to elaborate decoration. Among smaller and dainty kinds *Thrinax elegans* was very beautiful, and a perfect plant for table work. Silver-gilt Banksian medal.

Mr. John Russell, Richmond, and white *Mezereon*, *Prinus triloba*, *Eurya latifolia variegata*, *Ivies*, *Berberis*, *Picea*



THE LATE CAPTAIN TORRENS.

L. a. sanderiana, and *L. a. Stella*, all having pure white sepals and petals, the lips being variously coloured. *Dendrobium wigauuianum*, several varieties of *D. nobile*, *D. Aspasia*, *D. Ainsworthii Colmanii*, *D. Cybele giganteum*, *D. Rainbow* and others, *Masdevallia courtauldiana*, and *M. tovarensis* were also very good. Silver Flora medal.

H. T. Pitt, Esq., Rosslyn Gardens, Stamford Hill, N. (gardener, Mr. F. W. Thurgood), showed a very varied group of Orchids, several pans of *Celogyne cristata*, *Cypripediums* of sorts, *Dendrobium atroviolaceum*, *Phaleopsis*, *Cattleyas*, *Maxillaria luteo-alba*, *Eulophia pulchra*, *Laelio-Cattleya Sunray*, *Bulbophyllum raufianum*, and others. Silver Flora medal.

Sir Trevor Lawrence, Bart., Burford, Dorking (Orchid grower, Mr. W. H. White), showed a small group of *Dendrobiums* well-flowered and of much beauty. Most conspicuous was *D. Wigauu xanthochilum* (which obtained a first-class certificate), *D. xanthocentrum pallens* (with orange blotched lip), *D. Juno*, *D. splendissimum grandiflorum*, *D. pallens*, *D. xanthocentrum*, and *D. chrysoideus* (the lip having a very dark crimson central blotch surrounded by orange-yellow) were also good. *Sophroneites rossiteriana* (with orange-yellow flowers), *Sophroneites Psyche* (the flower vermilion), *Laelio-Cattleya Sunray*, *L.-C. Adolphus*, and *L.-C. Mrs. M. Gratrix* (a large flower, rich ochre) were also included. Cultural commendations were given to *Epidendrum polybulbon* and *E. p. luteo-alba* A botanical certificate was granted to *Bulbophyllum Suavisimum*. Silver Flora medal.

Messrs. Charlesworth and Co., Heaton, Bradford, Yorkshire, showed *Miltonia bleuana*, *M. Warszewiczii*, *Cattleya Adonis superba* (*C. Mossia* × *C. gigas*), a lovely flower, with deep lilac coloured sepals and petals, and a rich purple fringed lip, *Laelio-Cattleya Sunray* (*L. cinnabarina* × *C. superba*), the lip an intense crimson; *L.-C. luminosa* (*L.*

THE GARDEN

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[FEBRUARY 21, 1903

ROSE EXHIBITIONS OF THE FUTURE.

WE have received an interesting letter about the Rose exhibitions of the future, and it is time societies in general mended their dull ways of repeating each year the methods of the preceding one until many a flower becomes wearisome and commonplace. A Rose exhibition should be beautiful and instructive. It should show those who are planting Roses in bountiful masses over pergola and in pleasure ground something of the effect certain varieties are likely to give in the garden. This is impossible from the methods adopted by committees of the present day.

The success of flower exhibitions in the future will depend upon good taste and a knowledge of what the general public requires. When the ways of a generation ago are forgotten we shall hear less of small or no balances and forsaken tents. The show of the Royal Horticultural Society in the grounds of Holland Park last year was almost perfect as a representation of British-grown flowers and plants beautifully grouped and displayed.

The show bloom, of course, must have its place. A prize flower of Maman Cochet, A. K. Williams, or whatever the variety may be, is in itself a thing of beauty, but to sacrifice the show to the big bloom is to bereft it of those features which appeal most strongly to the visitor who seeks to know the flowers most suitable for the border, bed, pergola, or fence. The classes for "garden Roses," for so long a feature of every Rose prize schedule, are insufficient. They teach little, and remind one too often of a nosegay in which the flora of a county is jammed into one unhappy and unwholesome-looking bunch.

As flower shows have enjoyed many years of public appreciation, it behoves those responsible for drawing up schedules to take heed of a widespread desire not only for greater taste in setting out the flowers, but for information about the varieties there displayed.

The report of the National Rose Society for last year is convincing proof of the need for reform. We are pleased to know that the subscribers have increased greatly. They are chiefly rosarians quite unconcerned about prize-winning, but simply eager to have Roses everywhere; they seek the show for new friends that will bring joy to their pleasure grounds and woodlands.

As all Rose schedules for the present year are compiled, we cannot look for any change this year, but we begin these articles in the hope that the subject so interesting to the vast majority of gardeners may be thoroughly discussed. We append the letter referred to.

"Signs are not wanting that we are on the eve of a new departure in Rose exhibitions, and in the opinion of all who have the interest of the Rose at heart anything that will tend to display it to the best advantage, and also to provide an interesting exhibition for the general public to view will be warmly welcomed. I quite agree with the remarks of your correspondent 'C. J. P.' in a recent issue of *THE GARDEN*. It is time the National Rose Society bestirred itself and catered for the public taste. And what is the public taste? Not the show bloom only. The great majority of visitors would much prefer to see a display of Roses of such kinds as they can grow themselves free from the artificial appearance of the overdressed show flower. Therefore, to fall in with popular taste the display classes should be in the majority instead of in the minority. And not only that, but provision should be made so that they may be viewed with comfort. To encourage the trade exhibitors to bring groups of Roses worthy of our country should be the aim of the National Rose Society. Hitherto it seems to have been their aim to exclude such groups, for the space allotted has been ridiculously inadequate. To carry out the decorative designs as they should be done the society must provide suitable decorative "greenery" in the shape of Palms, &c., and not only so but exhibitors should be enabled to prepare the day before the show. Only those who have had to do this work know the importance of preparing well in advance.

"It is a simple matter to place the flowers in water if the vessels are arranged previously; but the Rose is so fleeting a flower that it must be kept cool and under cover till the last possible moment. This day before preparation brings up the subject of place.

"A more miserable place than the Temple to hold a summer Rose show I cannot conceive. There are no beautiful cool retreats if the day be hot; nothing whatever for the visitors but to submit to the torture of stifling tents or glaring sun outside. One sighs for the days of the Crystal Palace again or of South Kensington. Surely other places are available besides these Temple Gardens! Why not Holland House or Regent's Park? The latter would be an ideal place. Let the various large firms put up a tent of their own in these grounds beneath the shade of trees. The wandering from one tent to another would alone be a delightful pastime for the visitors, to say nothing of the large tent where the boxes could be arranged. The small growers need not be alarmed that their exhibits would

pass unnoticed, for here in these capacious grounds room could be found for all. Obviously if a show of such dimensions could be arranged it would be a simple matter to extend it to two days. The great objection to a two days' show has hitherto been the unrepresentable appearance of the flowers on the second day, but the bad condition of the flowers has been caused more by the heat of the tents than anything else.

"I know it will be said that these displays do not encourage good cultivation. But if there is a modicum of truth in this (which I do not admit), I would rather encourage the more extended cultivation of this beautiful flower for the purposes of decorating the garden than solely for the show box. I love a show bloom as much as the most ardent exhibitor, but a handful of the exquisite Mme. Abel Chatenay appeals to me more than a perfect specimen of a Mildred Grant."

We believe entirely in the general remarks of our correspondent. Holland Park, it must not be forgotten, belongs to the Earl of Ilchester who has kindly allowed the use of the beautiful and restful grounds this year to the Royal Horticultural Society, and also that the Temple Gardens are central. The question of position is not, however, the object of this discussion. It is the show itself that is in need of reformation.

JAPANESE PLUMS.

So much interest was shown by those present at the annual meeting of the Horticultural Club recently in the Japanese Plums on the tables that we reproduce an article written by Mr. Watson in *THE GARDEN*, April 5, 1902, page 221, about these fruits. Mr. Watson kindly drew our attention to the fruits, of which we then gave an illustration and now reproduce. Mr. Pickstone, who formerly had control of Mr. Cecil Rhodes' fruit plantations, was present on that occasion and referred to the fruits. Their condition was due to perfect packing and cold storage. It seemed almost impossible to believe that fruits so fresh and good in colour, as if gathered the day before from a tree in an English orchard, could have matured in South Africa. At the March meeting of the club Mr. Pickstone has promised to read a paper upon commercial fruit growing at the Cape, a subject of much interest and importance.

"Fruits of these Plums are now to be seen in the fruiterers' shops. They are from South Africa, where a praiseworthy effort is being made to grow fruit for export to England and other European countries at a time when it should find ready acceptance. It is to be feared that the ridiculously high prices asked by dealers in this country for these Plums—from 6s. to 10s. per dozen—will throttle this effort of the enterprising cultivator

in South Africa, which really deserves every encouragement.

"Japanese Plums have been brought into notice by our American cousins, who grow them largely. Their history is told by Professor L. H. Bailey, of Ithaca, New York, in a *Bulletin* published in 1894 by the University of Ithaca, from which the following is taken:—

"In 1870 Mr. Hough, of Vacaville, California, secured several Plum trees from Japan through Mr. Bridges, a United States Consul in that country, at a cost of 10dols. each. These trees soon passed into the hands of the late John Kelsey, of Berkeley, California, who obtained the first ripe fruit in 1876 or 1877. Mr. Kelsey became convinced of the value of this Plum for general cultivation, and its propagation on an extensive scale was begun in 1883 by W. P. Hammon and Co., of Oakland, who afterwards named it in memory of Mr. Kelsey, and who made large sales in the planting season of 1884. Subsequently, other parties, particularly Luther Burbank, of Santa Rosa, California, made importations of Plum trees from Japan, and have disseminated the varieties widely. For the past four or five years these Plums have awakened more interest throughout the country than any other new or recent type of fruits; and it has been found, contrary to the early opinion, that many of them are adapted to the Northern States. Whilst they are often inferior in quality to the best garden Plums (*P. domestica*), they possess various desirable characteristics which the others do not, particularly great vigour and productiveness of tree, comparative freedom from disease, great beauty and long-keeping qualities, and the best of them compare well in quality with the common Plums."

"I had often heard of the merits of these new Plums from American horticulturists when visiting Kew, including Mr. Bailey, and, although I was assured by English fruit growers that they were of no value in this country, I included a chapter on them in the new edition of 'Thompson's Gardeners' Assistant,' vol. iv., page 162, with figures of four varieties and descriptions of thirteen. When they were first tried in the United States they were condemned on account of the tenderness of the tree and the poor quality of the fruit. It is clear that the evidence was insufficient, and, luckily, it was not considered conclusive. Probably we shall find the objections against them in this country equally unfounded.

"The fruits now offered for sale in this country have much to recommend them. They are large, handsome, distinct in form, and, although lacking the quality of a first-rate English Plum in September, it must be remembered that the fruit has undergone a long sea voyage and the numerous disadvantages attendant on a passage through the tropics for a fruit of this character. The reports from the United States are highly favourable. 'The best of them are nearly equal to the best of the European kinds'; 'they are less seriously attacked by insects and fungi than the common Plums are'; 'they have long-keeping qualities.'

"The origin of Japanese Plums appears to be from a Chinese species of *Prunus* named triflora, by Roxburgh, from a specimen found in Calcutta Gardens over seventy years ago. It is characterised by having three flower-buds at each node, whereas *P. domestica* has only one, rarely two. The fruit of the Japanese Plums is globular, or more often conical, and with a deep depression at the base and a very prominent suture, the flesh clinging to or free from the smooth or lightly pitted scarcely winged pit.

"The varieties recommended by Bailey are Abundance, Kelsey, Burbank, Chabot, Satsūma, Red June, Lutts, and Engre. They are catalogued by the leading fruit tree dealers in the United States."



THE KELSEY OR JAPANESE PLUM (NATURAL SIZE).
(The fruits created much interest at the annual meeting of the Horticultural Club recently.)

NOTES OF THE WEEK.

FORTHCOMING EVENTS.

February 24.—Meeting of the committees of the Royal Horticultural Society, Drill Hall, Buckingham Gate, S.W.

March 2.—Société Française d'Horticulture Meeting.

March 3.—Meeting of National Amateur Gardeners' Association.

March 9.—Annual General Meeting of the United Horticultural Benefit and Provident Society, Caledonian Hotel, Strand, at 8 p.m.

March 11.—East Anglian Horticultural Club Meeting.

Royal Horticultural Society.—Surplus funds.—An error occurs in THE GARDEN of last week, page 101. The surplus funds of the society amount to £16,000, not £1,600 as there mentioned.

The mild weather.—The mildness of the weather during the last fortnight has been remarkable. During this period, day and night, the temperature has not fallen below 45°. The result may well be imagined—fruit tree buds are swelling fast. As a matter of fact I notice one or two trees actually showing the young foliage. Roses are growing on apace, whilst shrubs generally, if the mild weather continues, will be a mass of greenery. The result will obviously be a failure of the fruit crop, as we are almost certain to experience sharp frosts during March. Although mild weather is welcomed by many, yet to the gardener and farmer sharp frosts and general cold weather for a time would surely have a better reception.—J. DENMAN, *Stroud, Gloucestershire.*

The mildness of the season is illustrated in a surpassingly beautiful manner in my garden, where an Almond is fast advancing to full flower. It is the only one I have, and the fact that it is sheltered no doubt accounts for its being a few days in advance of many in the surrounding neighbourhood.—H. W.

Visiting Mr. Ernest Mannington at Eaglesden, Benenden, Cranbrook, a week or so ago I saw decided evidences of the exceptional earliness of the season in the Black Currant quarters. Many of the plants had quite burst the upper buds—in

some cases the leaves were unfolding—and all the buds were nearly fully swelled up. This does not promise well for this season's crop, as late frosts of any severity are bound to do immense damage. By the way this is one of the few places in which of late years I have seen no traces of the dreaded big bud.—H.

Forthcoming fruit and vegetable show at Chiswick (September 29, 30, and October 1).—A desire has been expressed in several quarters that some idea of the vegetable schedule should be put forth at once. It will include classes for

a.	Single dishes of all sorts of vegetables.	
b.	Collection of vegetables (trade only) 100 sq. ft.	
	" " (amateurs) 50 "	
	" " " 24 "	
	" Pumpkins and Gourds (open) 50 "	
	" 18 vars. Potatoes (trade).	
	" 12 " " (amateurs).	
c.	3 dishes of Peas, distinct	"
	6 " Round Potatoes	"
	6 " Kidney "	"
	3 " " "	"
	3 " Round "	"
	4 " Tomatoes, distinct	"
	2 " " "	"
	9 vars. salad plants in basket	"

Royal Horticultural Society.—The next fruit and flower show of the above society will be held on Tuesday next in the Drill Hall, Buckingham Gate, Westminster, 1—4 p.m. A lecture "On the Use of Ether and Chloroform in the Forcing of Shrubs" will be given by M. Emile Lemoine. At a general meeting held on Tuesday, the 10th inst., eighty-two new Fellows were elected, amongst them being the Duke of Leeds, Viscountess Morpeth, Sir William Vincent, Bart., Sir Gilbert Greenall, Bart., Sir Harold Pelly, Bart., Lady Brownlow, Lady Evelyn Cotterell, and Lady Evelyn James, making a total of 220 elected since the beginning of the year. The society's annual examination in the principles and practice of horticulture will be held on Wednesday, April 22. Full particulars may be obtained by sending a stamped and directed envelope to the society's offices, 117, Victoria Street, London, S.W. The questions set at all the previous examinations are now published, price 1s. complete.

A pretty picture.—During a sunny afternoon recently at Kew a very pretty picture arrested my attention. It was a tree some 12 feet to 15 feet high of the Washington Thorn (*Crataegus cordata*), profusely laden with its small but bright red berries, which from my standpoint had as a background a tree of the Stone Pine (*Pinus Pinea*). From the dense head of the Pine the neighbouring Thorn stood out like a bright red cloud, particularly when lit up by the declining rays of the sun. The Washington Thorn is one of those species of *Crataegus* that might be more often planted than it is, as it is neat and distinct, while it is the last of the Thorns to flower, the period of blooming often extending well into July, added to which the berries are freely borne, and when ripe are brighter in colour than those of most species. The smooth glossy green leaves are, as suggested by the name, somewhat heart-shaped, but are cut up at the margins. This Thorn was introduced in 1738 from the United States, but is said to be less common there than it was formerly.

Azalea obtusa.—Botanically this is a form of *Azalea indica*, or, to be correct, *Rhododendron indicum*, for all the plants known in gardens as *Azaleas* are now included in the genus *Rhododendron*. To the lover of huge flowers this has little to commend it, for the flowers of the *Azalea* are comparatively small, but it forms naturally a sturdy freely branched bush. In size they are larger than those of the well known *Azalea amena*, but not much, while the colour is a bright salmon-red. There is a variety *alba* in which the flowers are white, though the majority of them are this, for there is generally a tendency to revert to the normal form, as is shown by the occasional production of red or parti-coloured flowers. In a warm greenhouse *A. obtusa* may be had in flower by Christmas or soon after, this being a point in its favour, as very few forms of *A. indica* will bloom so soon unless they are severely forced. The half ripened shoots of *A. obtusa* strike root readily if taken as cuttings, inserted in well-drained pots of sandy peat, and placed in a close propagating case in an intermediate temperature. By this means neat little bushes can be obtained, which are far more pleasing than if grafted on a naked stem, in which fashion our Belgian friends are so fond of treating all *Azaleas*. As illustrating this I have seen the pretty little spreading *Azalea balsamiflora* from the continent mounted up in this manner, and its individuality completely destroyed.—T.

Tabernamontana coronaria flore-pleno.—Though some publications give summer as the natural flowering period of this *Tabernamontana*, it is not limited to that season, for some examples of it are now blooming freely, and are much appreciated. It is a fairly well-known stove shrub, bearing a considerable resemblance to a *Gardenia*, while the flowers are much like those of a double-flowered *Nerium* or *Oleander*; indeed, the single form has been known as *Nerium coronarium*. This was introduced in 1770 from India, of which region it is supposed to be a native; at all events, it is generally cultivated there. Both the single and double-flowered forms are well worth growing, and when in good condition the deep green shining leaves serve admirably as a setting to the white blossoms. When once large specimens are established in good-sized pots they will remain in condition for years without repotting, provided they are given weak liquid manure and soot water during the growing season. Though usually regarded as a stove plant, this *Tabernamontana* will flourish in an intermediate temperature, and if planted out it will make considerable growth and yield a corresponding number of flowers. Mealy bug delights in this *Tabernamontana*, hence every care must be taken to prevent the pests gaining possession of the plants.

Senecio grandifolius.—The *Senecio* genus is an extremely variable one, for among the many species that it contains are small weeds, showy greenhouse plants (some of which are quite succulent), free-growing climbers, and sturdy, almost tree-like kinds. To this latter section belongs that at the head of this note, which will reach a height of 10 feet to 12 feet, with the lower

portion of the stout stem quite woody in texture. The leaves from whence the specific name of *grandifolius* is derived are oblong, and in vigorous examples over a foot in length. The plant is from this point of view alone well worth growing, but it also possesses another claim to our notice, for the upper portion branches out and each branch bears a large, flattened, closely-packed corymb of yellow blossoms. These corymbs are as a rule borne closely together, so that the whole forms one large, terminal head. As the earlier blossoms often commence to expand before Christmas and a succession is kept up till spring is well advanced, its flowering period is by no means a limited one. By curtailing its rooting space this *Senecio* may be flowered when from 3 feet to 4 feet high, but it then lacks the dignity of a full-grown specimen. For many years it has at this season formed an attractive feature at Kew, both in the temperate house and in No. 4 greenhouse, but elsewhere it is rarely seen. A native of Mexico, it needs the protection of a greenhouse in this country. Beside the specific name of *grandifolius* it is also known as *Senecio* (*ghiesbreghtii*).—H. P.

A note from Worcestershire.—Despite the fact that Wm. Howitt, in his "Book of the Seasons" depicts this month as "the most cheerless in the year," in a mild season such as this it is full of interest to anyone who grows (and who does not?) the early flowers which are the harbingers of spring. Since January 17 we have had no frost worth speaking of, and now each day fresh heralds arrive to announce Nature's reanimation. *Corydalis kolpakowskyana*, *Narcissus minimus*, and *N. obvallaris* made their first appearance above ground the first day of the new year. The *Corydalis* was in bloom by January 25, and amongst others were the noble *Galanthus Imperati Atkinsii*, *Cyclamen Coum*, blue *Primroses*, and *Daphne Mezereum* and its variety *album*. To-day (February 6) *Saxifraga burseriana major* is covered with opening buds, and the new *Saxifraga Griesbachii*, which promises to be a great addition to the early-flowering *Saxifragas*, is sending up two spikes of bloom and should be in beauty by the end of the month. One of the most beautiful hardy flowers now in bloom is *Anemone (Hepatica) angulosa atro-cerulea*, raised some years ago by Mr. Wm. Horsman, who is in charge of Messrs. R. Smith and Co.'s extensive collection of hardy plants. The flowers (of which I send a few) are a rich purple-blue, considerably darker than those of *Angulosa*, and also much larger, while it differs still further by the leaflets just under the flower being brown, and the stamens darker and bolder. We have planted thousands of *Snowdrops* beneath Beech and other deciduous trees, and they are now very beautiful.—ARTHUR R. GOODWIN, *Kidderminster*. [The *Hepatica* sent (*atro-cerulea*) has flowers of intense blue, a very beautiful flower.—En.]

"Indian Planting and Gardening."—This flourishing journal, published at Calcutta, and devoted to the interests of economic plants and ornamental gardening, has appeared in a new form, in which the gardening is prefaced by the planting section. The title of the journal is now as above, previously it was "Indian Gardening and Planting." Although the position of the horticultural matter has been changed, this is not less than usual, neither has it lost in interest.

Flowers from France.—During the past few days tremendous quantities of these have been arriving, and considering that there is a good supply of English cut flowers they have been making very fair prices. Two thousand baskets reached Charing Cross on the 9th inst., the largest consignment ever known. The demand for cut flowers for table and room decoration has increased by leaps and bounds in London and the large English towns. Our own growers can to a great extent meet this demand during the summer and autumn, but during the often too sunless winter and hither early spring they can but partially do so. At the present time there are nearly 9,000 flower farmers in the Department of the Alpes Maritimes, and the capital invested is estimated at upwards of £2,000,000 sterling. During the busy season from 2,000 to 2,600 baskets

a day are despatched, weighing from about 100 to 130 tons. Paris alone receives 25,000,000 Rose blooms yearly from the Riviera, and from 70,000,000 to 80,000,000 Carnations. Violets are not so easily reckoned, a bunch of the large, highly-scented *Parma* Violets containing fewer individual blooms than one of the smaller varieties. But if we take only 25 as an average number in each market bunch, it would give the total of 2,000,000,000 blooms every season.

A prize for garden Cactus Dahlias.—At a recent meeting of the committee of the National Dahlia Society Mr. A. Dean complained that without asking for permission, his usual prize of 10s. 6d. had been inserted in the schedule as last year. He did not intend to give it, for his regard for Cactus Dahlias as show flowers was much less than was his interest in them as garden flowers. For that reason he proposed to offer the amount as a special prize for the variety of Cactus Dahlia grown for trial at Chiswick this year, which was declared by the committee of inspection to be the best for garden decoration. It is well to draw attention here with regard to this trial that only varieties sent out during the past five years will be received, and only two plants of each variety.

Horticulture at the St. Louis, U.S.A. Exhibition, 1904.—There will be a splendid conservatory for the reception of exotic and other decorative, ornamental, and useful plants, including those of the greatest size. This will constitute a portion of the home of horticulture, which is to cost about £41,500. The frontage is arranged for 800 feet, and the depth will be 400 feet. The aim is to make in this palace of fruit, foliage, and flowers a complete display of the gardening world. The exhibit is open to appliances and methods of pomology, viticulture, floriculture, and arboriculture; and in addition to tools of every description for gardeners and nurserymen, this includes greenhouses, aquariums, garden architecture, plans, models, pictures, and literature dealing with the subject. As to the vine, it is such an important branch of horticulture that the idea is to make viticulture a separate group. For historical and decorative purposes the schedule includes casts and models of fruits in wax and plaster. Arrangements have been made for a display of ornamental standard trees and shrubs, plants for the park or garden, herbaceous plants, such as Dahlias, *Chrysanthemums*, mosses, and baskets of flowers. Further, it is part of the plan to show the working results of forced culture, including specimens from as many different countries as possible, of forced vegetables and fruit, varieties of plants, cultivated for ornamental purposes, plants for houses of moderate and extreme temperatures. Seeds and plants for gardens and nurseries are included—*i.e.*, collections of vegetable seeds and young trees, whether seedlings or grafted. Another group in the department will be devoted to ornamental trees and shrubs, fruit trees, the vine, and small fruits, while, with the idea of presenting the full scope of the profession of gardening, methods of propagating, planting, training, and pruning, as in use for any member of the species, will form a part.

Giant Snapdragons.—Those who have only contented themselves with naturalising the common forms of *Antirrhinum* in odd nooks and corners, or grown the so-called dwarf bedding type, have no conception of the splendid display that may be made by massing varieties of *Antirrhinum majus* (the giant Snapdragon). I was prepared for some good results when starting their culture, but the growth made far exceeded my expectations. Many of the first spikes were nearly 6 feet in height, and these being promptly removed with the first appearance of seed there was a second display almost equal to the first. Plants can be purchased if this is deemed advisable, but quite as good results are obtainable from seed if the latter is purchased from a firm making a speciality of hardy flowers. Named varieties with a description of colour are available, and 90 per cent. of the seedlings come true. Sow in June in boxes, and as soon as the seedlings can be handled prick out

in frames in soil that should be rather heavy to ensure short stocky growth. Keep through the winter in frames and plant in spring in prepared beds. I write prepared advisedly, because although any sort of soil may do for the common Snapdragon, this is not applicable to the forms under notice. I should recommend bastard trenching and a liberal addition from a heap of stiff road sidings. Two things are imperative in the after culture, viz., the early removal of the first spike to ensure the second display, and also staking to prevent the breaking down of spikes; these are brittle, and without support will be snapped off with the first high wind.—E. BURRELL, *Claremont Gardens, Esher.*

TREES AND SHRUBS FOR BRITISH GARDENS.

THE BARBERRIES.

(Continued from page 95.)

B. WALLICHIANA.

AMONG dwarf evergreens this Barberry deserves a high place. It is quite hardy and flowers freely, yet it is by no means commonly used. Originally discovered by Dr. Wallich in Nepal, it was introduced in the late "forties" by Sir Joseph Hooker, also by Thomas Lobb for Messrs. Veitch. It grows from 3 feet to 5 feet high in this country, but is said to become twice as high as that in the Himalaya. It produces a dense thicket of erect shoots, which branch towards the top and bear an abundance of very dark green leaves of lanceolate outline and armed with slender teeth. In one form of the species the leaves are of a striking glaucous white beneath. The flowers, of a pale but bright yellow, are produced singly on the stalks, but a cluster of them proceeds from each tuft of leaves. The fruit is narrow, long, and black.

Var. latifolia.—This has long been in cultivation, but has been figuring for some time

as a new plant under the name of *Berberis Knightii*. It differs from the ordinary *B. wallichiana* in being of taller, more robust habit (it is 5 feet high at Kew) and in having larger leaves.

Var. microcarpa is a smaller-fruited form from the Khasia Hills. Where a dwarf hardy evergreen is needed that will not require pruning to keep it dwarf, planters might give this species a trial. It can easily be increased by seed, also by division.

II.—DECIDUOUS SPECIES.

B. ACTINACANTHA.

In foliage this species is very distinct. Its leaves vary in shape, some being roundish ovate, others somewhat heart-shaped; they also vary in size from a quarter of an inch to 1½ inches in length. They are borne in rosettes along the branches, each rosette springing from a five-lobed spine. As was remarked in the introductory part of this paper, the spines on Barberries are really modified leaves. *B. actinacantha* proves this, for the spines, on young plants especially, often revert to a semi- or wholly-leafy state, and become palmate leaves. It is this character that gives the species so distinct an aspect among garden Barberries. The shrub grows about 3 feet or 4 feet high, and bears its flowers singly on the stalks, a cluster of which springs from each leaf-rosette. They are deep yellow, and have a sweet fragrance. The species is common in a wild state, and has often been introduced from the mountains of Chili. Still it remains rare. It first flowered in the Chiswick Gardens in 1845.

B. ÆTENSIS.

This seems to be no more than a mountain form of *B. vulgaris*. In habit it is dwarf and stunted, and grows about 2 feet high. The leaves are often very small, quarter of an inch to half an inch long, and the flowers are in dense racemes 1 inch to 2 inches in length. The fruit is red, and also small, but in other respects resembles that of *B. vulgaris*. This shrub,

which flowers in May, and is then very pretty, is suitable for a rock garden.

B. ANGULOSA.

Although discovered early in the last century in Kumaon, and afterwards by Sir Joseph Hooker during his Himalayan travels between fifty and sixty years ago, this distinct Barberry has never become common. It is, however, perfectly hardy, and thrives very well indeed at Kew. It is a dense but graceful bush, 3 feet to 5 feet high, very luxuriantly furnished with dark green leaves borne in clusters at each joint on the stem, which is armed with three or five-branched spines. The leaf is 1 inch to 1½ inches long, and obovate. The flowers are produced one (or, very rarely, two) on each stalk, and, for a Barberry, are large—half an inch to two-thirds of an inch in diameter—and of a pale golden-yellow. The species is ornamental in autumn both for its large berries, which are scarlet, and for its foliage, which dies off in rich yellow and red shades.

B. ARISTATA.

On the whole this is, I consider, the most useful of all the Himalayan Barberries. A strong and very robust grower, it is not very particular as to soil or position, and is perfectly hardy. It is an excellent shrub for establishing as an isolated specimen on a lawn. Growing 8 feet or more high and sending out its long shoots in an arching manner, the lower ones touching the ground, it ultimately forms a large, somewhat hemispherical mass 15 feet across. It is deciduous, but young vigorous plants, or young sucker growths, will retain the foliage through the winter. It is a variable plant, and possibly more than one species are grown under the name. The following is a description of the common form, and what may be regarded as typical: Leaf 1½ inches to 4 inches long (various sizes being borne in each cluster), and varying in outline from oblong to obovate; the margins are toothed, and each leaf cluster is guarded by a single or triple spine. Flowers bright yellow, and loosely borne on the terminal part of the pendent branching racemes. These racemes are frequently 5 inches or 6 inches long, and very bountifully produced. The species flowers in the latter half of May, and will then hold its own with almost any of the numerous shrubs in flower. The fruits are very free and handsome, being covered with a blue-white bloom. The bark of the young branches is grey.

Var. floribunda is recognised by botanists, being distinguished by its smaller leaves and longer-stalked flowers.

Var. integrifolia is the name given to a form whose leaves are without teeth.

B. CANADENSIS (AMERICAN BAR-BERRY).

There are only two species of the true Barberries found in North America; the rest belong to the Mahonia group. *B. canadensis* is one, *B. Fendleri* from the Rocky Mountains the other. In spite of its name, however, *B. canadensis* is not Canadian; it is confined to the Alleghany Mountains, and commonly inhabits the banks of mountain streams from Virginia southwards. As an ornamental shrub it is, perhaps, scarcely so handsome as *B. vulgaris*, which it much resembles. It is, in fact, the



A JAPAN VINE (*VITIS THUNBERGII*) AT NARROW WATER, COUNTY DOWN.

American representative of the vulgaris section, and differs from the common Barberry in the following points: The flowers are smaller, and are borne in more corymb-like racemes; the fruit is shorter, almost globose.

Except as a shrub of geographical interest, *B. canadensis* need not be grown. It is, of course, very pretty, but *B. vulgaris* may be said to fulfil better all the purposes to which it may be put.

B. CONCINNA.

Of the Himalayan Barberries this is the dwarfest; it is also one of the most distinct, because of the intense blue-white colour of the under surface of its leaves. It is a bush of neat habit, 2 feet to 3 feet high, its leaves being half an inch to three-quarters of an inch long, obovate, and armed with (proportionately) long, spiny teeth; the upper surface is deep green, and, when a branch is inverted, surprisingly in contrast with the vividly glaucous under surface. A slender, three-parted spine guards the base of each leaf-cluster. The flowers are deep yellow, solitary (or sometimes in pairs), on slender, thread-like stalks over 1 inch long. The fruits are half an inch long, and bright red. This distinct and pretty little shrub is not common in gardens. It is a native of the Sikkim Himalaya at 12,000 feet to 13,000 feet altitude, often in company with *B. angulosa*.

B. CRETICA.

This is a low, sometimes prostrate shrub, found on the mountains of Crete and other islands of the Mediterranean Sea. It is probably a close ally of *B. vulgaris*, but smaller in all its parts. The largest of its leaves are about the size of those of the common Box; the leaf clusters are closely set on the branches, and as each cluster is guarded by a strong triple spine the plant is rather formidably armed. The flowers are borne in a short, few-flowered raceme. The species is perhaps best suited for the rock garden, being a densely-branched scrubby bush. It has been in cultivation in England for about 150 years, but the true plant is rare.

B. DIAPHANA.

Of this new and rare Barberry not much is known in this country. There is a plant 4 feet or 5 feet high at Kew, but it has not yet flowered. It is a native of North-West China, where it grows 10 feet high. Its leaves are obovate, variable in size, the largest $1\frac{1}{2}$ inches to 2 inches long. Each leaf cluster is guarded by a triple spine, the branches of which are frequently 1 inch to $1\frac{1}{2}$ inches long, and being of a pale reddish brown form quite a feature at this season when the plant is leafless. The flowers are borne singly, or rarely in pairs, on their stalks. The berry appears to be the most noteworthy part of the plant; it is of oval or ovate form with the apex twisted over, and of a beautiful pellucid, opal-like colour. It is to this transparent character that the name *diaphana* refers.

B. DICTYOPHYLLA.

One of the numerous plants introduced from Yunnan in recent years, this is also the newest of garden Barberries. It has flowered at Kew twice, and promises to be a useful addition to hardy shrubs. It was discovered in Yunnan in 1886 by the Abbé Delavay, reaching culti-



THE ROCK GARDEN AT NARROW WATER, WARRENPOINT, COUNTY DOWN, IRELAND.

vation by way of France. Its most distinctive characters are its long, slender, arching branches, and its small leaves very glaucous white on the under surface. It flowers early in May, producing its blossoms singly or in pairs from the centre of a rosette of leaves; as these rosettes occur at intervals of less than half an inch, the bush then makes a very pretty display. The flowers are yellow, but of a paler shade than is found in, perhaps, any other cultivated Barberry. The leaves average half an inch in length, are stalkless, obovate, and armed with four or five spiny teeth. Each rosette of leaves springs from the axil of a triple spine. The berries are roundish and bright red. The plant at Kew—the first introduced to this country—is at present 3 feet high, but, growing quickly, promises to become ultimately at least twice as high. Among the older Barberries the nearest ally to this is the Himalayan *B. angulosa*, already described, but I think the Yunnan plant superior.

B. FENDLERI.

As has already been remarked under *B. canadensis*, this is one of the two species that represent the true Barberries in North America so far as is known at present. It is a native of New Mexico and has only been collected in the mountains near Santa Fé. It is rare even there. It was figured in *Garden and Forest* in 1888, where it is described as having shining green leaves; stems and branches purplish and shining as if varnished; flowers borne in racemes 1 inch to 2 inches long, and as large as those of *B. vulgaris*.

B. HETEROPHYLLA.

Of this curious and rare Barberry there is a good specimen at Kew about 3 feet high, which is almost as high as it gets to be. Its leaves are of two kinds, some being rounded at the apex and without teeth on the margins, whilst others end in a sharp point and are like little Holly leaves in shape and tootling. They vary also in size, but the largest ones are under $1\frac{1}{2}$ inches in length. From the base of each

leaf comes a single flower of a yellowish orange colour, and with the sepal and petals so incurved as to make each flower a little ball. The plant was discovered by Commerson in the Straits of Magellan, and is also found in other parts of Patagonia and Chili. Its Holly-like leaves give it a resemblance to *B. ilicifolia*, also from the Straits of Magellan, but this latter is easily distinguished from *B. heterophylla* by bearing its flowers in racemes.

Kew.

W. J. BEAN.

(To be continued.)

AN IRISH GARDEN.

NARROW WATER, WARRENPOINT, COUNTY DOWN, IRELAND.

SEND you some photographs which were taken in the gardens here last September, some of which I hope you will be able to reproduce in THE GARDEN. The rock garden was begun in 1883, and has been added to considerably from time to time since. The *Dracenas* (*Cordyline australis*) ripen seed nearly every year, from which any number of young plants have been grown. The height of the *Dracena* on page 128 is 26 feet.

There are also two fine specimens of *Chamærops Fortunei*, which have been planted out for many years, and have proved perfectly hardy here; they are each about 12 feet high, with leaves to the ground. The *Gunnera manicata* was planted from a 7-inch pot in March, 1885. Its measurements last summer were: Height 13 feet 6 inches, circumference 85 feet, and one leaf that I measured was 11 feet across. It is the same plant of which there is an engraving in "The English Flower Garden," but it is very much larger now than it was at the time Mr. Robinson's photograph was taken. *Vitis Thunbergii* is a fine plant, too; besides covering a part of the garden wall, it



ASPIDIUM (POLYSTICHUM) MUNITUM AT NARROW WATER.

has spread into a 'Portugal' Laurel as well, against the dark foliage of which its brilliant leaves look lovely in the autumn. I have the Beech Fern (*Polypodium Phegopteris*) on a bank; the mass is about 6 feet square. I have also a fine specimen of the American Holly Fern (*Polystichum munitum*), which I am very proud of. I had it measured recently, there are 189 fronds; the plant is 4 feet 9 inches high and 9 feet through. *Woodwardia radicans* and *Dicksonia antarctica* are both hardy here.

R. HALL.

Narrow Water, County Down, Ireland.

THE ROSE GARDEN.

A BRILLIANT PILLAR ROSE.

WITH so many Rambler Roses available one is apt to overlook the merits of older varieties. There is one especially that I think should be preserved, and that is the Hybrid Chinese *Fulgens*. It does not, of course, compare with *Crimson Rambler*, but its brilliant crimson flowers are very lovely, and are endowed with that neat cupped form peculiar to a number of these old Roses. Its fine willowy growth and glistening foliage of a rich colour when in the young state makes this Rose an ideal one for pillars. The variety is one of the hardiest we possess, and should be more frequently planted in smoky and crowded districts.

FAST-GROWING ROSES FOR ARCHES AND PILLARS.

A SERIES of Rose arches spanning a broad walk or running parallel with it seems to me a more worthy method of displaying many of the beautiful fast-growing varieties than when such are planted to run upon a pergola roof. As Miss Jekyll well remarked in her lecture upon pergolas,

Roses can obtain plenty of air and light and clamber more conveniently when trained as pillars or arches if the continuous pergola is modified by erecting a series of arches instead. Such an arrangement is surely more in harmony with the modern Rose garden. The Ayrshire and evergreen Roses are never more beautiful than when drooping over in a veritable tangle of blossom some pillar, arch, or bower. We all know what may be accomplished with the delightful *Félicité Perpétue* when thus apparently neglected, but there are many others of the same tribe if not quite as beautiful, yet are as well worthy of being planted. To name a few there is the delicate tinted *Alice Gray*, the snowy white *Bennett's Seedling*, the almost Tea-like *Queen of the Belgians* (whose slender growths and pretty foliage contrast so well with the flowers), the blush-white *Ruga*, or the expansive and profusely flowered *Virginian Rambler*, which to my mind is one of the prettiest. Then there is vigorous *Flora*, with its neat little blossoms most beautifully fashioned, and *Myriantbes Renoncule*, too good to omit. All these are really fast-growing, and should be given rather lofty or wide arches. It is a matter of individual taste whether two kinds are planted on one arch. My own inclination is for one only, unless it were to plant an autumn-flowering variety with a summer one, in which case good contrasts should be selected. It would be a good plan to plant a moderate grower that blossoms freely to clothe the base of these arches—for instance, *Griess* an *Teplitz*, *Gloire des Rosomanes*, *Bardou Job*, *Laurette Messimy*, *Armosa*, *Sombreuil*, &c., which would make these arches more interesting in autumn.

Of the Multiflora or Rambler Roses planters have a rich selection to choose from, and it looks as though the variety would soon exceed the opportunities available whereby they can be utilised. These Multiflora Roses possess one great advantage over other classes, and that is the wonderful persistence with which the flowers remain upon the plant. I am sanguine enough to believe that a race of autumn-blooming Multifloras will be an accomplished fact before long. Already there is a *Perpetual Thalia*, and it is commended as being a good acquisition. The want of a perpetual character to the Rambling

Roses has been rather a disadvantage, because flowerless arches are not very picturesque. Already planters are promised an improvement upon *Crimson Rambler* in the American novelty *Philadelphia Rambler*, but some of these American novelties have an unhappy propensity of turning out identical with kinds already in commerce, although I am bound to say that in *Dorothy Perkins* we have a gem among fast-growing Roses. I quite expect to see this Rose in as great demand as *Crimson Rambler*, as the soft colour must tend to relieve the latter of a garish hue so inseparable from the variety.

A very charming variety of the Multiflora group is *Waltham Rambler*. It has been well shown, and its large but elegant trusses of Apple blossom-like flowers, combined with great vigour of growth, will be welcomed by all who desire to obtain quick effects from their Rambler Roses. For a very lofty arch, or for a position where a dense mass of growth is desired, *Aglaia* is the one best suited from the pale or nearly white varieties of *R. multiflora*. For an ordinary arch or pillar I should prefer *Electra*, as it is freer in blooming. No matter how this Rose is grown, whether upright or running over the ground, it is a delightful object, and has the merit of flowering on the one year old wood which cannot be said of *Aglaia*.

What a splendid arch Rose is *Claire Jacquier* if given a little shelter from cutting winds. It quickly forms a veritable bower. I would strongly recommend this Rose for a sheltered garden. There are other good Ramblers, such as *Queen Alexandra*, *Psyche*, *Helene*, *Reine Olga de Wurtemberg*, *Mme. A. Carrière*, &c., all of which deserve to be planted, if not on arches then as towering pillars.

I am not sure that we have exhausted all the means whereby we may display these fast-growing Roses to the best advantage. Those who have had to do with this class of Rose know how desirable it is to have a durable support for them, and were it not for the temporary unsightliness whilst the plants were growing I should advocate brick pillars, say about 6 feet to 7 feet high. When the Roses had reached the top, just allow them to grow in their own way, and there would be a delightful column of blossom, all too fleeting perhaps, but very beautiful whilst it lasted. In a modified form old tree stumps answer the purpose. I always admire the pretty arrangement that is made at Kew with the *Dawson Rose*; the roots are in good soil and the growths run in and out of some large tree stumps. What interesting objects would be the newer *Wichuriana* Roses planted after this fashion. It is absurd to restrict them to the procumbent habit of the type when they are so eminently suited for more artistic arrangement.

With all these fast-growing Roses the more their long and slender growths are allowed to droop naturally after reaching a certain height the more artistic will be the effect when in bloom, and we are much indebted to Miss Jekyll for popularising what she has happily termed the "Fountain Roses," a habit of growth strictly in accordance with Nature. Perhaps I might say a word or two as to the treatment of these fast-growing Roses after planting. Doubtless the best plan is to cut them back rather severely the first season. This applies more especially to plants from the open ground. When those fine long pot-grown plants with shoots 6 feet to 10 feet long are planted in spring their growths may be retained their entire length, and of course some bloom will be obtained, although meagre compared to their future beauty.

PHILOMEL.

NOTES FROM BADEN-BADEN.

Crocus Atticus purple to white, and *Crocus Alexandri* are now very pretty; the latter is pure white, streaked, flushed, and painted violet on the outside.

The free-flowering variety *Iris bakeriana* Norma is in full beauty; the flowers are larger, deeper, and brighter in colour than those of the type. The white variety of *Iris histrioides* has been as beautiful as before, but it increases very slowly.

Has any one ever seen *Lilium speciosum* roseum? It appears that this variety has entirely disappeared. I saw it in 1842, and was struck with its wonderful uniform rose colour about the same as in *L. rubellum*.

Most seeds of *Lilium* when sown in autumn after they are ripe germinate the next spring or summer; with *L. polyphyllum* I found that seed will remain dormant for eighteen months.

In THE GARDEN of the 10th ult. there is a description of *Thalictrum orientale* which is not quite correct. It is a very small species, only about 3 inches to 4 inches high, with elegant adiantum-like foliage and comparatively large purplish rose flowers; it always has been and still is a very rare plant.

Baden-Baden.

MAX LEICHTLIN.

CHRYSANTHEMUMS.

THE MOST PROMISING NOVELTIES OF 1902.

FOR the introduction of a large number of good novelties, and those chiefly in the Japanese section, the past season cannot be regarded as a remarkable one. The National Chrysanthemum Society's floral committee has adopted a new method of awarding its certificates, and any novelty thus honoured may be regarded as a good addition.

Every grower who is an exhibitor knows full well the importance of acquiring the best and most promising novelties as they come along, if leading prizes are to be won in the succeeding flowering season. The varieties described below have points of merit quite new in many respects, and each one has come under my own observation. In all cases where the letters "F.C.C., N.C.S." are mentioned they denote the fact that a first-class certificate of the National Chrysanthemum Society has been awarded to the variety under notice; "A.M., R.H.S.," denotes an award of merit of the Royal Horticultural Society.

JAPANESE VARIETIES.

George Penford.—One of the best novelties of the past season. The flowers are very large, both deep and broad, having long and broad strap-like florets of splendid substance. The florets curl prettily at the ends, sometimes revealing the rich golden reverse, which, contrasted with the deep crimson colouring of the flower, considerably enhances its beauty. When finished the flower is a weighty one for exhibition. F.C.C., N.C.S., October 27, 1902.

George Milham.—This is a large spreading flower of considerable promise, and will assist materially in enriching the displays in succeeding years. The florets, which are fairly broad, are also long and gracefully reflexed; they are also slightly curled and incurved at the ends, in this way revealing the pale bronze reverse. The colour is a rich and deep shade of rosy crimson. This plant has the reputation of being easily grown. F.C.C., N.C.S., November 17, 1902.

F. S. Vallis.—A Continental introduction of high quality. In some stages of growth the flowers remind one of G. J. Warren (the yellow *Mme. Carnot*), and this opinion was freely expressed. As the season advanced, however, the flower proved entirely distinct from all others;

the colour is a lovely soft sulphur-yellow, with long, narrow, drooping florets, building a bloom of reflexed Japanese form, and of exceptionally neat and even finish. A.M., R.H.S., November 18, 1902.

Miss Mildred Ware.—This is a Lady Hanham-coloured seedling from the popular Japanese variety *Mme. Carnot*, but, unlike the parent plant, of easy culture. Grown in the orthodox manner, or on single stems in 6-inch or 7-inch pots, it is a great success. The flowers are very large, with long reflexing and drooping florets of medium width, and with a pale golden reverse. There is little doubt the blooms of this variety will oust many old and popular exhibition sorts. F.C.C., N.C.S., October 27, 1902.

Miss Olive Miller.—When I saw this beautiful flower in the raiser's garden its superb finish and pleasing colour greatly impressed me. The colour is a distinct shade of pale rosy pink on a silvery white ground. Florets long and fairly broad, grooved and curling, and incurving at the ends, making a very full and deep flower. Later buds develop flowers of richer colour. Cuttings inserted in January gave excellent results from a natural break and first crown bud selection. Nine-inch pot; height, 4 feet. The plant will carry five good blooms. F.C.C., N.C.S., October 27, 1902.

Henry Perkins.—This is a very large flower, with exceptionally long and broad florets, which reflex and build up a flower of great breadth and depth. I have seen flowers of this variety measuring over 13 inches broad and 8 inches deep. First crown buds develop blooms of a reddish crimson colour on a deep yellow ground, and with a golden-bronze reverse. A second crown bud selection produces flowers of a rich crimson colour. Certificated in the provinces.

Mme. Paoli Raduelli.—This superb example of the incurved Japanese type, though not absolutely new, has been so well and also so consistently exhibited, and on each occasion in first-rate condition, that its Continental raiser may be justly proud of its origin. For its size, both in depth and breadth, without being in the least coarse, it is invaluable for exhibition. The florets are very long and fairly broad, neatly curling and incurving at the ends. Colour, pale rosy blush, tinted yellow in the centre. F.C.C., N.C.S., October 20, 1902.

Viscountess Cranbourne.—One of the most distinct Japanese blooms, having fairly long and broad florets of good substance twisting and intermingling

very prettily, and building an exhibition bloom of good size. The colour is one of its best features, and this may be described as absolutely the best rich canary-yellow flower of its kind. At the great November show of the National Chrysanthemum Society it scored many successes. The blooms are quite self-coloured.

Beauty of Leigh.—This is an immense incurved Japanese, developing flowers of wonderful depth and breadth, also of splendid substance. The florets are broad, and, as the bloom finishes, those in the centre reflex, revealing the rich canary-yellow colour. The reverse is a paler shade of the same colour. F.C.C., N.C.S., December 2, 1902.

Mr. T. W. Pockett.—A deep canary-yellow flower of even form, and one of the largest and best of the newer introductions. Florets long and rather narrow, neatly reflexing and building a bloom of drooping form and of great depth. A.M., R.H.S.

D. B. CRANE.

(To be continued.)

NOTES ON HARDY PLANTS

CROCUS HYEMALIS.

NOW that the winter-flowering *Crocus hyemalis* is procurable in quantity at a more moderate price than was the case a short time ago, a much greater use might be made of it than hitherto, either in the rock garden, the alpine house, or the cold frame. It is, of course, a small-sized *Crocus*, and there are some who prefer a brighter coloured flower, for its little blossoms are white, and do not make a bright patch of colour on a sunny day when a sprinkling of snow still lies on the ground. Yet these same flowers are very charming, either when open or in the bud stage among the grassy leaves which appear with the flowers.

More than once the flowers here have never opened, and have been so much injured by the wet seasons that they became like dirty white tissue paper. This would point to the desirability of protecting the flowers with a bell-glass or something of the kind, or of flowering this *Crocus* in a house or frame. This is not always convenient, and when grown in the open one prefers to have such things without covering. Last autumn I



GUNNERA MANICATA AT NARROW WATER, COUNTY DOWN.

succeeded in securing corns from a new quarter to me, and the flowers from this stock have proved to have more resisting properties than any I have had before. This is a decided gain, and a clump was in flower nearly all through January.

It appears rather singular that all the plants of *Crocus hyemalis* which are in cultivation in Great Britain and Ireland of which I have heard have the black anthers which Mr. Maw, in his "Monograph of the Genus *Crocus*," speaks of as being the distinguishing feature of the variety *Foxii*, though they have not the colouring on the exterior of the outer segments shown in the illustration of this variety in Maw's plate (No. xliii.). Were it not that that authority describes the anthers of the typical plant as orange, and gives a coloured illustration showing this colour, one might have concluded that all the plants of *C. hyemalis* had black anthers. These black anthers add greatly to the beauty of the flower when open, and, along with the fine brass wire-like divisions of the style, make a pleasant picture on a sunny winter day. *Crocus hyemalis* often flowers with us in December, but the sunless summer and autumn of last year have retarded many things ordinarily earlier than they are this season. It comes from Palestine and the borders of Syria, and in Mr. Maw's arrangement is included in the division *Nudiflori* and the section *Fibro-Membranacei*. It is a *Crocus* of modest beauty, endearing itself to us greatly by coming at a time when hardy flowers of any kind are highly appreciated.

COLCHICUM RITCHII.

THOSE who desire a little bright colour in the garden in the dullest months of the year will do well to plant the pretty little *Colchicum Ritchii*. It is really, according to Mr. J. G. Baker, a form of the rather variable *C. montanum*; but apart from the botanical distinction at the base of the filaments, which is of little account from the gardener's point of view, it is distinct from other varieties of *S. montanum* in form and colour. When in bud it is a remarkably prettily formed Meadow Saffron, while the colouring is a very pretty purple-rose. It does not resemble in form or habit the common *C. autumnale*, and the shortness of its tube renders it better able to withstand bad weather. It came into bloom here late in December, and lasted all through January—in a somewhat unpleasant month—without any protection from weather vicissitudes. Now it looks as if it would last all this month. *C. Ritchii* has been here for two or three years. For association with the Snowdrop, the Winter Aconite, the earliest Irises, the Hellebores, or the few early Crocuses it is invaluable. It gives much the same tint as *Bulbocodium vernum*, but appears to be slug-proof, which is not the case with that useful, though cheap, early flower, and it is of a much more pleasing form. I do not know the habitat of this form of *C. montanum*, which is a very widely distributed species, but it came to me from Newry I believe.

Carsehorn, by Dumfries, N.B. S. ARNOTT.

DAVIDIA INVOLUCRATA.

HERE is another beautiful tree for our ornamental collections, almost a fruit tree, since its fruit is eaten when it is ripe. A species quite new to horticulture is no mean introduction. We owe

this new plant to M. Maurice de Vilmorin. Here is its history:—

In 1871 Baillon, when studying the plants collected in China by Abbé Armand David, created the genus *Davidia* in honour of that learned naturalist, to whom science and civilisation are indebted for so many introductions, and described the first under the name of *D. involucrata*. The plant was discovered in Eastern Thibet. Eleven years later, in 1882, a new species appeared, which had been discovered in the same region by Abbé David, and this time named by himself *Davidia tibetana*. These two species belong to the small and curious family of Hamamelidæ, which has already given us *Hamamelis*, *Fothergilla*, *Corylopsis*, *Parrotia*, *Liquidambar*, &c. They had attracted the attention of M. Maurice

The notes which M. de Vilmorin sent to me deserve to be reproduced in their entirety: "The seeds were sown in three places—at Barres, in the open land, in the shade of a tree; at Verrières, in the open land, and in pots in strata; and in the garden at Reuilly after several months stratification in a cellar. In September, 1898, the results of the three sowings were equally unfavourable. At Reuilly and Verrières the kernels had rotted in the earth. At Barres my gardener, having taken some up from the earth, gave me the same news, which sorrowfully I entered in my journal. Nevertheless, in June, 1899, two years after the sowing, I had the joy of seeing a plant in the line of sowing at Barres. At the beginning of September I photographed the young plant, which was then from 15 centimetres to 20 centimetres high, and I received from London in the course of the autumn a few words from Dr. M. T. Masters, who had kindly compared this photograph with the plants in Kew herbarium. He agreed as to their similarity. I had besides for reference some badly formed fruits which had not been sown. During the winter of 1899-1900 the young plant which was left in its place was protected by a glass frame banked up with leaves at the sides. The same thing was done during the two following winters, though it is probable that on account of their mildness this precaution was unnecessary, still with so rare a plant it was worth while. In 1901 four cuttings and a layer were taken. Two of the cuttings perished in the pots. Of the two others one was sent to the museum and the other to Kew. The layer will be sent to M. Sargent."

¶ I saw at Barres in last July the parent stem of these *Davidia*. It measured 1.60m. in height, with erect branches somewhat spindle-shaped, and with foliage resembling that of the Lime tree. The leaves exhale an odour unlike that of the leaves of the common Fig tree; they appear to dread the full heat of the sun. This tree will therefore require a climate which is not too hot. Let us hope, however, that it will be in this respect less exacting than the *Cercidiphyllum*.

M. A. Fanchet, in his "Plantæ Davidianæ," while stating that the tree blossoms in April in the forests of Moupine, where it was first discovered in 1869, adds that he found it near the house of refuge constructed by missionaries to hide their Chinese converts during the times of persecution. He thinks that its culture could be attempted with success in France, and that we should admire its beautiful and curious white bracts. We now possess this horticultural novelty,

thanks to the perseverance shown by M. Vilmorin, and his rights of priority in introducing the living specimen ought to be recorded in good time, and this is what we are doing. No doubt steps will now be taken to procure more packages of the seed, and we shall soon be able to possess in our parks and gardens another beautiful plant from that Far East, so full of surprises.

ED. ANDRE, in the *Revue Horticole*.

ROUND ABOUT A GARDEN.

THE QUESTION OF BIRDS.

IN my last wandering the sight of a ruby-chested bullfinch glowing like an electric lamp in one of the Gooseberry bushes—by the way,



CORDYLINAE AUSTRALIS IN AN IRISH GARDEN. (See page 125.)

de Vilmorin, who pointed them out to travellers in those countries, and more especially to the missionary R. P. Farges, to whom he gave the most detailed instructions.

Success attended these efforts. In June, 1897, M. de Vilmorin received the first parcel containing the fruit of *Davidia involucrata* sent from Se Tchuen. Another package sent from Thibet reached him in 1898. In the first parcel, out of thirty-seven seeds one only germinated. From the second, containing three seeds, nothing came. The altitude, 1,400 metres, ought by analogy to correspond, according to the belief of M. de Vilmorin, to a minimum winter temperature of from 12° to 15° centigrade. The second parcel, which came from Eastern Thibet, was originally from Sou Kia Ouan. The Chinese name of the tree was Sin-Ko-Chou.

we had some Gooseberry blossom fully open on January 1 this year—started me off upon the general effect of birds in gardens. This, of course, led straight to the sparrow among the yellow Crocuses; and the sparrow suggested the starling. But there I stopped, because the starling in a garden needs a chapter to himself. Not that he is wholly bad by any means. His character is rather like his plumage, speckled all over with spots of misdoing, but glossed with many shining virtues. And it is worth while looking at the gloss upon the starling, as he parades about the turf on a sunny spring morning, in order to see what kind of starling he is, whether an English starling, a Siberian starling, or an intermediate starling.

STARLINGS OF SORTS.

For ornithologists recognise three kinds of starlings, as above, by the seemingly trivial character of the gloss upon the head feathers. If the head has a rich green gloss the bird is an English starling; if it is all glossed with purple, Siberian; and if partly purple and partly green, intermediate. Formerly the purple-headed starling was supposed to be found only in the east of Europe, the green-headed one in the west, and the purple and green in the middle, as was natural. But in late years, at any rate, the two foreign kinds have multiplied in England, and on the East Coast the intermediate starling seems the commonest, while the Siberian is no rarer than the English. It is rather curious that the old English pheasant, whose head and neck are all green like those of the English starling, should similarly be giving place to a later importation whose neck is two-coloured.

“AUDI ALTERAM PARTEM!”

One advantage of this immigration of alien starlings, apart from the innumerable multitudes of grubs which they devour, is that, when we hear fruit growers complaining that Cherries and starlings cannot flourish in the same county, we can put all the blame upon the foreigner, in the same way that the newspapers justly quote the increasing criminality of London as evidence of the evil consequences of the alien invasion. But when all is said that can be said on the subject of starlings and fruit, and when you have exhausted your indignation at the sight of the starling pulling up your seedlings for nest material, you must admit that there is another side to the account. To talk of the glossy beauty of the starling as an ornament to a garden, or to appraise his rippling music, never wholly silent in any month of the year, as an equivalent for solid fruit might seem idle sentiment; but watch the starlings on your

lawn. They are full of business of some sort. They walk about, brisk and alert, gleaming like beetles when the sun shines upon them, and in every few inches they probe the ground with their bills at likely spots—likely spots for what?

THE STARLING'S WORK.

They are not poking holes in your ground for mischief. The stress of the struggle for existence leaves no room for idle play to the “lower” orders of creation, and love of mischief is a luxury reserved by Nature for men and monkeys. The starling would not affect your lawn if he got nothing by it, and he is probably more useful there than either blackbird or thrush. These hunt chiefly for worms, which they seem to hear moving near the surface of the ground; but the starling has not this gift, and the comparatively harmless earthworm suffers little from his ministrations. His victims are the wireworm, the chafer grub, and the pestilent “leather-jacket,” the root-devouring product of the daddy-long-legs. As you can track the tunnel of a mole by poking the ground with your walking-stick, so the starling, probing the ground with its bill under every tuft of grass, discovers the hollow caves in which these pests are hidden. Indeed, I think it may fairly be said that the starling is the most useful bird known to horticulture. Whenever you see a starling upon the ground (except in February, when he is hunting around for nesting material) you may be quite sure that he is doing good.

THE CHAFER GRUB.

A gardener who turns over his ground once a year may think that he can dispense with the starling's services; but I have before me a letter from a North Country nurseryman, enclosing a sample of grubs which he digs up in large numbers every winter at a depth varying from 12 inches to 20 inches. He wants to know what the grubs are, and it is evident from their abundance in his ground that the starlings are not given free play, because they are cockchafer grubs, the starling's favourite food. The bird cannot, of course, find them when they are buried from 12 inches to 20 inches underground; but that is their

winter depth. In summer these fat vermin come close to the surface, and are easily discovered by the starling's probing bill. Books which deal with farm and garden pests will give you half-a-dozen chemical recipes for extirpating the chafer grub; but there is no recipe equal to the encouragement of birds, especially the starling.

BIRDS AND CURRANTS.

A rather striking instance of the utility of birds in gardens came under my notice last summer. I like birds so much and Currants so little that we get a small crop indeed of that fruit, whereas a neighbour who grows his Currant bushes inside bird-proof netting has had splendid supplies. Last year, however, a curious thing happened. His Currant bushes, while still laden with a magnificent crop of ruby fruit, began suddenly to drop their leaves. On some, which had not fully ripened their fruit, the berries shrivelled also. Going to investigate this phenomenon, I cut off some of the dead branches and found, as I expected, that the pith had been tunnelled out by the caterpillars of the Currant clear-wing moth. This little moth is very good to eat, from the birds' point of view, as is shown by his having assumed the appearance of a wasp, with clear wings and gold-banded body, for the purpose of protection. Inside the wire netting, however, he is completely safe, and we see the result of the exclusion of birds in the death of the Currant bushes. E. K. R.

THE INDOOR GARDEN.

FLOWERING SHRUBS UNDER GLASS AT KEW.

A JUDICIOUS selection of hardy shrubs for flowering prematurely under glass is valuable where a floral display has to be kept up at all seasons; it is well shown at the present time in No. 4 greenhouse at Kew, for this class contributes no small share towards the embellishment of that structure. Perhaps the most beautiful item of all is a group of the little

Japanese Plum (*Prunus japonica flore-pleno*), which, by the way, is far more often met with under the name of *Cerasus japonica* or *sinensis*. It is a small-growing shrub, with slender ascending branches, which are packed for a considerable portion of their length with comparatively large double pure white blossoms. There is a form in which the flowers have a pinkish tinge, but this feature is more noticeable when the plants are in the open ground than under glass. It may be grown altogether in pots, and plunged outside during summer. In this way it can be flowered year after year. The flowers are more



THE HOUSE AND FLOWER GARDEN AT NARROW WATER. (See page 125.)

lasting than those of many other hardy shrubs so treated.

Azalea mollis, or *sinensis*, also contributes its share to the floral display, the warm terra-cotta tint of some individuals being totally distinct from that of any other occupants of the structure. It is one of the most popular of shrubs for forcing, and well merits the favour with which it is generally regarded. A dwarf form of

Azalea indica, principally known as *Azalea obtusa*, bears its little bright red flowers in great profusion. It is nearly related to *A. amœna*, and, like that well-known kind, can be had in flower early in the year with but little trouble.

Rhododendron Prince Camille de Rohan, one of the early-flowering hybrids belonging to the same section as the well-known variety *nobleanum*, is very noticeable, the habit of the plant being dwarf and free, while the flowers are of a blush white tint, with the upper segment freely dotted with crimson. That delightful hybrid

Rhododendron prince is quite safe under glass from sharp frosts and cutting winds, which often play havoc with the flowers early in the spring when they expand in the open ground.

Malus floribunda is also well represented at Kew; indeed, it is in general demand as a shrub for forcing.

A decidedly pretty effect is produced by the drooping clusters of *Wistaria sinensis*, which has only of late years been employed for flowering under glass. The plants subjected to this treatment are usually grown as small standards, in which shape the flowers are seen to great advantage, and for grouping purposes they are invaluable. Though the Chinese *Wistaria* is the only form used for forcing, the Japanese *W. multi-juga*, with its excessively long and slender racemes, should give equally good results. H. P.

BROWALLIA ELATA.

BADLY grown and drawn plants of this species are not very attractive, but nice sturdy specimens in 6-inch pots grown for winter flowering are among the prettiest of greenhouse plants just now. They are useful for conservatory or house decoration, and the little deep blue flowers are elegant when cut. The culture depends entirely upon timely attention and care, and it is one of the best amateurs' plants in cultivation. Seeds are offered by most nurserymen, and these may be sown at midsummer for early winter flowering, a later sowing being made for successful plants. Sow thinly in pots or pans, just covering the seeds with fine sandy soil in a greenhouse or frame. If the pans of soil are well soaked with water before sowing and afterwards covered, no more water will in most cases be required until the plants appear. Shade them for a few days, baring them as quickly as possible to induce nearly full exposure to sunlight. Prick them off 2 inches apart when large enough to handle, and eventually pot singly into 3-inch pots. The roots are rather easily damaged, but if carefully handled will take no harm. When established give air on every possible occasion and dew the plants over with the syringe twice daily. Never close the frame entirely until the nights are getting cold in September, by which time the plants will be in their flowering pots. A sound fibrous loam mixed with leaf-mould and peat in equal proportions is the best compost, but, as a rule, one has to make the best of what is to hand. Drain the pots well and make the soil moderately firm, replace the plants in the frame and keep a little closer for a few days. If kept well up to the light from the first and never crowded either in the pots or against each other, it is possible to obtain nice shapely plants without stopping, nor will the flower-buds appear if always kept growing freely. Rather than let them get drawn, the points of the shoots may be taken out once or twice. The frame should never be closed just as the plants are syringed, as this causes the drawing up complained of. If space allows, the plants should be housed in a light, sunny greenhouse in October or grown in pits where a little warmth may be turned on at night to allow of ventilation. This will harden

the stems and make the plants more free-flowering. After housing, a little weak soot water may be given at intervals, this helping to keep that dark glossy green tint in the foliage that is so much admired. Dryness at the root must be avoided while in flower, or this will cause the blossoms to drop. There is a white and also a blue variety of *B. elata*, but the latter is, I think, the more popular, as it is a favourite colour, while the white is not exactly pure.

ALLAMANDAS.

It can hardly be urged against the Allamandas that they are neglected by most cultivators of stove plants, neither can it be denied that they might with advantage be much more largely grown than is the case. There is, of course, something to be said for the statement one often hears that the flowers are so soon over. They have no lasting properties it is true, but the critics forget a most important feature of the Allamanda, perhaps the best, namely, its profuse and continued flowering. What is lost in the fleeting beauty of the individual flower is more than compensated for by the profuseness with which they are produced and the long season over which this is continued. Add to this the fact that the Allamanda is, when properly treated, a quick and most successful grower, and that the more it grows the more it flowers (growth is not made at the expense of flowering as with some plants), it cannot be gainsaid that it has many points to recommend it to the possessor of a warm glass house. The Allamanda is properly a stove climber; it is, however, to a considerable extent grown as a specimen plant in pots, and figures largely at the most important exhibitions in the classes for trained specimen plants.

Its chief value, however, so far as the general cultivator is concerned, is as a handsome flowering roof climber, and during the summer months but few plants present a more gorgeous picture. It is seen to the best advantage when the principal shoots are tied to the trellis, which should be 9 inches or 12 inches below the roof, and minor ones are allowed to grow as they will. This remark also applies to many other climbers, both greenhouse and stove. Half the charm of this class of plants is lost if all their shoots are tightly attached to the trellis.

The Allamanda may either be grown in pots or tubs or be planted out, but the latter method in my opinion is not to be recommended. If a large pot or tub is provided there will be sufficient accommodation, for the roots and stimulants can also be much better applied to plants with their roots thus under control, and Allamandas benefit greatly by the application of manure. They are vigorous growers and gross feeders. During winter the plants are at rest, and having them in pots or tubs the condition of the soil about the roots can be exactly known, whereas when planted out one never knows where the roots get to. When the plants can be removed from one house to another, as may be done when they are in pots, it is advisable to place them in a cooler house during winter. The flowers are produced upon the current year's shoots, therefore in early spring it is necessary to prune back the old wood to within two or three nodes of the base, so that the remaining buds may produce vigorous shoots during the next summer, for the stronger they are the better they will flower.

Repotting or top-dressing only perhaps in the case of large plants should be done early in the year, just as the buds are bursting. The Allamanda enjoys a rich loamy soil, loam with river sand and a good proportion of dried cow manure makes a suitable compost. An abundance of water is required during summer. Propagation is best effected by means of cuttings, preferably taken from the young shoots that push in spring when the old wood is pruned. These root readily if placed in small pots filled with sandy soil and plunged in bottom heat in the stove and covered with a handlight. When rooted they must be repotted, not using manure in the soil until the

second move. As the plants develop, if required to cover the roof only, the shoot must be allowed to grow the required height undisturbed and then stopped so as to produce lateral shoots, which must also in turn have their points pinched out. By this means the roof will quickly be covered when the plant is established. If it is desired to cover a low trellis then the apex of the young plant must be removed when it is about 9 inches or so high, so as to make it branch near the base. The best Allamandas are *A. nobilis*, *A. Schottii*, *A. S. var. Hendersonii*, and *A. Chelsonii*, all of somewhat similar shades of yellow. A. P. H.

EUCHARIS AMAZONICA.

I SEND you a photograph of a house of *Eucharis amazonica* in flower on the 10th ult. They occupy one side of a low span-roofed house 70 feet by 13 feet. A few years ago the same plants got into a very unhealthy condition entirely through bad management. Several gardeners who then saw them said that *Eucharis* mite was the cause of it, and advised me to throw all the plants away and obtain a fresh and healthy stock, but as I never thought that mite was the cause of the disease I gave them different treatment, with the result that I soon restored them to their present vigour. I first shook the bulbs out of the soil they were then in and repotted them into smaller pots, using good turfy loam mixed with best white sand, and placed them in a moist atmosphere of from 60° to 70° of heat, using water sparingly until they were well established in their pots. I have never watered them except with manure water, and never water them until the plants really require it. A moist atmosphere is maintained at all times.

ROBERT FEATHERSTONE.

St. Ann's Nursery, Kirkstall, Leeds.

GARDENING OF THE WEEK.

KITCHEN GARDEN.

ROOT crops remaining in the ground will now require lifting and storing in sand or dry earth, for if left longer where grown they will recommence growth to the detriment of flavour. These comprise Parsnips, Jerusalem Artichokes, and Turnips. Horseradish may also be lifted, and sticks thick enough for present kitchen use laid in a spare piece of ground. The thinner ones may be transplanted to a well-enriched and deeply-dug plot of ground in the outside garden.

ONIONS.

Young plants raised from seed sown under glass last month should by now be large enough for pricking off into boxes filled with well-prepared soil. Precisely the same soil may be made up for these as recommended for sowing the seed in, but it should be passed through a coarser sieve. Three inches apart each way should be allowed between the plants. Replace in a light part of a started viney until well established, when they may be removed to pits or frames. Aim at keeping the young plants sturdy by admitting air on all favourable occasions and by elevating the boxes so that the plants are within 2 inches or 3 inches of the roof glass.

The main crop of Onions may be sown at this date, provided the weather is favourable and the ground in a friable condition. Land for Onions cannot well be made too firm by treading and rolling. White Spanish is a good quick-growing variety for first use after the Tripoli is over, while Veitch's Main Crop and James' Keeping are hard to beat for general and late use. The Tripoli Onions may now be transplanted to a fresh piece of ground, or they may be slightly thinned and remain where sown.

PEAS AND BROAD BEANS.

The demand for first and second early crops are usually great, and some seed should be sown about once in ten days to ensure an unbroken supply. Of Peas, Criterion, May Queen, and Gradus are good for present sowing, while a good type of Long-pod or Green Windsor Beans should be chosen. Peas and Beans that were sown in pots or boxes under glass for providing early dishes may, if well hardened, be transplanted to the border prepared for them. The site should be a warm sheltered one, and when planted they should be moulded up and protected with branches of evergreens.

CAULIFLOWER WALCHEREN

may be sown thinly in a frame, preparing this in the following manner: Throw in some fermenting leaves and stable litter and tread it well; place thereon 4 inches of fairly rich garden soil, bringing this up to within 6 inches of the lights. Tread lightly and rake level, then sow the seeds broadcast. Brussels Sprouts for the main crop, and Lettuce to succeed those raised last autumn, may

but from laterals and side growths. There must not be too much pruning, merely thinning out of dead wood and a slight shortening of long strong shoots. All the most weakly-looking twigs will in due time be covered with clusters of blossom. No flower garden, however small, should be without its Banksian Roses.

ROSES IN BEDS.

Where H.P. Roses are grown in quantity and farmyard manure is used in the soil now is the best time to dig or fork it in. This ought to be thoroughly decomposed or it will do more harm than good. If this cannot be had it will be better left on as a mulch and dug in next autumn. If no digging is practised the soil should be well loosened with the hoe. This will do away with the weeds that have grown since October.

Those who have a warm wall and a dry situation are strongly advised to plant Fortune's Yellow. It is a strong-growing Noisette. The flowers are only semi-double and of a loose and irregular form, but they are very beautiful, of a lovely colour—yellow, flaked with carmine—and the fine loose petals are of charming texture. It

should not be allowed to get dry either winter or summer. More plants are lost through drought than from any other cause. T. B. FIELD.

Ashwellthorpe Hall Gardens, Norwich.

INDOOR GARDEN.

STREPTOCARPUS.

FOR early flowering a portion of the old plants may now be brought into an intermediate temperature. These plants are very useful to the decorator; they are, however, somewhat subject to mealy bug, and require careful cleaning before being started. Put the plants on a shelf and fumigate them strongly with XL All three or four times in the course of a fortnight; this will eradicate the pest.

CALADIUMS.

Bring into a stove temperature a few dozen tubers of the older approved varieties, which will give colour and variety to the warmer show houses early in the season, reserving the choicer sorts for the more important display required later on. In starting the tubers place them in shallow boxes on a layer of fibre, lightly covering them; keep the fibre moist by using the syringe. As soon as any growth appears expose it to the full light. The tubers may be potted after the young leaves are 6 inches or more long, but before the roots become entangled; use a light rich compost, and place them in a hot, moist house. As the spring advances a light shading with tiffany fertilizer is necessary.

CLIMBERS FOR THE STOVE

if not already attended to should at once receive attention. *Allamanda nobilis* and *A. Schottii* when planted out in a restricted border and allowed to ramble under the roof of a hot house, produce a charming effect. Unless it is desirable to cover the roof at once, as in the case of a recently-planted house, this *Allamanda* should be pruned back to three joints of last season's wood and tied in thickly under the roof, and 12 inches to 18 inches from the glass. *A. Williamsii* when grown in pots of 6 inches or 8 inches in diameter make choice plants for room or table decoration. It may be pruned to one or two joints of last year's wood. The plants should now be partly shaken out of the soil, at the same time shortening some of the stronger roots and repotting into the same sized pots, using only the rough fibrous parts of loam, with sand and charcoal and a little Clay's fertilizer.

Place the plants in a stove and give very little water until growth commences.

CLERODENDRON BALFOURI

as a pot plant will require pruning to three or four joints, and when potting use a lighter soil than for the *Allamandas*. The *Dipladenias* are less robust than either of those named above, and should be shortened back to the well ripened wood only. Most of these appear to prefer a compost of fibrous peat, with sufficient sand and charcoal to keep it open. *D. boliviensis* alone doing well in equal parts of loam and peat. *D. sanderiana* has proved a somewhat difficult plant to manage unless it be kept in very small pots.

ARISTOLOCHIA GIGAS.

This extraordinary plant requires pruning into the ripened wood, and it is advisable to put in cuttings of young wood occasionally, as the plants are liable to go off suddenly. It requires a moderate amount of roof space as it is vigorous. *A. elegans* produces interesting little flowers, is well adapted for small houses, and requires a much lighter soil.

CISSUS DISCOLOR.

This old plant makes a most effective covering for a stove house roof. Old plants that have been kept comparatively dry during the winter should now have all the soft unripened wood cut away and be repotted, after removing a portion of the old soil, in a compost of equal parts peat and loam,



HOUSE OF EUCHARIS AMAZONICA IN THE NURSERY OF MR. ROBERT FEATHERSTONE, KIRKSTALL, LEEDS.

also be sown in the same frame, to be pricked off on a warm border in the open when large enough.

PARSLEY.

Some of this should be sown now to ensure a supply to follow that wintered in frames or in the open. In all establishments there is a great demand for Parsley, and means should be taken to provide abundance throughout the year.

Stoneleigh Abbey Gardens. H. T. MARTIN.

FLOWER GARDEN.

ROSES.

If trained on south walls will now need pruning. Begin by taking out all dead and weakly wood, then consider which shoots are required for laying in, giving preference to the ripest rather than to the strongest. All gross shoots should be clean cut out and only the medium-sized ones left. These should be thinned, if necessary, and moderately spurred back. In the case of the *Maréchal Niel*, the *Noisettes*, and the *Gloire de Dijon*, if space can be given, it is best to lay in some of the strong shoots at least three parts of their length, and unless additional light is wanted these strong shoots should never be trained upright, as that is likely to lead to more wood and fewer flowers. The *Banksian Roses* need special treatment; strong wood should not be encouraged. The flowers will not proceed from strong shoots of the year,

is very early, quite one of the first *Roses* to be gathered out of doors, and blooms with me in May. Although it is sometimes cut a little with the early frost, I have gathered flowers from the same plant annually for the past twenty years.

SALVIA PATENS.

This is perhaps the most intense blue flowering plant we have. On good soils it is one of the most desirable plants for large beds and mixed borders we have. In lines mixed with yellows or whites it looks exceedingly well. Seed sown now in heat and grown on will make good plants by the middle of May, and where the tuberous roots have been wintered like *Dahlias* they may now be started in heat and will soon make plenty of cuttings, which strike freely.

LOBELIA CARDINALIS.

This grand plant should not be lost sight of. Roots that were taken up in the autumn and have been wintered in frames will now be making a move. Take off the suckers as soon as they can be removed with something like a heel to them, pot in small pots singly, and plunge in a gentle bottom heat. Use a light compost, with leaf-mould, loam, and silver sand added. When the plants have taken root shift them into 4-inch pots, keep them for a little while in a moist atmosphere, then gradually harden off. When the pots are filled with roots give plenty of water. This plant

with a liberal addition of sand and charcoal. Seedling plants as soon as large enough to handle must be pricked off, six or eight round the inside rim of a 3-inch pot.
J. JAGUES.

THE FRUIT GARDEN.

STRAWBERRIES IN POTS.

UNTIL we have a change to brighter weather great patience must be practised in the management of plants now coming forward. If they occupy shelves near the glass keep the latter clean, and avoid overcrowding towards their progress to the flowering stage. When in flower give more air, or remove them to a light, airy house, where they can be regularly watered and sufficient atmospheric moisture given to prevent the flowers suffering from bright sunshine. Give gentle fire-heat to admit of a free circulation of air by day and night, thin out weak flowers, and fertilise with a camel's hair pencil when the pollen becomes light and plentiful. Strawberries under artificial treatment are very impatient of a high temperature until the fruit is set. A minimum of 45°, with a rise of 10° by day, will be quite sufficient, but when fairly set and removed to a Pine stove to swell off there will be little danger in giving them too much heat, moisture, and stimulating food. They must not, however, be allowed to remain in this position if flavour is to be the test of skill in forcing. When quite swollen and partially coloured they should be removed to a warm, airy house, where exposure to light and the gradual withholding of water from the roots will greatly improve the quality of the fruit. As days increase in length and brightness successional crops may be brought on faster by closing for a few hours with sun-heat, and give moisture from the syringe, but air must be again admitted at night, when the temperature may range from 45° to 50° when external conditions are favourable. Where light shallow pits are at command use them as feeders to the forcing pit by placing 1 foot or 2 feet of fermenting leaves over the bottom and keeping them filled up with plants from the general stock.

CUCUMBERS.

It is difficult to conceive a better winter for Cucumbers than this has been, and good fruit through the latter part of February and March should be plentiful. Overcropping must be avoided, as checks of all kinds, particularly from overloading, make many houses barren at a time when good fruit is in daily demand. As the days increase in length a little more heat may be given, especially if it comes from the sun, but no great change need be made through the night, as hard firing brings many ill. Keep the evaporating pans regularly filled with stimulating liquid, top-dress the roots with fresh compost, and bathe the foliage and stems with warm soft water whenever the house can be run up to 80° or more with sun-heat. Young plants in small pots intended for training over a trellis in the Cucumber house may be shifted on from time to time if the bed is not ready, but one shift from the seed-pot to a hill is always best. It is better to throw plants away and fall back upon later sowings than trust to them when they become potbound and often infested with spider before the points reach the trellis. When young plants intended for pits and frames have made two rough leaves, pinch out the points and keep them close to the glass until the hills are ready for them. If the manure has been well worked and placed in the pits, make it firm and level on the surface, put clumps of turf grass side downwards across the centre to prevent the roots from striking into the manure, and upon these form a long, narrow ridge or small cones of light rich soil. Introduce a bottom heat thermometer, and when a steady heat of 80° to 85° has been secured cover the remainder of the bed with clumps of turf and plant out in the usual way.
Madresfield Court. WILLIAM CRUMP.

ORCHIDS.

EULOPHIA PALLENS.

THE genus *Eulophia* embraces a large number of species, but few are grown. The above species is

very interesting and distinct, and may be classed with those Orchids generally termed "botanical." It has round, pointed, and slightly furrowed pseudo-bulbs, surmounted by four or more grassy green leaves 2 inches across and about 1 foot long. The erect spikes which spring from the base of the bulbs are 3 feet long, and bear from thirty to forty flowers, which are about an inch across, having the sepals and shorter petals a very pale green, faintly tinged with purple, the bilobed lip and spur united being half an inch long, the base and lobes of the lip white, bearded in the centre; spur pale green. This species requires a shaded position in the stove Orchid house, and should be given a plentiful supply of water when growing. It has a long season of rest, and during that time requires very little water to keep the bulbs plump and healthy. Repotting should be done when new roots issue from the base of the growths; equal proportions of peat and sphagnum moss form a suitable compost. Pots or pans may be used, and drainage must be ample. The foliage when young and tender is quickly disfigured by thrip. Propagation is effected by dividing the pseudo-bulbs in the same way as recommended for other bulbous Orchids.

EULOPHIA PULCHRA.

This species may be classed with, and is a suitable companion to, the above, and one full of interest to lovers of "Botanical" Orchids. It has dark green pseudo-bulbs about 3 inches long bearing pale green leaves. The flowers are half an inch across, twelve or more being borne on erect spikes that issue from the base of the bulbs; the narrow sepals are white suffused with green, and faintly lined with pale purple; the shorter and broader petals are of the same colour heavily lined with purple. The bilobed apical part of the lip is creamy white, the basal part and side lobes being lined with purple. Both species, owing to their greater length of spike, are very useful, and form quite conspicuous subjects when arranged in groups among other more gorgeous and showy Orchids. This species requires the same cultural treatment and thrives under the same conditions as that recommended for *Eulophia pallens*. Both species bloom at this season.

DENDROBIUM VICTORIA REGINA.

This species, though by no means showy, is nevertheless very distinct, and owing to the colour of its flowers being rare among *Dendrobiums* it is quite a curiosity. It is dwarf in habit, the bulbs seldom growing more than a foot long; the flowers, which are about an inch across, are produced from the nodes of the bulbs in autumn; the basal halves of the sepals, petals, and lip are whitish, the outer portions purplish blue. Though it is a native of the Philippines, it grows and flowers well here in the cool intermediate house fixed to pieces of Fern stems, the lower end of the latter being placed in a pot, made firm with crocks, and the intervening space filled with

sphagnum moss. It is neither deciduous nor does it need such a dry and decided period of rest as many of the *Dendrobiums*, but it should be given plenty of water when growing, and must not be allowed to shrivel for want of it when resting. During the summer months it should be freely syringed overhead twice or three times on bright days, and occasionally sponged with some insecticide to prevent insect pest.

F. W. THURGOOD.

Roslyn Gardens, Stamford Hill, London, N.

THE FRUIT GARDEN

APPLE ALLINGTON PIPPIN

THE intrinsic merit of this recently-introduced dessert variety of Apple has forced it well into public favour. The case of this Apple is an excellent illustration of the fact that once a really good thing, whether fruit or flower, is exhibited before the committees of the Royal Horticultural Society its merits are at once recognised by an award. Apple Allington Pippin has received a first-class certificate. The fruit is of medium size, bluntly conical in shape, and of distinctly handsome appearance. On the shady side it is cream-coloured; on the sunny side suffused with rosy pink, giving it an attractive and pleasing appearance. It is a popular variety for market. Its flavour is sweet and pleasant, but not of the first order. Its cropping quality is excellent; the tree seldom fails to bear.



APPLE ALLINGTON PIPPIN (NATURAL SIZE).

This variety has the additional advantage of bearing fruit on quite young trees; indeed, so precocious is Allington Pippin in this respect that thinning the fruit must be resorted to, or the young tree's growth will be crippled.

OWEN THOMAS.

GRAPES FOR MARKET.

DURING the past few years Grape growing for market has greatly increased, and consequently the prices realised are not so high as formerly. It is now possible to get really good Grapes at almost any time of the year at a moderate cost. Yet it is still a profitable industry, for though the prices are lower the cost of production is also much less than formerly. In the first place vineries are built on more economic principles, and the large growers do everything in a systematic way, from the construction of the houses down to the smallest details.

It is in the neighbourhood of Worthing, in Sussex, and north of London that the greatest progress has been made. The construction of the houses in these two districts varies considerably. Those in Sussex are built more substantially than those north of London. This is perhaps owing to the high winds on the South Coast necessitating stronger structures. Messrs. Rochford may be regarded as the pioneers of modern Grape growing. The lightly constructed houses are in blocks of from twelve and more, all connected by broad gutters of Pine wood, supported by brick pillars or wooden uprights on cement or concrete base. Each house is about 28 feet or 30 feet wide. If ground can be secured where there is a good depth of loam a considerable saving will be effected in making the Vine borders. Deep trenching and the addition of crushed bones and other manures is all that is necessary. Good drainage is essential. Generally speaking the large growers give less attention to border making than formerly; they also crop the Vines earlier. Under these conditions the Vines do not last so long, especially those grown for very late crops.

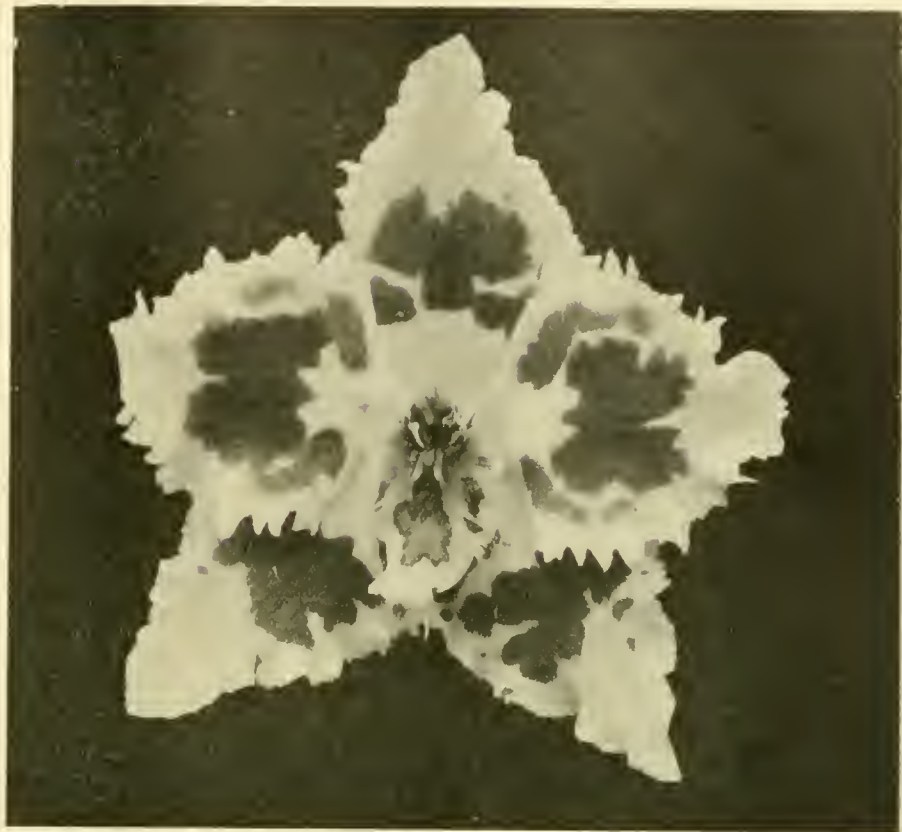
The late crops are generally the most profitable, but it requires some care to keep the Grapes in good condition. The houses must be as nearly watertight as possible. If it is intended to keep Grapes after the new year the houses should be covered outside with canvas and the inside borders covered with dry straw. Of course this is not done until the Grapes are thoroughly ripe.

VARIETIES.

Gros Colman is the most popular market Grape we have, and it is also the most profitable. When well finished the colour is good, the berries large and handsome, and the bunches of good shape. This is grown for autumn and winter. The greatest difficulty with this Grape is to colour it well. Plenty of air night and day with as much fire-heat as possible from the time the berries begin to colour until they are ripe is most important. Alicante, which makes large, handsome bunches, and almost invariably colours well, is another good market Grape, and for early forcing the Black Hamburg of course takes first place. The Muscats, though they give more trouble, are profitable when well finished.

PACKING.

This is very important, for in most cases the Grapes have to travel some distance to market, and their appearance is an important feature. The bunches are usually cut with a portion of the lateral, which may be left about 2 inches long. Small berries or any that give the bunches a bad appearance should be cut out. Various sorts of baskets are used, but those most generally approved of are known as "baby baskets." In the place of wadding the soft wood shavings, "wood-wool" as they are called, are used. With a little of this in the baskets covered with soft paper the finest bunches may be laid round the baskets and fixed by the stem to the basket rim. The bunches must be kept quite close together so that they cannot move about while travelling. About 12lb. are an average weight for each



ODONTOGLOSSUM CRISPUM COOKSONIÆ (NATURAL SIZE).

(Shown by Mr. Norman C. Cookson, Oakwood, Wylam-on-Tyne, at the last meeting of the Royal Horticultural Society, when it was given a gold medal and a first-class certificate.)

basket. The exact weight is given with each basket, and the baby baskets are then put in flat pads or hampers. Many growers use the ordinary cross-handle baskets. These have no lids, but are simply papered over. In this way the Grapes travel long distances and reach their destination in perfect condition. Most Grapes grown for market are disposed of through commission agents; in fact, the fruit trade generally is in the hands of the established salesmen at the various market centres. Some of our best Grapes now go to America and find a good market there. A few years ago a good trade was started in France, but the heavy duties now imposed (I believe it is about 1s. 3d. per lb.) have practically closed the French markets to English Grapes.

A. HEMSLEY.

ORCHIDS.

ODONTOGLOSSUM CRISPUM COOKSONIÆ.

OBTAINED among others in an importation this new Odontoglossum created a great deal of interest and attracted much attention when shown by Mr. Norman C. Cookson, Oakwood, Wylam-on-Tyne, Northumberland, before the Royal Horticultural Society on the 10th inst. The flower is large, the sepals and petals broad, with slightly fringed edges. Both sepals and petals are marked with blotches of rich ruby-brown, so regularly as to form a circular band of this colour, leaving a white centre and white edges. The lip is small and insignificant, tapering towards the lower end, and with a blotch of pale ruby-brown. It is altogether a striking flower, symmetrical, and of good

colour. This Odontoglossum obtained the rare honour of being awarded a gold medal and a first-class certificate.

ORCHIDS AT GLEBELANDS.

PREVIOUSLY the collection of Orchids formed by J. Gurney Fowler, Esq., at South Woodford, has been noted in this journal, and a second visit paid in the last week of January served to emphasise the first impression made by the general well-being of the plants, which, though so near London, bid fair to form one of the choicest and most comprehensive collections of the day. The keen interest and enthusiasm of Mr. Fowler are evident throughout the whole collection. The following plants, seen by the writer on the occasion of this second visit, may be mentioned, the more so as at this dull season of the year, in spite of the choice varieties collected here, there is naturally not the show of flowers which would be seen at a more favourable season.

In the Cattleya house, a large structure devoted to both species and hybrids, are two well grown plants of Lælio-Cattleya Pallas, the one a fine variety carrying four of its richly coloured flowers on a spike, the other rightly bearing the varietal name of *superba*. The parents *Lælia crispa* and *Cattleya dowiana* are well represented in this hybrid both in shape and colouring. The deep purple lip of *L. crispa* acquires in this hybrid a rich crimson tint from the *dowiana* parent, while the throat is netted and lined with orange and gold. Fault alone can be found with the sepals and petals, which, deep rose in colour, are so strongly undulated at the edges as to appear narrower than they really are, a defect, it may be said, which is remedied to a great extent in the form *superba*.

Lælio-Cattleya Macnabiana, a pretty hybrid between *Cattleya Skinneri* and *Lælia cinnabarina*, gives the requisite touch of brightness to the house, from its clear colouring of chrome-yellow flamed with orange. Though as a rule wanting in

size, much could be said in favour of hybrids from *L. cinnabarina*. The elegant spray-like form of the inflorescences and the freedom with which they are produced are considerable advantages, and they are most amenable to culture, while the dominant yellow shade of their flowers renders them conspicuous wherever grown.

Dendrobiums are a strong feature in this collection. The pure white *D. nobile* is represented by sturdy well-grown plants, while the commoner species annually yield their full quota of bloom. At the present time, though quantities have been cut, some grand plants of *Dendrobium wardianum giganteum* are each bearing as many as 200 flowers and upwards, a magnificent sight only equalled by their utility where cut flowers are required.

A charming form known as *D. wardianum* Fowleri is present here, the sepals being marked similarly to the petals of the well known *D. nobile* Cooksonii. In flower is an exceedingly well-grown specimen of *Dendrobium aureum* (heterocarpum). The soft primrose-yellow shades of the sepals and petals are enhanced by the velvet-like markings on the labellum. Unlike the majority of Dendrobiums the species, apart from its floral beauty, would be worth growing on account of the delicate fragrance of the flowers.

In the same house, planted out in a bed of peat, moss, and rough crocks is a batch of *Epidendrum radicans*. That the position and culture given suit the plants is evident from the rampant way in which they grow, and the strength, size, brilliancy, and quantity of the scarlet umbels of flowers. In three or four houses, as best suits their requirements, are to be seen collections of *Cypripediums*, all of which are doing well. A splendid form of *Cypripedium Boxalli atratum* claimed attention, the deep purple-black colouring in the dorsal sepal suffusing the entire surface, save for a white tip and narrow border. A very handsome hybrid between *C. insigne* and *C. chamberlainianum*, and named in compliment to Mr. Fowler's sister, was also in flower, and though the cross has been repeated in other collections this form still stands pre-eminent in contour, and the clear colouring of the bright rose-purple pouch, and the clear white, cream-yellow and deep chocolate spotting of the upper sepal. It was given an award of merit by the Royal Horticultural Society in 1899.

C. Olivia, a reputed cross between *tonsum* and *concolor*, is one of the most delicately beautiful hybrids imaginable, with flowers nearly as large as those of the *tonsum* parent, soft ivory white, daintily tinged with blush rose diffused in varying intensity. The parents, however, are evidently wrongly recorded, and for the future *niveum* should be written in the place of *concolor*, which later, though a pleasing enough species, could never when crossed with *tonsum* yield a product with such white and rose flowers. In fact, Robinson, who raised *Olivia* in America, told a friend of the writer that he was sure the parents were *niveum* and *tonsum*, and any expert looking at the flower must come to that conclusion. By what error or for what purpose it has been recorded as a *concolor* cross it is difficult to understand. Certainly the raiser invariably spoke of his seedling as being between *tonsum* and *niveum*.

In the *Odontoglossum* house two fine specimens of *Odontoglossum harrivano-crispum* caught the eye, both handsome forms with well-developed arching spikes. Attractive as *Odontoglossum crispum* is, it is a question if this hybrid does not excel both its parents, excepting the finest and most valuable varieties of *crispum*. It is certainly superior to *O. harrivanum*. The flowers are produced in greater numbers and in taller spikes, while, as in the examples now quoted, the colouring on the petals is almost wine-purple, contrasting vividly with the marble-like whiteness of the apical area of the lip, a feature derived from the *harrivanum* parent.

ARGUTUS.

Flowering plants for honey.—For gardens: *Salvias* (Sage) in varieties, *Wistaria*, *Lupins*, *Crocus*, *Thyme*, and other herbs; *Mignonette*, *Sunflowers*.—*Indian Planting and Gardening*

MISCELLANEOUS.

SUNSHINE OR SHADE FOR FLOWERS.

AS all plants are not alike in their requirements as to sunshine and light, it naturally follows that the plants grown should be adapted to the particular place in which they are kept. Those liking a little sunshine, such as the *Begonia*, *Fuchsia*, and *Calla*, are satisfied with an eastern exposure, where they get the benefit of the sun early in the morning. The *Geranium*, *Carnation*, *Rose*, *Heliotrope*, and, in fact, the majority of flowering plants, which must have plenty of sunshine in order to fully develop their colours, find no other exposure so satisfactory as that afforded by a south window. A western window answers very well for many plants in winter, when the sun is not strong, but it is a poor place for them in summer, unless something can be done to greatly modify the intensity of the afternoon heat. Northern windows are not adapted to flowering plants, but shade-loving plants can be grown in them very satisfactorily. It will therefore be seen that all the windows of a house can be utilised for plant growing, provided we are careful in our selections and adapt the plant to the window it is to grow in.

It is safe to say that, as a general rule, light-coloured flowers are best adapted to windows having an eastern outlook. But there are many exceptions, and the only way to make absolutely sure of the best exposure to give a plant is to experiment with it, and thus find out what conditions of light it does best in. If we were asked to give a list of plants adapted to the several exposures mentioned, it would be something like this: For eastern windows—*Fuchsias*, *Begonias*, *Callas*, *Chinese Primroses*, *Primula obconica*, *Azaleas*, *Plumbago*, *Stevias*, *Lobelias*, and all kinds of bulbous plants. For southern windows—*Geraniums*, *Roses*, *Chrysanthemums*, *Carnations*, *Lantanas*, *Oxalis*, *Oleanders*, *Abutilons*, *Hibiscus*, *Marguerites*, and most of the plants having richly coloured foliage. For western windows—bright leaved plants and a few of the more "accommodating" plants like the *Geranium*, provided the effect of too strong sunshine is modified somewhat. For northern windows—*Ferns*, *Araucarias*, *English Ivies*, *Palms*, *Aspidistra*, *Ficuses*, and *Selaginellas*. *Roman Hyacinths*, *Primula obconica* and *Chinese Primroses* will often bloom well in sunless windows.

But the above lists are subject to great modification, because the florist who has "the knack" of flower-growing will contrive to so control conditions that he can grow almost any plant in almost any exposure. The sun can be tempered by shades and screens. Heat can be regulated, and water used in quantities to fit the losses by evaporation which will be different in different exposures. These things can not be put down on paper in such a manner as to make them plain to the reader, but they will come to the amateur florist by personal work among the flowers he grows.

We read a great deal about shade-loving plants. Now, "shade-loving" is a comparative term. It does not mean actual shade, in the sense ordinarily given the word, but it means an absence of sunshine. A *Fern* is called a shade-loving plant, but it will do just as well at a south window, if we keep it out of the sunshine, as it would in a window at which no sunshine enters. It is so with all plants not fond of sunshine. All the shade they need is exclusion from it, not, as so many suppose, a place in which light is so toned down that dimness results. A place may be shady in the sense that it is without sunshine, and yet it may be very light. And this is the kind of shade that shade-loving plants require.

If you are going to build a greenhouse on a small scale, like a lean-to, by all means, if possible, have the roof of it slope to the south. If you cannot do this, have it slope to the east. But never have the slope to the west or the north, for one will give you so much sunshine that your plants will be scorched by it, and the other will

give you none at all in winter. If you can have one with a roof having two slopes—one to the east and one to the south—by all means have it, as this will give you an ideal exposure, as it combines the advantages of early morning and midday sunshine, and nearly all kinds of plants can be so arranged that they will get just the amount of sun they need.

If you are going to build a greenhouse with an even-span roof—that is, the roof the same on both sides—let it run north and south. Do not make the mistake of having the building so high that the glass of the roof is several feet above the plants under it. The nearer you can get them to the glass the better it will be for them. In summer, the west side of an even-span roof can be covered with thin cloth or washed with a mixture of lime, or something similar, that will obstruct the free entrance of the rays of the hot afternoon sun.—*Canadian Horticulturist*.

PLANT LISTS AND GUIDES ON SALE AT KEW.

MR. WATSON, Curator of the Royal Gardens, Kew, writes: "I shall be much obliged if you will kindly publish in your paper the enclosed list of plant lists and guides on sale at the Royal Botanic Gardens, Kew. Many applicants for them omit to send the cost of postage, no doubt because in the press notices only the net prices of the lists are stated." The following is the list:—

Key Plan and Index to the Royal Botanic Gardens, Kew. Fifth edition. 1900. Price 2d.; post free, 2½d.

Official Guide to the Museums of Economic Botany. No. 2: Monocotyledons and Cryptogams. 1894. Price 4d.; post free, 5d.

Official Guide to the Museums of Economic Botany. No. 3: Timbers. Second edition, revised and augmented. 1893. Price 3d.; post free, 4d.

Official Guide to the North Gallery. Fifth edition, revised and augmented. 1892. Price 4d.; post free, 5½d.

Hand List of Trees and Shrubs grown in Arboretum (excluding Coniferae). Second edition. 1902. Price 1s. 3d.; post free, inland, 1s. 7d.; foreign and colonial, 1s. 10d. Part II. (first edition): Gamopetalae to Monocotyledons. 1896. Price 1s.; post free, 1s. 2½d.

Hand List of Ferns and Fern Allies cultivated in the Royal Gardens. 1895. Price 6d.; post free, 7½d.

Hand List of Herbaceous Plants cultivated in the Royal Gardens. Second edition. 1902. Price 1s. 9d.; post free, inland, 2s. 2d.; foreign and colonial, 2s. 6d. Cloth boards, price 2s. 6d.; post free, inland, 2s. 11d.; foreign and colonial, 3s. 3d.

Hand List of Orchids cultivated in the Royal Gardens. 1896. Price 6d.; post free, 8d.

Hand List of Tender Monocotyledons cultivated in the Royal Gardens. 1897. Price 9d.; post free, 11½d.

Hand Lists of Orchids and Tender Monocotyledons in one volume. Cloth boards. Price 2s.; post free, 2s. 4½d.

Hand List of Tender Dicotyledons cultivated in the Royal Gardens. 1899. Price 2s. 6d.; post free, inland, 2s. 10d.; foreign and colonial, 2s. 11d. Cloth boards. Price 3s.; post free, inland, 3s. 4d.; foreign and colonial, 3s. 5d.

Myecologic Flora of the Royal Gardens, Kew. 1897. Price 4d.; post free, 5d.

[We have frequently recommended these most helpful handbooks to our readers. They are valuable to all who are really interested in their gardens.—Ed.]

BEGONIA SOCOTRANA.

In the headlong rush for the newer *Begonia* (Gloire de Lorraine and its sports, this old but extremely useful *Begonia* is apt to be overlooked, but we are loth to discard old and well-proved friends. This species comes in in January after the other has become stale. This year it again shows its superior claims to utility and refreshing beauty. Being tuberous and easily grown, it does not take up valuable space through the crowded spring

months like *B. Gloire de Lorraine* does, as the pots, after proper drying off, may be laid on their sides away from the light, but in a warm temperature, until August, when the tubers should be shaken out and repotted according to their sizes, given generous treatment and abundance of atmospheric moisture. The leaves are very ornamental and the flower spikes are long and thrown well up above the foliage, consequently better for cutting purposes than those of *B. Gloire de Lorraine*. The newer race of scarlet winter-flowering varieties, such as *L'ideal*, *Mrs. Heal*, *Winter Cheer*, and others will, when their constitution is restored from hard propagation, become grand acquisitions to winter-flowering plants.

W. CRUMP.

CORRESPONDENCE.

ROSE CRIMSON RAMBLER.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Referring to the issue of the 24th ult., pages 53-54, in the reprinted notes on climbing Roses, from the pen of the late Mr. Girdlestone, I see (page 54) the following: "I have only seen one fine plant of it (*Crimson Rambler*) on a wall, &c." As I have come across similar statements in the gardening papers during the past year or two, I thought it might interest amateurs to know that *Crimson Rambler* has found a happy haunt on the walls of my house here in Yorkshire, and has flowered profusely each season since it became established. I planted three of them—two on the south wall and one on the west wall of the house—just five years ago. One of the former flowered well in the second season, all three in the third season, and the last two summers we had a splendid show of bloom on two of them. As to growth, they have all climbed to the level of the roof-spout, and each puts out about one strong new shoot from the base each year. I have never cut them back, but I give them a little attention in this way. About three times each summer I hoe the top soil about their roots, then give each a half bucket of water, followed by a half bucket of strong manure water, and after the flowering season I turn the hose-pipe on to wash the spider webs, &c., from the stems and twigs against the wall. In the autumn I give a little manure at the roots. Their success on my house is no argument in favour of their use on walls in preference to trellis work; on the contrary, they are to be seen in perfection on trellis work in the garden of a neighbour of mine.

WALTER JESPER.

Berchwood, Menston-in-Wharfedale.

PROLIFEROUS (?) ARMERIA.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—At the beginning of last December a gardener drawing attention to what looked like small plants springing from among the withered flower-heads of an *Armeria*, I carried this head home and placed it on the surface of a pot in an alpine house, sprinkling a little sandy soil over it and sinking the flower-head a little in the pot. I now see unmistakable leaves showing. Is this a common occurrence in this class of plant? I can find no account of it in Kerner and Oliver.

A. C. BARTHOLOMEW.

[It is impossible to determine whether this is a true case of proliferation, such as occurs in the inflorescence of *Agaves*, *Fourcroya*, and *Allium*, or not, since it does not transpire that the growth or apparent growth perceived in December among the withered flower-heads has remained green, and that the leaves at present showing after layering are a continuance of that growth. If this latter were the case, proliferation may be assumed; but if not it is more than probable that the new growth is simply the product of germinating seeds which would naturally have been present at the base of a matured inflorescence. In the *Agaves*, &c., mentioned, it is a frequent occurrence for proliferous buds to be formed in conjunction with the seed

capsules, and it is of course possible that a similar phenomenon should occur in the corymbiferous heads of *Armeria*, but in that case the embryo plants should remain in evidence from the outset under culture.—ED.]

EDITOR'S TABLE.

A NEW HEPATICA.

Mr. Goodwin sends a few flowers of a beautiful new *Hepatica* named *atro-cerulea*. It is a form of



THE NEW SAXIFRAGA GRIESBACHII.
(Drawn from a small plant sent by Mr. Smith, of Newry, and slightly reduced; the flowers are crimson.)

Anemone (Hepatica) angulosa, and is of beautiful colouring, an intense blue-purple, and very welcome at this time. It is just the plant for the cold or alpine house. Our correspondent writes: "I have sent you a few blooms of a new *Hepatica* raised by Horsman, of Messrs. R. Smith and Co., of Worcester. Horsman is quietly working to improve various hardy flowers."

SAXIFRAGA GRIESBACHII.

Mr. Smith, Daisy Hill Nursery, Newry, sends a plant in flower of this charming *Saxifraga*, which received a first-class certificate at the meeting of the Royal Horticultural Society on the 10th inst. We had a drawing made of it, and lovers of alpinists, especially those who have a cold house for the early-flowering ones, will treasure this gem. It is, as recorded in *THE GARDEN* of last week, page 120, "quite a new species, and from a new district, being found in Albania and Macedonia. Briefly described, it is not unlike a small *S. longifolia*; reminds one also of *S. calyciflora (media)*. It is the latter species that the new plant most closely resembles generally and in the flowering in particular. The peduncles are 4 inches or 5 inches long, purplish in colour, and densely hirsute, these appendages being likewise tinged occasionally with the same colour as the stems. The inflorescence is paniculate or racemose in outline, and freely furnished with short obovate decidedly green-tipped leaves. The flowers are small and numerous, purplish crimson in colour. The plant is obviously a good grower and free bloomer." Mr. Smith writes: "As you see it is one of the most charming of early February flowers." This is quite true.

HEATHS FROM EXETER.

Messrs. R. Veitch and Co., of Exeter, send a welcome boxful of Heaths, which include *E. arborea*, *E. codonodes* (now known as *E. lusitanica*), *E. mediterranea glauca*, *E. carnea*, and a form intermediate between *E. arborea* and *E. lusitanica*, probably a hybrid. The Heaths, though amongst the most beautiful of all shrubs, are amongst the most neglected, in spite of moorlands purpled with their colouring. The native species, too, remind one of those from other lands. This boxful of flowers from Exeter is a reminder of their beauty in winter, and we are pleased that Messrs. Veitch are devoting special attention to the family. The following descriptions of the hardy Heaths sent occur in "Trees and Shrubs for English Gardens":—
E. arborea.—This is the most remarkable of all



the hardy Heaths; it grows to quite a small tree. In the Isle of Wight, and doubtless elsewhere, it has been known to grow 30 feet high, with a trunk 39 inches in circumference. It is found in considerable abundance along the Mediterranean coast region between Genoa and Marseilles, the wood being used in the manufacture of the so-called Briar pipes, Briar being a corruption of the French wood *Bruyere*. All the Heaths flower with great freedom, but none more so than *E. arborea* and its near ally *E. lusitanica*. The flowers are almost globular and nearly white; they are quite small individually, but produced so abundantly that the plants are smothered with them from March to May. Mr. Bean

says: "My experience of this species is that it is hardier and thrives altogether better in the London district than *E. lusitanica*, a species for which it is often grown. It ripens seed every year almost, and can thus be readily increased in a natural way. The young wood is densely covered with short hairs, and the leaves are closely packed in whorls of three.

E. lusitanica (syn. codonodes).—Many will not recognise the name *lusitanica* as applied to the well-known *E. codonodes*, but *lusitanica* is really an older designation. This Heath, as its name implies, comes from Portugal; it is also a native of Spain, and is often confounded with *E. arborea*. Briefly, they differ in the following respects: The flowers of *E. lusitanica* are longer and more bell-shaped than the globular ones of *E. arborea*; the foliage of *E. lusitanica* is a rather pale green, and has a rather more plumose look, the individual leaf being longer and more slender; the young wood, although downy, is not so hairy as in *E. arborea*. The remarkable abundance of flowers, a feature of *E. arborea*, is quite as apparent as in this species; their colouring is a faintly pink-tinged white. Mr. Bean writes (and this is the Heath we refer to as probably a hybrid): "From Messrs. R. Veitch and Sons, of Exeter, who are taking a special interest in these tree Heaths. Kew has lately received a form intermediate between *E. arborea* and *E. lusitanica*—probably it is a hybrid. *E. lusitanica* does not apparently grow so large as *E. arborea*, but it is recorded to have reached 12 feet in height in Sussex. Farther west in Dorsetshire, it grows luxuriantly, and is certainly one of the loveliest of evergreen than can be grown even in that favoured county. Seeds afford the best means of propagation.

E. mediterranea glauca.—Messrs. R. Veitch also sent this beautiful variety, which has quite bluish foliage and a wealth of lilac tinted flowers.

E. carnea.—How welcome this is, a bright crimson mass, upon our table. Of all the dwarf Heaths more can be said in favour of *E. carnea* than of any other species. It is not only absolutely hardy, but it flowers with astonishing freedom at a time of year when flowers are particularly cherished. Its flowering of course somewhat depends upon the weather, but frequently one may see its bright rosy bells almost as soon as January comes in. By the



ERICA LUSITANICA (CODONODES).
(Three parts nat. size.)

end of February the entire plant is a mass of beautiful colour, and for two or three months longer they retain their freshness no matter what weather may occur. No free flowering is this Heath that its flowers literally cover it. *E. carnea* is one of those plants (and there are many of them) which, although perfectly well known and quite common, are still not used in gardens so freely as they ought to be. The majority of all early-flowering plants bear flowers that are either white or yellow, so that the rosy red colouring of this *Erica* makes a welcome change. However freely it might be planted it would never become wearisome or out of place, for its tints, though bright and warm, are not harsh.

SOCIETIES.

EAST ANGLIAN HORTICULTURAL CLUB. ANNUAL REPORT.

THE committee have much pleasure in presenting their report of the club's proceedings for the year ended November 29, 1902, together with a statement of accounts for the same period, which they trust will meet with general approval.

It is with great satisfaction that they are able again to report a progressive and successful year, which, unlike many of its predecessors, has happily been unclouded by the death of any member. One of the notable features of the year is the substantial manner in which the club has again maintained its rate of numerical growth, and when it is remembered that each succeeding year renders this achievement increasingly difficult, the extent of the new enrolments will be justly appreciated.

The financial position shows an advance corresponding with the numerical rise, and from the returns which follow it will be observed that the various departments have maintained a healthy activity, in most instances showing busier and bolder results than previous records.

The monthly gatherings have been characterised by uniformly good attendances, a respectful and orderly demeanour in debate, and a general attentiveness to the various proceedings. The committee fully recognise that the reputation of the club is largely dependent upon the character of these gatherings, and in view, therefore, of their great value as an advertising medium, they realise the importance of maintaining and, if possible, of enhancing the attractiveness and usefulness for which the meetings have hitherto been noted.

SYLLABUS FOR 1903.

March 11, "The Cultivation of Strawberries under Glass," prize competition (confined to single-handed gardeners); "How to Keep a Garden Gay from April to October," Mr. J. C. Abel; April 8, "The Narcissus and Its Cultivation," with illustrations, Mr. George Daniels, 48, College Road, Norwich; the best descriptive paper and specimens of the Primrose family, prize competition (limited to members of botanical section); May 15, "The Cultivation of the Grape, under Glass and Outside," prize competition (open to all members); June 10, "Originality: A Talk on Garden Notions, Old and New," Mr. Edward Peake (botanical lecturer); July 8, a discourse upon herbaceous plants, with examples, Mr. George Davison, The Gardens, Westwick House; August 12, "British Ferns found in Norfolk," Mr. J. Powley, F.R.H.S. (president); "Our Bird and Insect Allies," Mr. H. B. Dobbie, Pine Banks Gardens, Thorpe; September 9, "Fruit Growing for Cottagers and those with Small Holdings, giving Best Sorts to Grow," prize competition (open to all members); October 14, "Violet Culture, and How to Obtain the Longest Supply," prize competition (confined to single-handed gardeners); "My Experience in Grafting and Budding," Mr. E. Yeomans, Gunn's Court, St. Giles Street; November 11, "A Chat about Gardening in the Present Age," Mr. J. Clayton, 12, Royal Arcade, Norwich; December 9, no papers; annual meeting.

At the February meeting of this club, presided over by Mr. J. Powley, supported by Mr. T. B. Field in the vice-chair, nearly 100 members attended to hear Mr. F. W. Shrivell, F.L.S., give his interesting discourse upon "Chemical and other Manures." He (Mr. Shrivell) had brought with him a series of photographic views depicting the growths at the Experimental Farm, Tonbridge, which by the aid of a strong lantern were well thrown upon the sheet. A capital discussion followed, and a hearty vote of thanks was accorded to Mr. Shrivell for coming to East Anglia once more. The exhibition tables were well filled in the monthly competitive classes, and some fine products were noticeable. Mr. R. Abel had a typical plant of white Cyclamen. Forced bulbous plants, as exhibited by Mr. W. Rush, the Fernery Gardens, Thorpe, were very choice. Mr. F. Williams, gardener to Mrs. Louis J. Tillet, Old Catton, had a pretty arrangement in the class for bonquet of flowers. In the non-competitive class, a charming exhibit was placed on the table by Mr. George Davison, Westwick House Gardens, consisting of fine sprays of that somewhat rare shrub *Andromeda japonica*. This was much admired for its pendulous sprays of Heather-like blossoms. Mr. Davison also had blooms of the floribunda type and sprays of *Rhododendron precox*, all these being cut from the open. A fine solid silver bowl was presented to the club as a challenge bowl by Mrs. Louis Tillet, Old Catton. The committee have arranged a series of three competitions in the year and added further prizes, the highest points in this competition for the year to hold the bowl. If won by the same member twice it becomes his absolute property.

SHERBORNE GARDENERS' SOCIETY.

AT the ordinary monthly meeting held in St. John's Hall recently, Mr. J. Dean (president) in the chair, a very interesting paper on "Winter Flowers" was read by Mr. J. Crook, of Forde Abbey Gardens. He urged all gardeners to use their best efforts towards the production of blooms for the winter months, as the contrast between them and the summer time was so marked. In the prize competition there were no less than thirty entries. The prizes were awarded as follows: Brussels Sprouts—First, Mr. Barrett (gardener to Mr. Blake); second, Mr. Lane (gardener to Mr. E. B. Dingley). Beets—First, Mr. P. Thorn (gardener to Mr. R. Boden); second, Mr. Bishop (gardener to Dr. Williams). Celery—First, Mr. Crabb (gardener to Mr. Binnie Clarke, Digby Hotel); second, Mr. G. Leeding (gardener to Mr. Clayton, Bradford Abbas). Amateur section—Brussels Sprouts—First, Mr. Voisey; second, Mr. J. Evans. Beets—First, Mr. E. Hann; second, Mr. Evans. Celery—First, Mr. Hann; second, Mr. Voisey.

CARDIFF CHRYSANTHEMUM SOCIETY.

THE sixteenth annual meeting was held at the Grand Hotel on Friday, the 6th inst., the President (Councillor J. W. Courtris, J.P.) in the chair. Mr. H. B. Crouch (honorary treasurer) gave his report on the balance sheet, which showed an increase on the year's working, with a balance of £3 13s. in hand. The chairman gave his report upon the year's work of the society. After going into various details, he reported that this year there would be offered for competition three valuable cups and several medals given by local gentlemen. A pleasing compliment was paid the officials who had just completed the work of the past year with greater success than had hitherto been done in the past. The following were re-elected: President, Councillor J. W. Courtris, J.P.; the whole of the vice-presidents with the names of the two following gentlemen added, Messrs. A. T. Hill and Medhurst; chairman, Mr. John Julian; vice-chairman, Mr. Thomas Malpass; honorary treasurer, Mr. H. B. Crouch; honorary secretary, Mr. Harry Gillett; also Messrs. E. Molyneux, G. Adams, and H. Bartram have consented to act as judges again this year. The whole of the general committee were re-elected, and the name of Mr. J. Montney added. A strong executive committee were elected from this body to deal with the schedule at once.

WOOLTON GARDENERS' SOCIETY.

A MEETING of the above society was held recently at the Mechanics Institute, when there was a full attendance of members. Mr. R. Todd was voted to the chair, and introduced Mr. F. Ker, Aigburth Nurseries, to read a paper on "Hardy Plants and Bulbs for Early Forcing."

The lecturer considered about the middle of December a convenient time for forced blooms to take the place of the Chrysanthemum. The most useful for early work were the Van Thol Tulips, Paper-white Narcissi, and the common Daffodils. The Tulips succeeded best under the stage with some surfacing of litter or moss. These could be followed by *Azalea mollis*, A. Daviesii, A. indica, Lilacs of certain sorts, the earlier *Rhododendrons*, *Dentzia gracilis*, *Spiræas*, *Lily of the Valley*, *Lilium Harrisii*, and *Roses*, especially *Tea* and *Hybrid Teas*. The most approved temperatures and treatment were given in each case. Retarded plants also received some attention from the lecturer as contributing variety. A good discussion ensued, in which the chairman, Messrs. R. G. Waterman, T. Carling, G. Haigh, J. McCall, Jos. Stoney, and others took part. In addition to the plants and bulbs mentioned by the lecturer, the following were recommended as useful: Scarlet and white Thorns, *Clematis* in variety, *Laburnums*, pyramids or standards, *Magnolias*, and many herbaceous plants.

Mr. Jos. Stoney showed a well-grown *Odontoglossum crispum* of good form, and Mr. G. Haigh showed examples of the *Chrysanthemum rust*, fortunately for the district a pest not very well known. The thanks of the meeting were tendered for these exhibits. A cordial vote of thanks to the lecturer and chairman terminated an enjoyable meeting.

CROYDON HORTICULTURAL SOCIETY.

A MOST enjoyable and instructive evening was spent with this society at their rooms, Sunflower Temperance Hotel, on Tuesday week, when the subject "Peaches" formed the nucleus of Mr. Alderman's (The Gardens, Morden Hall) paper. Mr. Alderman talked about the introduction to this country of the Peach. In detail he discoursed on the life of the Peach tree from the time of propagating till its establishment as an old veteran in the greenhouse and on the walls of the garden, mentioning some trees under his own care which were over twenty years old. In the lecturer's opinion the Plum and Almond stocks were the best suited for grafting upon, and he emphasised the advisability of using good open, sandy soil, not too rich; for growing them successfully under glass, lean-to houses were best. From October to November he considered the best time for planting, although as late as February or March would be found suitable. In training trees the fan shape was considered to be best, leaving the centre of the tree well open, as this would eventually fill up when active growth took place. Disbudding should be done gradually, allowing a week's time between each operation, keeping the shoots regularly tied, and allowing exposure to sun and air. The thinning of fruit should be done at intervals, leaving a square foot of space from each fruit for exhibition purposes, and where a general crop is required 8 inches to 9 inches was sufficient. The application of a good mulch of short manure on the border, with the occasional addition of a little artificial manure, when fruits were well formed, would be beneficial. The troubles of insect pests were treated of, and the lecturer had always found the application of clear soot water applied with the syringe to be one of the best preventives. Some of the best varieties to be grown were

named by the lecturer. The discussion which followed was assisted by several members, and the chairman, Mr. W. J. Simpson, in proposing a hearty vote of thanks to Mr. Alderman for the paper, fully expressed the unanimous appreciation of the members for the lucid and practical manner with which the lecturer had dealt with his subject, and this was endorsed by Mr. M. E. Mills.

BATTERSEA, CLAPHAM, AND WANDSWORTH AMATEUR CHRYSANTHEMUM AND HORTICULTURAL SOCIETY.

UNDER most auspicious circumstances the annual dinner of this society took place on Saturday, the 7th inst., at Stanley's Restaurant, Lavender Hill, S.W. In the absence through illness of the president, Mr. F. J. Coppin, the chair was taken by the treasurer, Mr. W. J. Stringer, who was supported by Messrs. H. J. Jones, J. T. Berridge, D. B. Crane, G. T. Nines (hon. sec.), A. B. Freeman, and ladies and gentlemen to the number of about eighty. Mr. D. B. Crane, in proposing "the Ladies," congratulated the society on their innovation in asking the ladies to dine with them this year. He referred to the interest taken in our gardens by ladies, and their willingness at all times to assist their husbands to achieve success. That the artistic skill of the ladies in arranging flowers might be encouraged, Mr. Crane appealed for special classes for them. Mr. H. J. Jones responded. The chairman, in an enthusiastic speech, proposed "the Society." He justified its existence by the excellent work that was being accomplished, and asked that the members should continue to work with the same spirit which they had done during the past year. This was responded to in a very clever speech by the hon. secretary (Mr. Nines), to whom the society is greatly indebted for much hard work. Mr. H. J. Jones gave the toast "the Officers," to which the secretary replied. "Presidents, past and present" and "the Visitors" were both toasted with the same enthusiasm as that with which the previous toasts had been received, and the company broke up at a late hour. An excellent series of monthly meetings and lectures for 1903 and 1904 are in course of preparation, and several well-known horticulturists have promised their services. The society is financially sound, and there is the promise of a distinct accession of members in the near future.

LIVERPOOL HORTICULTURAL ASSOCIATION.

THE twenty-fourth annual meeting was held on Saturday the 31st ult., at the society's office, Liverpool, Mr. T. Foster, chairman of committee, in the chair. The report read by the secretary gave evidence of a useful year's work, spring and autumn exhibitions had been held which fully upheld the high merit of Liverpool shows. A cordial vote of thanks was tendered to the donors of special prizes, including Messrs. Thos. Davies and Co., John Cowan and Co., H. Middlehurst, W. Rowlands, R. Pinnington, and H. Sadler. The lectures delivered throughout the session were of a practical nature, and the thanks tendered to Messrs. Jos. Stoney, F. Ker, C. Paul, and J. Hathaway were well deserved.

The statement of accounts showed that a satisfactory financial year had been experienced, showing a gain for the year of £45 1s. 5d. The chief items include balance brought forward, £208 2s. 9d.; subscriptions, £337 14s. 9d.; advertisements and bank interest, £20 7s. 11d.; spring show, £35 9s. 9d.; autumn show, £167 15s. 11d.; total, £767 11s. 1d. Disbursements: General, £88 4s. 10d.; prizes, spring show, £73 9s.; autumn show, £154 4s. 1d. Expenses: Spring show, £80 0s. 10d.; autumn, £118 8s. 2d.; total, £514 16s. 11d. Balance, £253 4s. 2d. The usual donations of £3 and £2 were given to the Gardeners' Royal Benevolent Institution and the Royal Gardeners' Orphan Fund.

The election of officers gave evidence of satisfactory results, the following being re-elected to their respective positions:—President, the Right Hon. the Lord Mayor of Liverpool; hon. treasurer, Mr. William Fletcher Rogers; sub-treasurer, Mr. G. Blackmore; auditors, Messrs. Harwood, Banner and Son and R. G. Waterman; secretary, Mr. H. Sadler, 7, Victoria Street, Liverpool.

The thanks of the meeting were tendered to Mr. Foster for his services in the chair.

The members met at the society's office on Saturday last for the purpose of hearing a lecture by Mr. C. Paul, Botanic Gardens, Manchester, on "Stove and Greenhouse Flowering Plants for Exhibition." Mr. T. Foster occupied the chair, and, in introducing the lecturer, stated he was one who could speak from practical experience, having been in the forefront of exhibitors at the past famous shows of Manchester. The lecturer referred to the changed times of gardening, comparing the giant specimens of the past with the smaller plants of to-day. In asking whether this was the fault of the gardener, he thought distinctly no. He believed that there were more good gardeners at the present day than twenty years ago. There were more difficulties to contend with now, such for instance as a dearth of good peat and loam, and water free from chemicals. The chief species were mentioned with concise notes as to their management, the form of house (span roof was recommended), the temperature, compost, potting, watering, syringing, shading, training, &c., all were treated clearly.

As usual the discussion which followed brought out many practical questions which were ably answered by the lecturer. At the conclusion a cordial vote of thanks was heartily passed to Mr. Paul for his excellent lecture and to Mr. Foster for presiding.

WISEBECH AND DISTRICT DAFFODIL SOCIETY.

THE annual exhibition will be held in the Public Hall, Wisbech, in April. Daffodils, Hyacinths, Tulips, and other spring flowers will be shown. For the best collection of Narcissi, not less than twenty distinct varieties, the ladies' silver challenge cup, value £10 10s., is offered in addition to cash prizes. Full particulars may be had from the hon. secretary, Mr. G. Stevens, 6, Albion Terrace, Wisbech.

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[FEBRUARY 28, 1903.]

AMATEUR GARDENERS AND COTTAGE GARDEN SHOWS.

WE have on many occasions drawn attention to the beneficent influence of cottage garden shows upon village and suburban life. The Dean of Rochester, so well known as a great rosarian and helper in all movements that tend to the bettering of the men and women of rural England, sends a letter written by him to the *Chatham and Rochester News*, which we reproduce.

"We have so many societies in this neighbourhood for the extension of cottage gardens and the encouragement of amateur gardeners; so much has been done by our Kent County Council to confer the advantages of horticulture upon the working classes by the appointment of experts, to supervise, to give lectures and practical instructions, to establish exhibitions, to reward success; and the happy results of these beneficent endeavours have been so often seen in a closer attachment to home life, in escapes from temptations and evil habits to healthful and useful employment, in the variety and increase of wholesome food, in that admiration of the beautiful, which purifies the mind and exalts it to look through Nature up to Nature's God; all these considerations assure me that a large number of your readers will read with interest of a new and generous attempt to evoke enthusiasm, ambition, and experience among these cottage and amateur gardeners.

"In addition to the local shows, at which individuals compete with each other, Lady Algernon Gordon Lennox proposes an exhibition, on the Bank Holiday in August next, at Broughton Castle, Banbury, for societies or groups of villages, each society or group to select from its members a collection of hardy flowers, fruit, and vegetables, grown by cottage gardeners and amateurs only, of which full particulars are given.

"The Lennox Challenge Cup, value 50 guineas, will be awarded to the winner of the first prize, to be held for one year, and retained after three successive years of victory. The Royal Horticultural Society will present four of their Banksian medals, and £30 will be given in money.

"The exhibition is restricted to gardeners dwelling in Northamptonshire, Oxfordshire, and Warwickshire, but we may hope that this example will be followed in other counties by those who enjoy, and would impart to others, the happiness of a garden."

We hope, too, that the example of Lady Algernon Gordon Lennox "will be followed

in other counties by those who enjoy, and would impart to others, the happiness of a garden."

As we wrote last year in *THE GARDEN* in referring to cottage flower shows: "There is the hobby to work for all the year round; there is the incentive of emulation which human nature needs to rouse it out of its normal inertia; there is the pleasant intercourse over kindred interests to fill many an ill-spent Sunday afternoon with innocent occupation; there is wholesome food and rich reward of flower beauty at the command of instructed head and diligent hands in every rood of garden ground around each cottage door. All who have beautiful homes of their own may help on the good cause of bringing cheer into other lives by wise and kindly help to the neighbour with fewer opportunities."

"PHILISTINISM" AND THE HORTICULTURAL HALL.

"Philistinism" at least knows what it wants, while aestheticism is apt to waste its energies on what is not practical."—*Gardeners' Chronicle*, February 14, page 104.

OUR friendly contemporary, remarking, as we suppose, on our recent criticism of the new Hall, uses the above words.

Nothing is more true. The word aestheticism (if there be such a word) is either used by the artist in expressing his contempt for the many absurd affectations of the ignorant who pretend to a knowledge of fine art which they do not possess, and for the odious, useless, and taste-depraving mass of so-called "art" and "decoration" which has flooded the world during the past half century, or it is used by the pure "Philistine" to convey an idea of something which he cannot even describe or define, but that, being beyond his comprehension, he regards with suspicion and aversion. It is a term of reproach which he hurls at fine art in general, confounding, in his blissful ignorance, all expression of fine art or so-called fine art, whether good or bad.

If it be true that "Philistinism"—the term, in the case of the quotation from our contemporary, being unmistakably applied to those who approve of the Hall design—"knows what it wants," it is evident to anyone with a grain of sympathy with fine art that it deliberately "wants" an ugly building. The only possible alternative is that it does not "know" the nature of the thing that it "wants," and therefore is not ashamed.

We shall write nothing further about the designs. They have been passed by the

meeting recently held, and therefore all the Fellows have to do is to get the building built as quickly as possible. For this purpose funds are needful.

We have given our warmest support to the Hall scheme, and this support will never be relaxed, but the building will not add to the architectural beauty of London. This is our belief. We were anxious that the Hall should be simple and beautiful. Our efforts have failed we honestly confess, although there is satisfaction in knowing that even "Philistinism" is uncomfortable about the future.

THE NATIONAL ROSE SHOW.

THE National Rose Society have greatly added to the beauty and interest of their later exhibitions by awarding prizes to collections of "garden or decorative Roses," of which they have included a "selection of the fittest" in their admirable official catalogue. The committee are most anxious to increase the attractions of the show and to improve the arrangement of the flowers, and it might be helpful if some of those critics who are most severe in their denunciations of the present methods would kindly make a few practical and possible suggestions as to the future. We all desire more diversity, more graceful adaptations, more room and less heat in the tents, with the surroundings of a spacious garden, umbrageous trees, comfortable seats, and charming grottoes; but we are at present in the unhappy condition of Little Bo-peep, and "don't know where to find them." As to the cruel suggestion of a two days' exhibition, which, with its faded petals and *pot pourri*, intensified by a few "renovations," would represent the decline and fall of Queen Rosa's empire, the visitor would

"Feel like one who treads alone
Some banquet hall deserted,
Whose guests are fled, whose Roses dead."

Sad as Marius weeping over the ruins of Carthage, or as some enthusiastic "bedder-out" in his garden after a hailstorm. Better to bear the ills we have (trying to overcome them) than fly to others which we know not of. Sufficient unto the day is the evil thereof.

S. REYNOLDS HOLE,
President of the National Rose Society.
The Deanery, Rochester, Feb. 21, 1903.

KEW NOTES.

INTERESTING PLANTS IN FLOWER.

Temperate House.

ACACIA JUNIPERINA, A. myrtifolia, A. ovida, A. verniciflua, A. verticillata, and others, Camellia reticulata, Leucopogon lanceolatus, Rhododendron grande, R. hybridum, Strelitzia Reginae, and S. R. var. citrina.

Palm House.

Clivia macrophylla.

Orchid Houses.

Catasetum maculatum, Cattleya guttata var. Prinzii, Cirrhopetalum picturatum, Cynorchis compacta, Cypripedium siamense, Dendrobium chryso-discus, D. lituiflorum, D. Pierardi, D. sarmen-tosum, D. wardianum and others, Epidendrum stanfordianum, E. xanthinum, Lælia harpophylla, Masdevallia Ehippium, M. melanopus, M. schre-deriana, Maxillaria picta, Ornithidium coccineum, Phaius Marthæ, P. tuberculosus, P. Wallichii, Platyclinis glumacea, Selenipedium Sedeni var. candidulum, Tetramicra bicolor, Vanda suaviss, and V. tricolor.

† *Range.*

Anoiganthus breviflorus, Begonia phyllomanica and others, Kalanchoe Kirkii, Phædranassa chlo-racea, and Veltheimia viridifolia.

Succulent House.

Aloe nitens and *Protea cynaroides.*

Greenhouse.

Amorphophallus Rivieri, forced bulbs and shrubs, and other things.

Rock Garden and Herbaceous Ground.

Draba Aizoon, *Crocus* (various species), *Iris thunbergiana*, *Narcissus cyclamineus*, *N. minor* var. *minimus*, *Saxifraga apiculata*, *Scillasin* var., and *Tulipa violacea.*

Alpine House.

Bulbocodium vernum, *Corydalis kolpakowskyana*, *C. ledebouriana*, *Draba Gilliesii*, *Erythronium citrinum*, *Gagea arvensis*, *Hyacinthus azureus* var. *robustus*, *Ionopsidium acaule*, *Orchis longi-bracteata*, *Primula denticulata*, *P. megaseæfolia*, *Saxifraga burseriana*, and *S. oppositifolia* var. *alba.*

Arboretum.

Ericas in variety, *Nuttallia cerasiformis*, *Prunus Amygdalus* var. *dulcis*, *P. A.* var. *persicoideis*, *P. armeniaca*, *P. cerasifera*, *P. Mume*, *P. tomentosa*, and *Stachyurus præcox.*

NOTES OF THE WEEK.

FORTHCOMING EVENTS.

March 2.—Société Française d'Horticulture Meeting.

March 3.—Meeting of National Amateur Gardeners' Association.

March 9.—Annual General Meeting of the United Horticultural Benefit and Provident Society, Caledonian Hotel, Strand, at 8 p.m.

March 10.—Royal Horticultural Society Meeting, 12 noon; Horticultural Club, 6 p.m.

March 24.—Royal Horticultural Society Meeting (Tulip and Hyacinth Show).

March 25.—Liverpool Horticultural Association Spring Show.

Royal Horticultural Society.
Alteration in rules for judging.

Everyone possessing a copy of the rules is requested to make the following alterations: Page 14, line 4, should in future read thus: Muscat of Alexandria or other Muscat Grapes, 11; and the word "other" should be inserted before "black Grapes."—W. WILKS, Secretary.

Well-grown Freesias.—I am sending you a photograph of a batch of Freesias, which, if you care to use in THE GARDEN, please do so. These beautiful flowers well repay good culture, and are always asked for by those who have extensive flower decorations or cut flowers in any one room, the scent being very strong. I flower my own bulbs as a rule year after year, but to do this give them good culture before and after flowering, gradually withholding water as the foliage turns yellow, and then put them on a shelf where the sun plays well on them all day. Thus there need be no fear of their failing to start freely when potted on again.—J. R. WILSON, *The Gardens, Sulby Hall, Rugby.*

Pear Beurre Rance in March.—This is our latest Pear, but unfortunately the

fruits this season are scarce, and like many others did not keep as well as usual. In some gardens this old variety is not always a favourite, but I have no fault to find with it, as in a light soil or gravel it does remarkably well. I well remember this tree many years ago in the western part of the kingdom in a light warm soil grown in standard form. It was one of the most profitable Pears grown, and, as far as my memory serves me, it rarely failed to crop. The fruits grown on standard trees are not so large, but they keep well. On the other hand, I have observed of late years that this variety in the northern counties did best on a west wall. Grown thus the trees made splendid growth. It is a very old variety and is grown under various names, but it is a very distinct fruit and readily known by its dark skin and russet spots, with its greenish white flesh, and rich vinous flavour. I think it is worth room in all gardens where late Pears are wanted, and in certain soils it rarely fails. Grown on a wall the fruits are large and good.

A valuable late dessert Apple (Armored).—There are plenty of dessert Apples, but none too many really first-rate kinds; but the new Armored promises to be when better known a standard fruit for use in the spring months. This new variety was raised by that well-known fruit grower, Mr. C. Ross, of Welford Park, and I place it in the front rank of dessert fruits for its splendid quality, its lateness, and free growth, as far as my experience goes. The fruits are small, but quite large enough for the dessert, yellow, russetty, and of splendid flavour; they keep well into May. To prove what a really good dessert variety the Armored is I may mention that it received an award of merit in March, 1890, and a first-class certificate on May 24, two years later. This is a very prominent position for any new fruit. It will be seen that an Apple to get an award at the end of May must be of good quality at such a late period of the year, and to get the highest possible award shows its superior quality. If it prove a heavy cropper it will be as great a favourite in private gardens.

A new Plum (Rivers' Late Orange).—This new fruit is well worth attention, as it is one of the best flavoured of the late Plums I have tasted, its season being the end of October. The Late Orange is a free stone and of medium size, with a bright golden skin covered with heavy bloom. The fruits are remarkably rich and juicy, and when its late season is considered it may be classed as a great gain to those who require fruit in variety as late as possible. The Late Orange was raised by Messrs. Rivers, and I can safely say the above variety will prove one of the best Plums we have had of recent years, and a good companion to the older Coe's Golden Drop. With these excellent varieties the Plum season will be greatly extended. It is not too late to add this new variety to the older kinds, and where Plums thrive I am sure Late Orange will prove profitable. This variety received a first-class certificate a short time ago from the fruit committee of the Royal Horticultural Society.—G. WYTHES.

The flora of Krakatoa.—"The Island of Krakatoa," says *Knowledge*, "lost all its vegetation in the terrible volcanic eruption of August, 1883, which covered the island to a depth varying from one to sixty metres with a bed of red-hot ashes and pumice-stone. Its appearance afterwards was that of a mountain isolated in the sea, rising with almost perpendicular sides to a height of 2,500 feet. The island, which is twenty-one miles from Java and twenty from Sumatra, was visited by Dr. Treub in 1886. He found it uninhabited, and not easily accessible. On the narrow beach he found fruits or seeds of seven species of Phanerogams, and young plants of nine species, all the latter, excepting one grass, being the usual littoral plants of tropical islands. In the interior the vegetation was quite different—Ferns, both in the number of species and individuals, predominating. Dr. Treub concluded that Ferns in such a flora precede and prepare the soil for a phanogamic vegetation. Their minute spores would be brought long distances by the wind, but

it was remarkable that these would germinate and develop into plants on the intensely arid soil of Krakatoa. A close examination of the ashes and pumice-stone, however, revealed the presence almost everywhere of Algae coating the soil with a thin gelatinous layer, in which the Fern spores would find a suitable place for germination. Besides lower Cryptogams, Dr. Treub found, in 1886, fifteen Phanerogams and eleven Ferns; but in 1897 the flora consisted of sixty-two species (fifty Phanerogams and twelve vascular Cryptogams) belonging to twenty-four orders. The Ferns still predominated in the interior, and several species of tall grasses formed a striking feature of the vegetation. Seeds or fruits of thirty species were found on the beach, and here and there seedling plants, showing that the seeds were capable of germination. Of the fifty Phanerogams, it is estimated that seventeen were introduced by the agency of the wind, thirty-two by water, and four by birds."

Canarina campanulata.—Now and again I am interested in seeing a note in THE GARDEN on the above beautiful winter-flowering plant. Some of your correspondents seem to have a difficulty in getting it to flower freely. A note on the treatment given the plant here may be of interest to others. After flowering and when the foliage begins to take on a yellow tint, which is generally about the end of March, we gradually withhold water until the foliage is quite ripe, when watering ceases altogether, and the plant is placed on a shelf in the greenhouse to rest during the summer. Generally about the end of August young shoots appear and a good soaking of water is given at this stage. When the young shoots are about an inch long most of the old soil is shaken from the plant, which is usually repotted in a pot two or three sizes smaller than that in which it has been grown. When the young growths are 6 inches high pinch out the tops, and when the growths resulting from this pinching have developed 6 inches pinch again. In about a fortnight the plant is ready for a shift into its flowering pot, which in our case is 10 inches. As soon as the roots are running in the new soil we give the plant a final pinch. From the above treatment we have a plant 3½ feet high and 3 feet through flowering beautifully. Early in January I counted the flowers and there were 105. This is a plant that should be more often seen in gardens, as it is so easily grown and never fails to attract attention.—P. WILSON, *The Gardens, Orchardton, Castle Douglas, N.B.*

The Alicante Grape.—A leading fruit authority states "this is the worst Grape on the market," for though good to eat, the tendency of the berries to shrivel tells against it. The market returns show it is fetching from 1s. to 2s. per lb. Gros Colman from Belgium are better, but fetch only 1s. per lb. Late black Grapes do not appear to be a paying speculation. The same report states that a few well-kept Muscats are yet to be seen, and are fetching fair prices: but larger bunches of better quality pay better. When we remember what late well-kept Muscat Grapes fetched in the market thirty years ago and compare them with what is paid to-day, it is possible to see what a revolution has taken place in commercial Grape culture.—R. D.

Helleborus olympicus and H. abchasicus.—These two Hellebores, planted in one bed, make up one of the prettiest spots in my garden in February. They are under a north wall in good soil, and show up strongly every year. *H. olympicus* is white externally, and *H. abchasicus* of various tints of reddish purple. Both differ from *H. niger* in having taller flower-spikes, which are branched and bear small floral leaves, enhancing the effect very much. Although the flowers are drooping this is no drawback, as the exteriors are as highly coloured as the interiors. Still, the beautiful ring of stamens in the purple one may be better enjoyed by cutting a good stem and splitting it well up before placing it in water. So treated they last fairly well. I have read somewhere that they last better if placed under a bell-glass, but I have never tried this plan.—T. J. WEAVER.

J. C. Tallack, is quite distinct from that species, its proper designation being *I. lanrifolia* nova. This title naturally leads to some confusion, and it seems a pity that it should not be generally known in this country by its Continental name of *I. camelliaefolia*, to which the shape of its spineless leaves sanction its right. When out of berry the casual observer rarely recognises it as a Holly. A few weeks ago I noticed a splendid specimen in the gardens of Chaddlewood, South Devon, the residence of Mr. G. Soltan Symons. This tree was very symmetrical in shape and fully 20 feet in height, and was bearing an abundant crop of berries.

Hibbertia dentata.—This Australian climber, mentioned by "H. P." on page 51, may be grown on a warm wall in the open in the south-west. Last spring I saw it bearing its yellow flowers on a house front in the neighbourhood of Penzance, and have since then seen the same plant on two occasions, namely, in July, 1902, and during the past January. The plant in question is only a small one, being scarcely 5 feet in height, but appears in perfect health. "H. P." says that the leaves are "deep green in the adult stage, but when young are tinged with bronzy red." Doubtless the colouring of the foliage much depends on whether the plants are grown in the open or under glass, for the one to which I allude shows no sign of green in either the young or old leaves, all being of a deep maroon-brown, which renders it particularly effective.

Agapanthus umbellatus albus.—About two years ago there appeared several letters on the culture of the above plant, in the course of which some writers stontly affirmed it to be evergreen, while others just as positively declared it to be deciduous. Doubtless there are two distinct plants—one a white variety of the evergreen *Agapanthus umbellatus* and the other a separate species—though none is recognised in horticultural dictionaries that is deciduous. The latter is the only one known to me personally. Recently I visited a neighbouring steeply sloping lawn where several large clumps of *Agapanthus* are growing. The great clumps of the blue type, over 4 feet in diameter, were carrying all their leaves intact, but not a trace of the white could be seen except some withered foliage level with the ground. On brushing this aside the tips of the young leaves could be seen about an inch in length. This is quite a month earlier than they usually start, but during the past winter there has been no frost registered in the screen and only 2° on the grass.—S. W. FITZHERBERT, *Kingswear, South Devon.*

THE INDOOR GARDEN.

FUCHSIAS FOR GREENHOUSE AND BORDER.

ABOUT seventy species of Fuchsias are known to botanists, but of these few are at all common in gardens. Most of those usually grown as pot plants are either seedling sports from the species, hybrids, or, still more often, seedlings from these hybrids. *Fuchsia macrostemma*, one of those species which go by the name of Bush Fuchsia in the south-west of England, is the ancestor, often very many generations removed, of many of our favourite Fuchsias. As this *Fuchsia* was only introduced into this country about the end of the eighteenth century it will be seen how comparatively modern most of our garden Fuchsias are. To-day the *Fuchsia* cannot be said to be in favour with florists, very few giving much space to it in their catalogues, while a striking evidence of the little demand for it is the fact that the *Fuchsia* is scarcely ever seen at the fortnightly exhibitions of the Royal Horticultural Society at the Westminster Drill Hall. At the time of writing I think it would be no exaggeration to say that less than a dozen plants of the garden hybrids have been seen there during the last twelve months. And yet it is so extremely useful

for such a large variety of purposes, and is always a graceful addition, though we sometimes see it growing in gardens in such a way that it has not a chance of showing its beauty. Add to this the fact that, with ordinary care and attention, it is an easy plant to grow, and it becomes more difficult to understand why it is not grown more. Few plants respond more readily and obviously to good treatment.

If it is desired to start a collection of Fuchsias rooted cuttings should be bought from a florist in March or early in April and put in 2½-inch pots in a hot-bed or in a greenhouse, plenty of silver sand being placed round them. In a fortnight, or at most three weeks, they should be ready to be shifted into pots a size larger. One of the secrets of raising strong plants quickly is frequent re-potting, never during the growing time allow the pots to become root-bound, and always put them into pots just large enough to admit of fresh earth being worked all round the ball of roots. A good soil to use for potting them consists of two parts of rotted turf, one part leaf-mould, and one part thoroughly rotted manure, with the addition of coarse sand. The rotted manure should be omitted while the plants are small, while if a heap of road sweepings, not scrapings, which has had some time to mellow, is handy, the rotted manure and the sand may be dispensed with for all stages of growth, the road sweepings being substituted in the same proportion as the rotted manure. Fuchsias like an open soil, and the more fibre in the turf the better, while ample drainage is most essential. I have broken up crocks or pieces of red brick into small pieces not bigger than garden Peas and mixed them with the soil and the plants thrived splendidly. If the plants are wanted for greenhouse or conservatory decoration solely they may be grown on in the greenhouse indefinitely, but if intended for outdoors they should be hardened off in June, in damp weather preferably, and placed where a sudden burst of sunshine will not affect them, when after a week they will be able to stand anything.

The best time to strike cuttings is in March in a greenhouse, and in April in a frame, from which all frost is excluded. The best and strongest cuttings are those obtained from old plants which have been kept in some dark place during the winter, and are brought out the latter part of February or early in March into daylight, or even into warmth. When the new shoots have pushed 2 inches they should be broken off at the junction with the old wood and put round the sides of small pots in a sandy soil. If given too much water they will damp off or lose their leaves, and if not given enough water the leaves will also fall, when, of course, the cuttings cannot form new roots. A good way to prevent both these evils is to put a cork in the bottom of a pot and set it in another pot a size larger, say, a 3-inch pot inside a 4½-inch pot, put the sandy soil in the space between the sides of the two pots, and the cuttings round the sides of the outer pot as usual, and then, after giving the cuttings a sprinkling at the time of inserting them, fill the inside pot with water. Nothing more will be necessary till the cuttings are well rooted, except to see that the inside pot is kept full of water. The porous sides of the pot will let through enough moisture to maintain the cuttings in health without keeping them wet enough to cause damping off. They should be potted off as soon as they are well rooted, as they will lose time if kept too long where they are, and besides feeling the move more when separated.

Fuchsias may also be raised from seed, and may even be treated as annuals, for if sown in February and brought on in heat they will be well in bloom by August. This is a very interesting method of raising Fuchsias, as often scarcely two will come alike if the seeds have been sown from hybrids, while if strong-growing plants are wanted for making large specimens, stronger plants may sometimes be got in this way than by cuttings, though one may have the trouble of rearing some plants, perhaps a good many, which turn out to be worth but little. The habit of growth will be as various as the colour and shape of the flowers, and

those which display a very loose straggling habit may be dispensed with as worthless, without waiting for them to flower.

As stated above, Fuchsias can be used in very different ways, more perhaps than almost any plant, *e.g.*, greenhouse climbers, bedding plants, herbaceous plants for the mixed border, shrubs for large pots or tubs, and ordinary pot plants for house or conservatory decoration. But the same *Fuchsia* will not answer all these purposes, and therefore selection has to be made of certain sorts for certain uses, and these have to be trained from the time they are small rooted cuttings with a definite end in view. We will deal in detail with some of the uses to which Fuchsias can be put, with the method of training necessary, and the sorts most suitable for the different uses.

ALGER PETTS.

(To be continued.)

TREES AND SHRUBS.

TRANSPLANTING LARGE TREES AND SHRUBS AT KEW.

WHEN laying out new gardens it is often advisable to introduce large trees or shrubs for special positions, and when alterations are being made in old gardens it is sometimes found necessary to remove similar plants, consequently a gardener should possess a sufficient knowledge of the subject to enable him to manipulate such plants successfully. At Kew a great many such plants are transplanted annually, two methods of procedure being adopted. In one case lifting machines, varying in size according to the size of the plants, are used, and on these machines weights ranging from half a ton to 7 tons can be moved; in the other case planks and rollers—and a trolley if the plant is to be taken any great distance—are used. In all cases where it is possible machines are used, but it sometimes happens that the plants are in such awkward positions as to make it impossible to use one, or the head of the plant may be too bushy to allow of the machine being placed in position without injuring the head, and it is in such cases that the advantages of the plank and roller method are seen.

When preparing a plant for moving on rollers the top should firstly be tied together as tightly as possible if in the way of work, after which the size of the ball should be determined upon and also the direction in which the plant is to be taken out. After these preliminaries have been settled, trenches 1½ feet in width should be taken out across the full width of the ball and to a depth of 6 inches below the lowest roots. When this is done make a tunnel through the centre of the ball below the roots wide enough to allow of two planks 11 inches wide and 4 inches thick being driven through the middle. These planks should be 18 inches longer than the ball is wide, to allow of 9 inches being free on each side. After these planks have been placed in position and made firm the other two sides of the ball should be dug out to leave a square mass of soil. When this has been done a strong canvas should be bound tightly round the whole, battens being used to keep the binding ropes from cutting into the soil. After this strong Oak boards 9 inches wide and 1½ inches thick should be placed on each end of the central planks and be worked under the ball until the outsides are level with the sides of the ball, two similar boards being afterwards worked under the remaining sides, the ends of which should rest on the ends of the first two.

The next operation is to make an incline to the bottom of the hole at the side where the plant is to be taken out, after which the ball should be tilted back with a jack—by lifting on one end of the central planks—high enough to place two planks three-quarters of the way under the ball, on which a roller 5 inches in diameter should be placed a little beyond the centre of the ball. When the jack is let down the plant should balance, a roller being placed in front for it to rest upon. A strong pulley block should then be fixed to the ball, through which a rope is run, one end of which is secured to some tree or other stationary object; by pulling on the rope the plant may then be drawn out of the hole.

To place on a trolley simply means more planks and rollers. When placing the plant in position again a large hole with an incline at the front and a central channel 6 inches deep and wide enough for the central planks to drop into should be made, pieces of planks being placed for the rollers to travel on.

loam. In addition to being evergreen, they have also other merits which place them among flowering shrubs. Although the flowers are not large, in one or two species they are borne in sufficient profusion to make a good show, and being white they are in good contrast to the deep green leaves. An additional qualification of the flowers is their fragrance. The cultivation of Phylliræas is simple, for after they have once become established they give little further trouble, as they grow naturally into shapely bushes. When pruning is desirable this should be done in spring just before growth begins, and the branches cut out in such a way that the cut portion is not noticeable. If after the plants have become established it is thought desirable to move any of them, take care to move a good-sized ball of soil with them, as they are rather impatient of root injury and take a long while to recover if moved without soil after they have attained the age of five or six years. Propagation may be done by cuttings of half-ripe wood in June and July, by layering in early spring, or by grafting on stocks of the common oval-leaved Privet. In many places the latter method is adopted, as

P. angustifolia.—In or about 1597 this was introduced from Southern Europe, where it is distributed over a considerable area. Planted where it has plenty of room to develop, it will grow to a height of 10 feet or 12 feet, with a width of 12 feet or 15 feet. It, however, varies considerably in habit, being sometimes met with 7 feet or 8 feet high and 15 feet or 18 feet through, a perfect symmetrical bush. The opposite leaves are lanceolate or linear lanceolate, $1\frac{1}{2}$ inches to 2 inches long, with entire margins, glabrous, and deep green. The flowers are small and white, and are produced from the leaf axils in April and May. The best known variety of this is *P. a. var. rosmarinifolia*; it has narrower leaves than the type.

P. decora.—In gardens this is often met with under the name of *P. vilmoriniana*, one of its several synonyms. It was the last of the set to be introduced, the date of introduction being given as 1885; its native country is Lazistan. It is very distinct and useful, making excellent beds or isolated specimens. The largest plant at Kew is $5\frac{1}{2}$ feet high and 13 feet through and of uniform outline. The leaves are ovate, acuminate, 4 inches to 5 inches long, and 1 inch to $1\frac{1}{2}$ inches wide, with entire, slightly revolute margins. In texture they are thick, and in colour dark green above and paler beneath. The flowers are white and fragrant and borne in small axillary clusters in May. It has been recommended as a good plant for forcing, but it is doubtful whether it will ever be very popular for that work, as it does not flower freely when young, and old plants do not care for much root disturbance. If, however, plants were grown in large tubs it could be dealt with successfully. Another synonym under which it is sometimes seen is *P. laurifolia*. An unnamed form with narrower leaves than the type is sometimes met with.

P. latifolia.—This is distinguished by its upright bushy habit and short, broadly ovate leaves—little more than 1 inch in length—which have serrated margins. It grows naturally to a height of upwards of 20 feet, but shapely bushes half that height with a similar diameter are very useful. As is the case with the others, the flowers are white. Several varieties are known, of which *P. l. var. ilicifolia* with smaller and *P. l. var. rotundifolia* with rounder leaves than the type, are most often seen.

P. media.—In appearance this is about halfway between *P. angustifolia* and *P. latifolia*. It is a very variable species, some varieties closely resembling one or other of the two mentioned species, the type being quite distinct from either. Its chief point of difference from *P. angustifolia* is that the leaves are serrated, though in some varieties, particularly *P. m. var. oleaeifolia*, the serration is very faint. It has been in cultivation upwards of 300 years, and seems to have been planted fairly extensively at some time, as large plants are met with 15 feet or more high. The varieties *P. m. buxifolia* and *P. m. oleaeifolia* are distinct; the former has Box-like leaves, and in the latter they are small and Olive-like.

W. DALLMORE.

WINTER-FLOWERING TREES AND SHRUBS.

The number of trees and shrubs that flower during the four dullest months of the year—say, from the middle of November to the early part of March—is perhaps larger than many would imagine. The following list contains over fifty species which may fairly be described as coming under that heading. It is based on the conditions that obtain near London, and could no doubt be lengthened considerably by those living further south and west,



TRANSPLANTING A YEW TREE IN THE ROYAL GARDENS, KEW.

When in position planks, rollers, &c. can easily be removed by means of the jack. If the plant is not quite upright it can be undermined and settled into position. The subject of the illustration is a spreading Yew 16 feet in diameter. The ball was 6 feet 6 inches square and 2 feet 3 inches deep.

The largest plant moved at Kew this winter in this manner was a Rhododendron 12 feet high and 18 feet wide, the ball being 9 feet by 7 feet 9 inches by $2\frac{1}{2}$ feet. This plant had two sets of central rolling planks 18 inches apart instead of one set. In all operations of this description it is essential that all planks, rollers, and ropes should be perfectly sound and strong to minimise the risk of accidents.

PHILLYRÆAS.

ALL the cultivated Phylliræas are evergreens, perfectly hardy, and thrive in various soils, ranging from that of a light sandy nature to heavy

the plants grow at quite double the rate of those raised from cuttings. Grafting is not, however, to be commended, as grafted plants, especially of *P. decora*, are not so long lived as plants on their own roots.

The uses to which Phylliræas can be put are many, for they can be made to play an important part in the formation of shrubberies, make excellent beds and fine specimen plants for the lawn, or they may be used for informal hedges in places where a wide unclipped screen is required. Being perfectly hardy they can be used in most parts of the British Isles, and might with advantage be planted in many instances as substitutes for the common Laurel. The species in cultivation are four in number, and are found in Europe in the region bordering the Mediterranean and in Asia Minor. Three of the species are of very old introduction, the fourth having been barely twenty years in general cultivation. One or two of the species have several distinct varieties, the best of which are enumerated with their respective parents below.



CAMPANULA TOMMASINIANA ON ROCK GARDEN.

just as it would have to be reduced to suit more northerly localities. The date of flowering, too, is to some extent dependent on the same conditions, and still more so on the mildness or severity of the winter. A long and severe frost, for instance, setting in before Christmas would defer the flowering of several shrubs from December and January to February or later. The conditions also under which individual plants grow influence the time of flowering. *Chimonanthus fragrans* growing on a wall is usually in flower at or before Christmas, but as a bush in the open it blooms a month or six weeks later.

Many of the plants mentioned would, if they flowered in April, May, or June, be eclipsed by the great host of more showy things that then burst into bloom, but now their modest beauties have a singular charm, added to in many instances by a sweet fragrance. It would be an interesting thing to bring together in some sheltered spot all, or as many as possible, of these winter-flowering trees and shrubs, adding to them others that flower by the beginning of April. By devoting some such place to them, the shelter from north and east that many need could then be more easily furnished—shelter which is not only welcome to the plants themselves, but to those who may love to watch and tend them. For such a purpose one imagines as an ideal spot a piece of fertile ground sloping well to south-south-west and surrounded on the north and east by a belt of trees, in the foreground of which are growing Hollies, Box, or other close evergreens. Many things, such as the Witch Hazels (*Hamamelis*), *Prunus davidiana*, some of the *Daphnes*, &c., being deciduous, require some such background to set off their beauty to greatest advantage.

In the following list there are doubtless omissions. Of course, by including others that flower a month or even a fortnight later, the list could be greatly lengthened, but such things are more strictly spring than winter-flowering.

November.

- Lonicera fragrantissima* (up to March).
- „ *Standishii* (up to March).
- Hamamelis virginica* (often earlier).
- Fatsia japonica*.
- Arbutus hybrida*.
- „ *Unedo* and its varieties.
- Jasminum nudiflorum* (up to February).

- Daphne Mezereum* var. *grandiflora*.
- Eleagnus glabra*.
- „ *macrophylla*.
- „ *pungens*.

December.

- Crataegus monogyna* var. *præcox* (Glastonbury Thorn).
- Erica mediterranea hybrida*.

January.

- Clematis calycina* (up to March).
- Erica carnea* (up to March).
- „ var. *alba* (up to March).
- Viburnum Tinus* (*Laurustinus*).
- Chimonanthus fragrans* and vars.
- Garrya elliptica*.

February.

- Erica mediterranea* (up to April and May).
- Daphne Laureola*.
- „ *Mezereum*.
- „ var. *flore albo*.
- „ *oleoides*.
- Berberis nepalensis*.
- Prunus davidiana* (often earlier).
- Pyrus* (*Cydonia*) *japonica*.
- Hamamelis arborea*.
- „ *japonica*.
- „ var. *zuccariniana*.
- Cornus Mas* and varieties.
- „ *officinalis*.
- Rhododendron altaclerense*.
- „ *dauricum*.
- „ var. *atrovirens*.
- „ *nobleanum*.
- „ *parvifolium*.
- „ *præcox*.

Early March.

- Forsythia suspensa*.
- „ *intermedia*.
- Rhododendron fulgens*.
- „ *Thomsoni*.
- Nuttallia cerasiformis*.
- Daphne blagayana*.
- Dirca palustris*.
- Populus tremula*.
- „ *tremuloides* var. *pendula* (*Parasol de St. Julien*).
- Stachyurus præcox*.
- Parrotia persica*.

- Corylopsis spicata*.
- Pieris* (*Andromeda*) *floribunda*.
- „ *japonica*.

- „ *smithiana*.
- Akebia quinata*.
- Arbutus Andrachne*.
- Cassandra calyculata*.
- Prunus Amygdalus* var. *persicoides* (generally two weeks in advance of the common Almond).
- Ulex europæus* (common Gorse).

Besides the above there are, of course, numerous trees with inconspicuous flowers which bloom early in the year, such as many of the Ashes, Elms, Alders, Willows, Filberts, and Poplars.

NOTES ON HARDY PLANTS.

CAMPANULA TOMMASINIANA

SHOWN in the accompanying illustration is a very fine specimen of *C. tommasiniana* (Koch), a plant I have cultivated for more than twenty years without attaining any such success. This species was long considered only a variety of *C. waldsteiniana*. It was described by De Candolle in his monograph of the genus *Campanula*, published in 1830 under the name of *C. waldsteiniana* var. *Fregneri*. He says that he dare not make it a distinct species, as the

habit, the leaves, and the generative organs are those of the type, though the flower differs from it in having a long narrow cylindrical corolla, very little cleft at the mouth. He omits, however, to notice that it is more robust than the type, generally having stems and leaves of nearly twice the dimensions. However, it is treated as a variety in Nyman's "Conspectus" and in "Index Kewensis," although described and figured in the *Botanical Magazine*, t. 6590, where Sir Joseph Hooker seems to consider it a true species. But in the first edition of the "Kew Hand List" (1895) it was still made a variety, and does not seem to have held specific rank in Kew Gardens until the publication of the latest edition of the "Hand List" in 1902, the verdict of which is final.

We can hardly wonder that this question has been so long doubtful. It is true that the extreme forms of *C. tommasiniana* and *C. waldsteiniana* seem at first sight quite distinct. But I have raised two or three generations of seedlings from *C. waldsteiniana* and found some which, both in the shape of the flower and in stature, approach *C. tommasiniana* very closely. There is certainly less variety between the two species than is to be found within the one species *C. persicifolia*, in which the flowers assume every shape, from a nearly flat disc to a cylindrical bell greater in length than in breadth; and, as to stature, I have raised some seedlings undistinguishable from the plant called *C. nitida*, 6 inches high, and others 4 feet high. Analogous variations in series may be picked out amongst forms of our native *C. rotundifolia*, some having flowers long and cylindrical, others short and widely expanded, and differing widely in stature and shape of leaf. *C. tommasiniana* is said to be a native of Istria and *C. waldsteiniana* of Croatia. Both are easily cultivated on well-drained rockeries if sufficient care is taken not to allow them to be smothered by encroaching neighbours.

Edge Hall, Malpas. C. WOLLEY-DOD.

SNOWDROPS AT KEW.

ONE finds all sorts of flowers at Kew, from the commonest to the most rare, and one therefore finds Snowdrops, and just now most of them are at their best; some few are already over. Both out of doors and in the small alpine house in the herbaceous ground there are Snowdrops in flower; those in the house are less weather-beaten than the ones outside, and are all the better for their protection. The flowers and the leaves are brighter and cleaner. In the alpine house the best of the Snowdrops is *Galanthus Elwesii*, with long broad leaves and large flowers well borne



GALANTHUS ELWESII VAR. WHITTALLII.
(From a drawing by H. G. Moon.)

above the foliage on stout stalks. *P. caucasicus* has larger leaves than *G. nivalis* and small flowers produced on slender stalks. *G. nivalis* is the only other one under cover.

Out of doors *Galanthus Alleni*, with very broad dark green leaves and flowers on long slender stems, is the most striking. *G. Fosteri*, whose leaves much resemble those of a *Scilla*, the pure white flowers contrasting prettily with them, is also to be seen in the rock garden and elsewhere. *G. nivalis* var *Imperati* is an improved variety of the common Snowdrop, or at any rate bears larger, bolder flowers; whether this constitutes an improvement or not is, perhaps, a matter of opinion.

Galanthus Ikarie has broad, short, dark green leaves and bold flowers, and is altogether a handsome Snowdrop. *G. plicatus*, with somewhat irregular foliage and moderately large flowers, is also more than ordinarily good. But the Snowdrops are not the only hardy flowers now worth seeing at Kew. There are also the Crocuses, Irises, Scillas, the early Narcissi, Lenten Roses, Heaths, &c., while the little alpine house already mentioned is a storehouse of beautiful flowers.—T.

PROTECTING CHOICE FLOWERS.

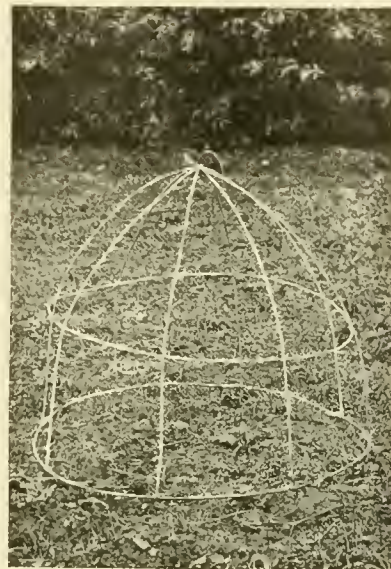
SEVERAL readers having asked about protecting choice hardy flowers from possible weather troubles in the immediate future, we thought it would be helpful to reproduce the illustrations of the coops used by the late Mr. G. F. Wilson at Wisley. Mr. Wilson wrote in *THE GARDEN*, February 10, 1900, as follows: "Perhaps the most useful flower in the hardy plant garden at this season is the Christmas Rose. We have a place at Wisley which suits both the Winter and Lent Hellebores. . . . As the flowers when out have often hard frosts and heavy rain to contend with, glazed lights are frequently recommended to protect them. My object in this note is to recommend coops as being much lighter and as covering larger plants. We began by using common wicker hen-coops covered with green scrim, but after a time the wood got out of shape and decayed, so iron wire was substituted for the skeleton. If these coops are put by in the summer, if not in use, in a dry place they will last for many years. After the Hellebores are over they are useful for *Anemone fulgens*." These coops may also be used for the protection of many other flowers, Irises and so forth.

FLOWERING PLANTS BENEATH TREES.

It is now very generally recognised that many flowering plants succeed admirably under deciduous trees. Winter and spring-flowering subjects, such as Snowdrops, Winter Aconites, Crocuses, Daffodils, and other spring bulbs receive almost the full benefit of the sunshine, the leafless branches intercepting but a modicum of the rays, while in the summer their roots are sheltered from the scorching heat by the overshadowing foliage. A correspondent lately writing on this subject stated that it was useless to endeavour to grow flowering plants beneath Beech trees or conifers. This has been so often repeated that it is generally accepted as a fact, but I have seen Crocuses as well as *Cyclamen neapolitanum* flowering well under Beeches, while in a certain open wood that I know Bluebells bloom close to the Beech trunks, and in Cornwall the ground beneath fine specimens of *Pinus insignis* is thickly carpeted with the *Cyclamen* referred to.

IRIS TINGITANA.

IN reply to Mr. E. H. Jenkins (page 75), who expresses a desire to know the behaviour of the group of the above Iris, figured on page 41, during the present year, I may say that I have received a letter from Mr. C. Dawson, of Rosemorran, Penzance, in whose garden I saw and photographed the Irises in question during the last week of March, 1902, informing me that about a dozen are showing flower-spikes. Last autumn I was kindly given a few bulbs by this gentleman, which I planted in a position facing S.S.W., flanked by a high wall a few feet distant on the south-east and protected by other walls on the north and east. I placed a layer of manure at the depth of 1 foot and planted the bulbs in a porous compost of peat, leaf-mould, light loam, and granite sand. On my return home a fortnight ago I found that four were throwing up flower-spikes, the tallest of which now measures 22 inches. This is, I imagine, very early, but up to the present we have experienced no frost in the screen and only about 2° on the ground this winter in this particular spot, which is absolutely sheltered from the north and east, and is only about 50 feet above the salt water at the mouth of the Dart. Whether

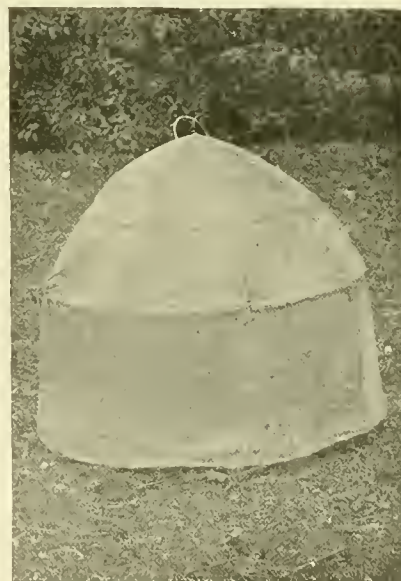


FRAMEWORK OF THE "COOP."

Iris tingitana will continue to flower annually with me it remains for future years to prove, the ripening of my present bulbs having been effected at Rosemorran. In that garden Narcissi, of which Mr. Dawson grows an excellent collection of the best varieties, succeed to perfection, the soil being evidently an ideal one for them, and this [is doubtless a factor in the well-being of the Irises.

SLUGS AND WOODLICE AND HARDY FLOWERS.

I NOTICE that Mr. Arnott, writing of *Adonis amurensis* (page 25), states that a zinc ring notched at the top is an unfailing preventive of slugs. So I thought until a few days back, and have for years surrounded my especial favourites with collars of perforated zinc some 4 inches in height firmly sunk into the ground. On arriving home lately after a six weeks absence, however, I found evidence that a collection of *Zephyranthes*, *Cypellus*, and *Tecophilaeas*, surrounded by the protecting zinc, had been attacked. Visiting the spot at night with a lantern I captured six slugs within the fence. They were small ones, but large enough to do a good deal of damage if undisturbed. As a



THE "COOP" WITH ITS COVER.

rule I think the zinc collar is an effectual safeguard, but it evidently is not to be relied on for six weeks of abnormally wet and mild weather. As to woodlice I echo the words of "An Anxious Amateur" (page 78): "If some reader can tell of a better method than prowling about half the night he will be a benefactor to hundreds." A few months ago I wrote an appeal for advice, which you very kindly inserted, but it remained unanswered. I have tried boiled Potato and arsenic, honey and arsenic, phosphorus paste on bread and butter, and also powdered borax, all of which have been recommended to me, but the woodlice ignore them and prefer the flowers, and this is in the open garden and not under glass. The blooms of Saxifrages, Arenarias, Agathæa, Malva lateritia, and other flowers are eaten before they expand. Over 20,000 of these pests were killed in a small area last year, and I find now (the first week of February) they are just as numerous and lively, and have been reinforced by legions of young about a twelfth of an inch long.

South Devon.

S. W. FITZHERBERT.

WALL GARDENING.

WALL GARDEN - MAKING.

IV.—THE TREATMENT OF EXISTING DRY WALLS.

OF new dry walls and their construction I gave full details in the last chapter (see THE GARDEN of the 10th ult., page 22), and I will now deal with old walls which were not built for wall gardening, but which it might be thought desirable to adapt to that purpose. In many gardens there may be several walls of that description, either dry walls or walls of masonry, which were originally built to mark a boundary or a division in the grounds, and which would admirably lend themselves to artistic adornment. Sometimes, too, such walls are of great age, having the surface of the stones or bricks darkened by years of exposure, and are, perhaps, even partly covered with moss and lichen. Such a wall might by careful treatment be easily converted into a thing of much beauty. I will take the dry walls first. We will imagine that we have to deal with an old dry wall, and that from

the soil between the joints of the stones weeds of all kinds have sprung. It should be fairly easy to eradicate such weeds by raking out the joints with an iron bar or a large chisel. Where weeds of an exceptionally robust nature have taken possession, it might even be advisable to use the iron bar as a lever for removing a few of the stones altogether, and either replacing them after the weeds are rooted up, or, if the absence of such stones does not seriously affect the stability of the wall, by filling these comparatively large holes with good soil and making them suitable for good plants of a bolder type. Rock Cistus, Heaths, and Alpine Rhododendrons are suitable plants for such a purpose, or, if the wall is in the shade, large Ferns might be used with advantage.

An important matter to be observed during this operation of planting is that the surface of the wall where we made the large holes must again be made good with small stones all around the plants. This will keep the roots moist and will prevent the soil from crumbling away and falling out after frost. Stones which are more or less wedge-shaped are best for this purpose, and after the planting they should be firmly driven in with a strong wooden mallet. This, if heavy enough, is preferable to an iron hammer, which would be liable to break the stones.

Care should, of course, be taken not to make these holes for large plants at regular intervals, or—still worse—in lines, but in such a way that the plants when in position would form an irregular and natural group. They should be sometimes close together, sometimes further apart, or scattered singly. For an example in Nature let us note a wall, say, in a shady country lane which, without the aid of man, Nature has bedecked with a luxuriant growth of Hart's-tongue and other Ferns, as well as all sorts of flowers. Let us take note of the way in which Nature has grouped these things, and then try and follow her admirable lessons.

The accompanying illustration shows a wall photographed in Cornwall during the middle of December; it encloses a farmyard and has never been planted. Nevertheless, as the picture shows,



SHOWING HOW THE PLANTS SHOULD BE DISTRIBUTED ON FACE OF WALL.

it is covered with Brambles, Ferns, Primroses, Foxgloves, and a whole wealth of other things. Even now without any of the plants being in bloom it is most picturesque. The broad leaves of the Foxgloves are distinctly shown in the illustration, and will convey a good idea of what is meant by a careless arrangement of plants. It will be observed that they are in clusters of five or six plants in one place, and form single specimens in another.

This is precisely the pattern on which we should work in arranging our plants on a wall. What was said about the larger plants also applies to small ones, except that these naturally should be placed closer together in irregular colonies merging into each other, but never in lines. When building a wall we do not pretend to imitate Nature, but we construct a piece of artificial work which no one could possibly mistake for anything else than the work of man. But when we adorn this wall with plants and flowers of various descriptions this decoration should in all cases be natural, not in the selection of plants, for that would mean decoration by means of wild native plants only; but in the disposition of various groups we should follow Nature's lessons, arranging some in large irregular colonies, others in smaller groups, and others again singly, while some portions of the wall might be left bare altogether.

To get good effects we must have bold masses of certain kinds, though it would be a mistake to let the chief aim in planting be to cram as many varieties of plants as possible into the space at disposal. A hundred plants of five or six kinds, disposed in irregular natural groups, will be a thousand times more effective than a hundred different things scattered over the same space.

It cannot be denied that when we are planting an existing wall the actual operation of planting is more difficult than it would be if the planting were done as the wall is being built, because in the former case one cannot be quite sure that the soil is suitable, neither can the roots of the plants be spread out so easily. In many cases, therefore, we should have to be content with smaller plants; but, on the other hand, the arranging of plants on a wall already completed is much easier and requires less skill than arranging plants placed into the wall during its construction, as described in a previous article. The reason for this is that in the latter case it is more difficult to picture in one's mind what the completed group of plants would be like, and plants once walled in during the progress of wall building cannot be altered or rearranged without trouble.

Then, again, if the layers of wall stones are anything like of even thickness there will be a strong temptation to put the plants too much in lines. I always find it a good plan in such a case first of all to take a review of the plants at disposal, and which are to be "built," so to speak, into the wall as the builder's



AN OLD DRY WALL IN CORNWALL (UNPLANTED).

work proceeds; then, secondly, on a piece of paper to make a rough sketch how these plants should be arranged, whether a group should be large or small, and where this or that colour should predominate so as to harmonise with the colour of the adjoining group; and, finally, where late or early-flowering things should be, so as best to ensure succession of bloom. Such a sketch need not be elaborate, nor need it be drawn to scale. Let a dozen crosses represent, say, a group of a dozen Aubrietias; twenty dots, say, a group of twenty Arabis, and so on. A few coloured crayons may help to facilitate distribution of colour, &c. Armed with such a sketch, however roughly done, we can feel sure of effects beforehand. The illustration will give an idea of the kind of sketch suggested.

Arranging plants on a wall already built is much easier, though the planting is more difficult. In this case a sketch is not required. The best practical method I always find consists in having sticks and twigs of various sorts and sizes, which might be stuck into the wall to indicate where the plants should be put. For instance, a cluster of Laurel twigs might be placed where we consider a batch of Alyssum would be most desirable, ordinary wooden labels might stand for a group of Campanulas, Bamboo flower-sticks for Helianthemum, &c. In this way we might arrange on the wall itself where the principal and most effective groups should go and how the plants should be placed before anything is actually put in. When the arrangement of sticks and twigs is complete stand back and look at it. We shall probably find that one group is too regular, another too small, and so on, and it will be a trifling matter to readjust the sticks to our entire satisfaction, but it would not be so easy to rearrange the plants after they have once been properly planted. Neither would it be easy to judge of the effect by simply writing the names on labels or slips of paper and putting these into the wall.

Suggestions as to what to plant and lists of plants for various purposes will be given in a later chapter. When a dry wall has been carefully planted and the plants have become established it may still be thought desirable to increase the number of decorative plants by sowing seeds of annuals and perennials into some of the chinks and fissures or even some of the larger joints. Since this sowing of seeds is practically the same for both dry walls and walls of masonry, I will deal with it in the next chapter when discussing the adornment of masonry walls.

Elmside, Exeter.

F. W. MEYER.

(To be continued.)

THE FLOWER GARDEN.

A BORDER OF ANNUAL AND BIENNIAL FLOWERS.

IN the accompanying illustration is shown the beauty of annual and biennial flowers when well massed. Note the group of Bell-flowers in the foreground, and the sprinkling of Poppies. Next week we shall devote much of our space to annual flowers, and to those things that give interest to the garden in spring.

A "BLACK LIST" OF HARDY PLANTS.

FOR some time past I have thought of preparing, for the careful study of amateurs about to embark on the fascinating cultivation of hardy plants, what I may be allowed to call a "black

list" of flowers and shrubs from among those which are most in request in the rock garden and herbaceous border at the present time, selecting them on account of (1) their too rampant and aggressive underground growth, and (2) their seeding too inordinately, and hoping thereby to sound a note of warning against their indiscriminate use in any select part of a garden.

With the assistance of several enthusiastic gardening neighbours and friends I have therefore ventured to draw up three lists, each arranged as far as possible in order of danger, list A (the "black list" *par excellence*) including the worst offenders, list B containing all those we can think of that require a great deal of supervision when once admitted into the aristocratic parts of the garden, and list C, those whose tendencies to spread or seed themselves too freely make them somewhat



BORDER OF ANNUAL FLOWERS AND GRASS PATH.

undesirable neighbours for their more delicate and less ambitious brethren.

It is well to remark that we have no desire whatever to exclude from the garden or shrubbery any one of the plants enumerated in these lists, our idea being simply to call attention to what may happen if they are indiscriminately planted before a knowledge of their habits has been acquired. Many of the worst characters in list A, for instance, are most beautiful and effective, and are even harmless if kept in bounds in suitable quarters.

As a rule it is a melancholy fact that the catalogues of the leading nurserymen contain absolutely no warning to purchasers, even in the case of such plants as Petasites, Polygonum, Calystegia, &c., so that a beginner has nothing to guide him. Nor do the modern gardening books, in our opinion, help him sufficiently in this matter. In neither do we find sufficient advice given as to the enormities of some of the most desirable and beautiful, though dangerous, things.

It is, of course, well known that the position and nature of the soil exercise a great influence

on the growth of a particular species, which may be harmless in one place, and undesirable, or even obnoxious, in another, and for this reason we are quite prepared to find a considerable divergence of opinion among plant lovers with regard to many of our "black sheep," some of which may even be "white-washed" by a majority. But our lists are prepared solely from actual experience in this neighbourhood, and we hope at any rate to draw forth opinions from fellow-gardeners in other parts of the country, and so start an interesting discussion on the subject, which is certainly a most important one.

LIST A.

"Black List" of dangerous plants.

Egopodium Podagraria fol. var. Gout Weed, Bishop's Weed, or variegated Angelica (a most dangerous plant), Tussilago Farfara

fol. var., Petasites fragrans (winter Heliotrope), Calystegia (all species), Arundo Phragmites, aur. var. Golden Lake Reed, Polygonum (all the large kinds), Coronilla varia, Linaria pallida (a terrible spreader), Campanula glomerata and C. rapunculoides, Lycium barbarum (Tea Tree), Ajuga (all except genevensis), Lathyrus tuberosus, L. grandiflorus, Symphytum caucasicum, Lysimachia vulgaris, Symphoricarpos racemosus, Physalis (both kinds), Acanthus (all species), Hypericum calycinum, Bocconia cordata (in suitable soil), Linaria vulgaris (common Toad-flax of the fields), Mimulus moschatus (common Musk), and Berberis Aquifolium (in borders).

LIST B.

Requiring a great deal of supervision.

Bamboos (nearly all, unless in Bamboo garden), Helianthus rigidus and var. Miss Mellish, Viola odorata (seedlings a terrible nuisance), Eschscholtzias (seedlings a terrible nuisance), Malva moschata alba (seedlings a terrible nuisance), Oxalis (miniature yellow-flowered creeping kind), O. corniculata rubra (very irrepressible), Sedum acre, Centranthus

ruber, *Asperula odorata*, *Heracleum* (perennial), *Nepeta Glechoma*, *Cerastium tomentosum* (in rockeries), *Alstroemerias* (want the whole place for themselves), *Elymus glaucus*, *Epilobium angustifolium* and white variety, *Hiacium aurantiacum*, *Roses*—Austrian, Copper, Persian and Scotch Briars (in herbaceous borders), *Convolvulus lineatus* (seems inclined to spread too freely), *Sorghum halepense* perenne, *Echinops Ritro* (deep-rooting and difficult to move).

LIST C.

Spreading or seeding very freely and requiring care.

Heracleum (biennials), *Saxifraga peltata* (in damp soils), *Cyperus longus* (in small bogs or ponds), *Menyanthes trifoliata* (in small bogs or ponds), *Vincas* (all sorts), *Corydalis lutea*, *Anemones narcissiflora*, *rivularis*, and *sylvestris*, *Meconopsis cambricum*, *Ornithogalum nutans* (except in grass), *Alliums* (nearly all), *Muscari racemosum*, *Vaccinium Vitis-Idæa* (in peaty soil), *Aquilegia vulgaris* (spoils choicer kinds), *Lathyrus latifolius* (seedlings root very deep), *Agrostemma coronaria*, *Anthemis tinctoria*, *Claytonias*, *Pulmonaria*, *Linaria dalmatica*, *Inula Helenium*, *Eomecon chionantha* (in light soil), *Tulipa sylvestris*, *Indian Balsam* (*Impatiens glandulifera* or *Roylei*).

Yalding, Kent.

S. G. R.

NOTES FROM A SMALL GARDEN IN NORTH WALES.

It is the middle of February and the weather lately has been more like April, without the showers. The children found wild Primroses in sheltered places at the end of January, in spite of a severe frost and several days' skating a fortnight earlier. The Snowdrops have been especially fine and long stalked this year; there are quantities semi-wild in a wood near, and they were in perfection on January 31. Christmas Roses have been particularly good, but the frost shortened their period of bloom. We give them a good deal of soot when growing, and they appreciate it. Blue Primroses of several shades are in full bloom; they are the earliest of all, and continue in beauty for months, at last becoming so full of flowers that the leaves are almost hidden. We have moved ours into a rough part of the garden under thin shrubs, where they look better than in full sun.

Hepatica angulosa is better than usual this year, and the flowers are very large. When they were expanding we had very strong winds, and I put a large broken bell-glass over the plant, which shelters while allowing it plenty of air. The *Hepaticas* bloom very well here, but the leaves are always spoilt by the spring winds. They are more beautiful in sheltered gardens, where the foliage remains perfect and surrounds the flowers, making them look like big bouquets.

In the peat bed a little bush of *Rhododendron præcox*, planted in the autumn, is a mass of mauve-pink blossoms. It is very valuable, flowering so early in the year. A bed of it edged with the white form of *Erica carnea* would be a lovely sight. On the sunny rockery bank there are already large patches of the sweet-smelling white *Arabis* in bloom, and here and there little bits of sweet *Alyssum* and *Aubrietia*, and one or two flowers of *Lithospermum prostratum*. The earliest Pasque *Anemones* are full of large buds, covered with silvery down; they are much earlier than usual, and will expand in a day or two. Two *Iris reticulata* are out, and in a week there will be dozens. *Iris alata* was well baked on the greenhouse shelf last summer, according to the advice of a kind correspondent of THE GARDEN. I planted it in autumn in full sun on the rockery bank, and it is coming up splendidly and showing some flower-buds. A *Berberis japonica* in the poorest soil, matted with roots at the edge of the shrubbery, where it has probably been for at least fifteen years, is flowering splendidly, every crown full of deliciously scented yellow-green spikes. I

never noticed their scent till this year. In future I shall like the plant as much as I have hitherto admired it.

I am sending two photographs taken last spring showing how satisfactory the Daffodils are here, although the soil is exactly the opposite to what they would naturally choose to grow in, being very poor, dry, and stony. The sorts that do best are Sir Watkin and Horsfieldii, which make a beautiful show and do not deteriorate. We give them liquid manure and occasionally a dressing of basic slag in the growing season. The same piece of grass is gay with sheets of yellow and purple *Crocuses* earlier in the year; the white ones do not succeed so well. A very large dark purple one with conspicuous orange pollen is the most satisfactory.

E. T. Ll. E.

THE BOG GARDEN.

RECENTLY the following instructive paper was read by Mr. Ernest Ladhams before the Shirley Gardeners' Association:—It may sound rather strange to many to talk of gardening in a bog. Nor, when we remember as an example a dank filthy-looking liquid mass, composed of decayed vegetable matter, and the washings of the adjoining land, the accumulation of centuries, fed by many small oozes or land soaks as well as the rainfall, and grown over in places like a tangled thicket with Alder, Birch, and Willow, and the usual matted undergrowth, such as Brambles and Blackthorn—when we look on such a blot, many of us no doubt would much rather such a spot did not exist—at all events on land under our care. And to desire such a place to "garden" in would be far from our thoughts.

MAKING THE BOG GARDEN.

We will suppose we have such an eyesore in the otherwise attractive park or pleasure grounds. We must do something with it, as it spoils the whole landscape. It may be a quarter of an acre or half an acre in extent, a hollow or depression, and creating a blot on what would otherwise be a gentle slope from the house. The accumulation of water, which at some time must exceed the capacity of the hollow, soaks the lowest boundary and escapes towards what may possibly be a stream of water running through the grounds. This would be then a charming spot could this bog be made presentable. The first thing we do is to find out how it came to be such an undesirable place. We find in this case it is a series of land soaks or small springs. These are formed by the upper soil on the hill allowing the surface water (rains, snows, &c.), to percolate through until it reaches a strata of heavier material, such as marl or clay, which is impervious. The consequence is that instead of sinking deeper into the soil the water thus accumulates on the higher ground, trickles along the surface of the clay, and eventually finds its way out at this particular spot, not as a spring of clear bubbling water in this case, but as a mere continual soak. It takes the water entering the ground on the higher level some months to emerge at this lower spot, and consequently a dry period has little effect on the bog, saving the evaporation, which is very much retarded by surrounding trees and undergrowth. Nine out of every ten (and perhaps more than this) are caused in this way—the water thus accumulates, being stopped from flowing in the form of a streamlet by the uneven ground forming a basin, the lower end of which allows of an overflow occasionally as the rains happen to overflow it, when it finds its way eventually by another surface soak into the stream.

We have now seen that our bog is composed of vegetable matter, combined with washings from the higher ground, mingled with a constant supply of water percolating through a higher strata and resting on a bed of close material, such as clay. We now set to work to clear all the superfluous bushes and undergrowth, saving a few only of the best-shaped trees—Birches only, if these are found there—in spots where they stand isolated, and many develop into well-grown trees. Then we open a broadish shallow outlet at the lowest point

to drain the surface water. Should there be a sharp drop only, for a few yards from the lower edge, a deeper entry may be made temporarily to more effectually drain the whole bog during the alterations, to be partially filled up after it is finished. We are now able to work at a minimum of discomfort, and probably have a surface of such consistency as will support planks for the wheelbarrows. Next we formulate a scheme to reclaim certain plots, to enable the garden, when finished, to be visited. In order to do this artistically, and at the same time to preserve the natural appearance, we have to be very careful, and to be guided in a very great measure by the surrounding landscape. In the majority of cases it is best to take out a winding devious main drain, which will later be a streamlet, from the highest part, eventually emerging at the lowest point, where previously we had made a cutting.

As little fall as possible should be maintained throughout this "main artery," although, for the sake of variety and facilities for planting, this may be both deeper and wider in parts. Into this we conduct other shallow irregular drains, varied both in depth and width as circumstances will allow and individual taste dictate. An important point to bear in mind is to have all these arteries as nearly as possible level, having only as much fall as is absolutely necessary to keep a slight movement in them all. The most important one may be slightly deeper than the remainder. The soil taken from them must be used to raise the spaces which are intended for planting and walking on, but not absolutely levelled—a mound here, a depression there, a wide stretch of soil here, narrowing into a point there, and again widening out into sufficient space in which to place a bold-foliaged plant, or scooped out to find a home for a colony of such plants as *Trillium grandiflorum*, &c.

STEPPING STONES

are introduced where necessary or in positions of effect. These give a good change and finish, as well as being useful for visiting any part of the garden. Soil should be thrown out here and there in spurs or tongues, to break up what might be a too regular or evenly-shaped basin: the recesses so formed are admirable to accommodate choice bog plants such as *Sarracenas*, *Cypripediums*, &c., whilst more bold-foliaged plants should occupy the raised portions thus prepared.

(To be continued.)

GARDENS OF JAMAICA.

(Continued from page 77.)

THE most wearisome part of our journey is still before us. We shall be able to ride another five miles, and then the remaining five miles must be accomplished on foot. By the light of day, and in warm dry weather, this is easy in comparison to what we must expect at night time, or when the weather is bad. Adventurous tourists who would fain see the sun rise sometimes undertake this, too generally to be disappointed, and to see from the summit little besides the snowy wreaths of the overhanging clouds. In some parts they grope their way in darkness along the precipitous paths shut in by the woods. Were it not for the extreme shrewdness of the guides it would be impossible to proceed. It is difficult to realise the irksomeness of the last five miles if there has been rain and the journey is attempted at night time. Some parts are almost perpendicular, and nearly all so steep as to try every muscle of the body. Without the assistance of the roots and branches which cover the mountain, forming so many steps and supports, the ascent could scarcely be accomplished. But the scene has peculiar beauties. Here the

TREE FERN

is seen in great perfection. The trees are beautifully festooned with mosses. Here is found the *Yacca* wood, which is peculiar to the island, and which from its rarity and beauty is much prized. If the traveller is fortunate the view from the summit will more than repay all his toil and exertion. It is seldom that a perfect view is obtained; when this is so, it may be regarded as

unequaled by any other prospect in the world. From this elevation of 8,000 feet it is possible in that climate to see the whole island, which is more than 150 miles long. The rivers trace their way like silver threads amidst the grasses and woods of the many-peaked mountains. The fields of Sugar-canes and other cultivated grounds are seen in the flat country. The beautiful harbours and ports of the island, with the ships lying at anchor or on their voyage, may be observed. All lies at the feet like a great map, inexpressibly grand and imposing.

We cannot fail to be attracted as we descend by the plants and flowers which line our path and cluster about the streams and rivers. Here is food for the botanist, enough to occupy a life of research. Some of the trees and shrubs which are in blossom emit a fragrant aromatic smell. The principal of these is

THE PIMENTO.

With the production of this tree our friends in England are very familiar. The fruit of it is called Allspice. Large quantities are sent to Russia, and other northern countries. Its warm and aromatic character when understood causes it to be much valued. The smell of the leaves is very fragrant, and the tufts of yellowish blossom mingle prettily with the dark green foliage. A full grown tree would arrive at the height of 20 feet or more. The seeds are sown by the birds, and when the plants are sufficiently grown then the underwood is cut down to make room for the fuller growth and cultivation of these trees.

THE MANGO

may be observed in almost every direction as we wend our way along the mountain roads. On the hills and in the valleys, in the jungles and by the roadside, we can at once detect it by its dark foliage and symmetrical form. There is no part of the island in which these trees are not found, and few places in which they do not grow in great abundance.

The Mango is not a native of the island. It was brought from Tahiti many years ago. The plants produced from the seeds which were introduced into the island were numbered for the purpose of noting which produced the best fruit. That numbered eleven was found to be better than the others. It is still regarded as the best kind of Mango; but it is not found in most parts of the island, or it may have degenerated from its former excellence.

There are many kinds of Mangoes. The most common are the most beautiful in appearance. The fruit, which is generally much larger than a Peach, rivals or excels it in its attractive bloom and bright hues. The trees are almost invariably of a beautifully rounded form and of a great size, and some idea may be conceived of their appearance when the dark foliage is interspersed by the luscious fruit. Another kind of Mango has a strong flavour of turpentine, which is, however, agreeable rather than otherwise. The skin of the fruit is sometimes quite green, even when it is ripe, while others have a yellow tinge. Horses and cattle are very fond of the leaves, so that they crop off all that comes within their reach; this gives a very even appearance to the under part of the trees. They are considered common property, and anyone may gather the fruit wherever it is found. We have again regained the low country, and find ourselves riding beside fields of

SUGAR CANES.

They look like immense reeds, jointed in the same way, and surmounted by a beautiful tuft of lilac-coloured blossom, like a bunch of feathers. They are planted in rows about 6 feet apart. When the Sugar Canes are cut they spring up again, and this is called *ratooning*. They will continue to do this for many years, but it is considered best to uproot them after four or five years. The labourers are engaged in cutting the canes in a field and conveying them in waggons to the works, to which we may follow them. They are taken

in the first place to the mill, and, the tops being cut off, the juice is expressed from them by means of rollers, which are worked by horse or water-power. The juice flows through gutters into the boiling house. Here there are immense coppers in which it is boiled. At certain stages it is taken from one copper to another till it arrives at a required degree of consistency or thickness. Then a little quicklime is introduced for the purpose of granulating it, and this being done the Sugar is removed into large wooden reservoirs to cool. After being drained it is packed in casks for exportation.

From the boiling-house we now pass into the still-house. Here they are engaged in distilling rum. It is from the skimmings of the Sugar and all the drainage, be it dirty or clean, that rum is made. The process is the same as that by which all spirits are manufactured. There are puncheons prepared for the purpose, into which the rum is drawn off for shipment. The quality of the Sugar and rum, like that of Coffee, depends much on the part of the country in which it is cultivated. As we ride along there is one tree that strikes us as being more beautiful than any we have yet seen. This is

THE ACKEE.

It is now covered with fruits, and the appearance



A CURIOUS WILD "FIND" IN A MASS OF BRACKEN (PTERIS AQUILINA). THIS FORM IS NAMED CONGESTA.

is most striking. In front it much resembles the Mango, though the leaves are not so dark. The outer skin of the fruit is of the richest crimson, which contrasts most pleasingly with the thick foliage. This outer skin is divided into three compartments. When the fruit ripens these divide and spread out. There is then seen three corresponding pieces of white vegetable, like the most delicate Marrow, at the end of each of which there is a jet-black stone the size of a small marble. The combination of green, scarlet, white and black colour is most beautiful.

Our journey is now directed towards the north side of the island. We are again in the midst of beautiful scenery. The Rio Cobra rushes on its way amidst gorges and overhanging rocks and hills rarely equalled in grandeur. We ascend Mount Diabla where the yawning chasms by which the road is bounded serve to show us how great would be our danger should our horses be restive or our carriage prove unsound. As we approach the parishes of St. Ann's and Trelawny we find ourselves in one of the chief parts for the cultivation of the

COCOANUT.

This tree seems to flourish most in the immediate neighbourhood of the sea. A sandy soil is most favourable to its growth. Some of the trees rise

to an enormous height—at least 80 feet or 90 feet, and we might be tempted to say 100 feet if we did not think that the straight trunk, without a branch or leaf until they strike out at the top, may render their apparent height deceptive to the eye.

Strong must be the limbs and steady the eye of these who scale these lofty pinnacles in order to gather the fruit. In many parts the Cocoanuts are planted in regular groves. They are also seen in detached groups in the neighbourhood of towns and dwellings. The large nut which they produce is well known in every part of the world, and a good tree will in the course of the year produce 300 of these, or even more. They are cheap enough on the spot, being sold at a price corresponding to a penny or even a half-penny each. A large Cocoanut plantation is a very valuable property, for great numbers are taken in as freight for ships which leave Jamaica for England and other parts of the world.

The fruit is most delicious when it is eaten in its young state. Here the inner part has the appearance and character of a white transparent jelly; it is scooped from the yet tender shell with a spoon and then eaten. The natives have many ingenious and agreeable ways of preparing the older fruit. Sometimes after being grated the juice is expressed from it, and it forms a very acceptable substitute for cream. The wood is not of much use except for cabinet work, but the fibre of which it is composed gives it the appearance of being covered with small dark spots where it is cut transversely and polished. The Cocoanut is one of the Palm tribe, of which all with the exception of the Date Palm are to be found in Jamaica. There is one which is commonly known as "The Palm," but which is rarely seen, and is used for no purpose.

(To be continued.)

THE FERN GARDEN.
AN EXTRAORDINARY
BRACKEN.

(PTERIS AQUILINA CONGESTA.)

SINCE everyone is familiar with the ordinary aspect of the almost ubiquitous Bracken, which covers vast areas of our waste land with dense vegetation, and in the shady woodland attains a size in which even the deer can hide themselves securely, the accompanying illustration will appeal to

most perceptions as representing a very remarkable variety. This was found wild in the Lake District many years ago, but is very rare in cultivation. This is the more to be regretted as a clump of it such as the writer has in his garden is very handsome. It has the further advantage that the dense, congested habit of the fronds appears to be participated in by the travelling roots, since for several years the plant has hardly spread at all, while other varieties near by have to be ruthlessly pinched back and checked to prevent their making a general invasion. Another advantage is that the fronds are exceedingly hard and tough; the congestion seems to be due to density and compression of cell growth, the result being that the roughest winds have no effect upon it, while the laxer-growing ones speedily lose their virgin charm. The plant figured was raised by the writer from spores, and, although it does not come very freely, like the other forms of Bracken, it develops very rapidly into specimen plants. Spores sown when ripe, *i.e.*, in the autumn, germinate in a week or two, but, except under artificial

warmth, rarely develop fronds until the spring, when a tiny one about three-quarters of an inch high appears; the next is 2 inches, the next 6 inches, and so on in increasing ratio until by the end of the summer a pretty characteristic plant is formed. When the third or fourth frond appears a little fleshy foot is formed which plunges into the soil and probably sends up a strong frond on the extreme edge of the pan, where its rambling propensity is checked. At this stage it is ready to shift, and a peaty admixture of soil should be made to form a station in the open where it is intended to establish it. The best plan is to drop the contents of the pot or pan unbroken into a hole made to receive it, packing it firmly in and watering well. In the late autumn the fronds will die down, but the following spring a new and strong crop will arise, and in that season full development as regards size may be expected.

Curiously enough, despite the absolute hardiness essential for a native Fern in these islands, if the young plants be kept under glass constantly until the winter and then allowed to get frozen they are almost sure to perish, hence the advisability of planting out as described and thus hardening them by exposure before the frost arrives. The same remarks apply, of course, to other varieties of this species, which, despite its commonness in the normal form, is very handsome. The best forms are: *Pteris aquilina cristata*, tasselled prettily at all tips; *P. a. grandiceps*, all crest, which is barren, but curiously enough comes true from spores of *cristata* to a considerable percentage; *P. a. revolvens*, with spiral tips and rolled-in pinnae; and, finally, a thorough oddity in the shape of *P. a. glomerata*, in which the frond tips and side divisions twist themselves up into hard ball-like knots, giving the fronds a rude resemblance to a bunch of Grapes. Nature, therefore, we can see, has exercised her fancy pretty freely in connexion even with our much-despised Bracken, which some people regard simply and solely as an abomination to be abolished, a view with which no Fern lover can concur.

CHAS. T. DRUERY, F.L.S., V.M.H.

GARDENING OF THE WEEK.

INDOOR GARDEN.

PRESSURE of work in this department will now be experienced, as a general repotting in many gardens is in progress. Where the various kinds of soil, pots, and all other potting materials have been prepared, as previously advised, there will be very little delay in making a start. *Ixoras* that were cut back some weeks ago may now be turned out and have the old balls of soil much reduced and replaced in pots one or two sizes smaller. *Ixoras* require good drainage, and prefer a compost of fibrous peat, sand, and charcoal, with a little bone-meal, to any admixture of loam. Use a blunt-ended rammer to work down the soil and to enable the workman to leave the soil uniformly firm. Young plants propagated last summer or autumn must be potted on into larger pots. Avoid filling the pots, as by so doing the plants seldom get sufficient water at one time. *Franciscea* and *Mussaenda* prefer all peat, but *Stephanotis*, *Rhynchospermum*, *Rondeletia*, *Clerodendron fallax* and *C. fragrans*, and most stove-flowering plants prefer a compost of equal parts peat and loam. After potting, the plants named will be benefited by being plunged in a bottom heat of 70° or 75° to encourage root action; maintain also an increased amount of moisture in the atmosphere. Use great care in ventilating the house; at this season air

should be admitted only by the ventilators placed near the ground in the side walls, it then becomes warm and moist before coming in contact with the plants. Another batch of

GLOXINIA TUBERS

may now be started where a succession of these flowers is required; those previously started should now be given more light, but shaded from bright sun. Frequently look over the young growths; thrips or mite soon disfigure the foliage.

AMARYLLIS.

Those early varieties now passing out of bloom must be encouraged to make a little growth, bearing in mind that the foundation for next season's crop of flowers is now being laid.

ANNUALS FOR POT CULTURE.

Make another sowing of *Acroclium*, *Rodanthe*, *Gypsophila elegans*, *Torenia Bailloni*, and *T. Fournieri*; these should be sown all over the pot, and from twelve to eighteen plants allowed to remain in a 5-inch or 6-inch pot. *Statice Suworowi* is an interesting annual for growing singly in pots, the choicer varieties of *Petunia*, *Nicotiana affinis*, *Kalanchoe flammea*, *Hunneimannia fumarifolia*, *Hibiscus Manihot*, *Ipomœa rubro-cœrulea*, *Gomphrena* (purple and orange), *Diascia barbera*, *Cockscombs*, *Clianthus Dampieri* and *C. puniceus*, *Celsia arcturus*, *Campanula pyramidalis* (*Syon House compact variety*), *Browallia speciosa major*, and *Angelonia grandiflora alba*. These all make very useful plants for the summer months. All germinate best in a warm, close house and require shading during the earlier stages of growth. As the late *Chrysanthemums* pass out of flower select the most useful varieties for propagating; even at this late period they are still very effective. See that all necessary shadings are now made ready to be fixed when required. Increase the temperature of the stove-house to 65° to 68° by night, and allow the day temperature to rise to 75° when there is sun, keeping the houses well damped.

Wendover.

J. JAKUES.

THE FRUIT GARDEN.

PINE-APPLES.

To meet the demand for early fruit, see that the bottom heat in which the first batch of *Queen Pines* are plunged does not fall below 80°, and let the top heat range from 70° at night to 80° through the early part of the day, and 85° to 90° afterwards, closing with sun-heat. Keep the evaporating pans filled with stimulating liquid, pay particular attention to root-watering with the same in a diluted form, and reduce the necessity of overhead syringing by damping all available spaces, including the surface of the bed, when the house is closed for the day. If the heat of the bed in which are the winter fruiting plants shows signs of declining, take advantage of a mild day for renovating it with fresh fermenting leaves or tan, and re-plunge the plants, keeping the *Smooth Cayenne* and *Rothschild* varieties which started late in October and November together in the lightest and best part of the house, where they can receive heat and moisture with stimulating food, as recommended for the early *Queens*. If well rooted and not over-potted, these plants will give excellent *Pine-apples* at a time when good *English fruit* is in great demand and not too plentiful.

Strong plants intended to make growth before they fruit should be examined, and if found very dry at the root a little tepid water may be given to prevent them from receiving too decided a check, which might cause them to throw up prematurely. If the bottom heat has declined to below 70°, it will be necessary to admit warm air into the pipes until the thermometer indicates a move upwards; but great caution must be observed, as the application of water to the fermenting material, combined with increasing solar heat, often produces the desired effect without having recourse to the hot-water pipes.

ORCHARD HOUSE.

Owing to the mildness of the season the buds on *Peach* and *Nectarine* trees still standing out-

doors are very forward, and altogether unfit to be exposed to moderately severe weather. In many places the orchard house is used for other purposes in winter, and early housing of the trees is often attended with inconvenience; but steps should be taken to get them under glass. They may be placed closely together for a time, provided the house is fully ventilated at all times, unless frost is very severe. In years gone by it was the practice to pot and top-dress trees quite up to the time of housing, but this remarkable season fully confirms the sound advice to get all work of this kind performed before if possible, or immediately after the fall of the leaf. When all the trees are under glass, keep them well supplied with water; also look to trees established in inside borders, mulch well, and give them repeated waterings until the soil is as moist as it will be found in a well-drained *Peach border* out of doors.

CHERRIES.

Be guided by the state of the weather in the management of early-started trees now about to blossom. When fire-heat is needed for the maintenance of the night temperature, 40° to 45°, with a little air, should not be exceeded; and in the event of a continuance of severe weather, a few degrees lower will be preferable. As *Cherry trees* cannot be fumigated or syringed when in flower, see that the trees are quite free from insects when the blossoms begin to open. Pay daily attention to fertilisation. Ventilate freely, without causing a draught, and avoid damping in dull weather.

WILLIAM CRUMP.

Madresfield Court Gardens.

KITCHEN GARDEN.

GLOBE ARTICHOKE.

If the weather remains open the protecting material may be removed and a dressing of manure forked in. In soils that are stiff and cold, or in cold districts, it is good practice to pot up some offsets in the autumn, and winter them in cold pits or in the orchard house. Where this has been done, the plants may be put out to harden in readiness for transplanting about the second week in March. Much earlier heads will be produced from these than from the old-established stools, thus prolonging the season. As is well known, seaweed is an excellent manure for *Globe Artichokes*, as it also is for *Asparagus*; and where this is obtainable a dressing may be applied instead of manure at this time. Apply early a good mulch of half-decayed farmyard manure for feeding the roots and for conserving moisture which this *Artichoke* delights in.

LETTUCE.

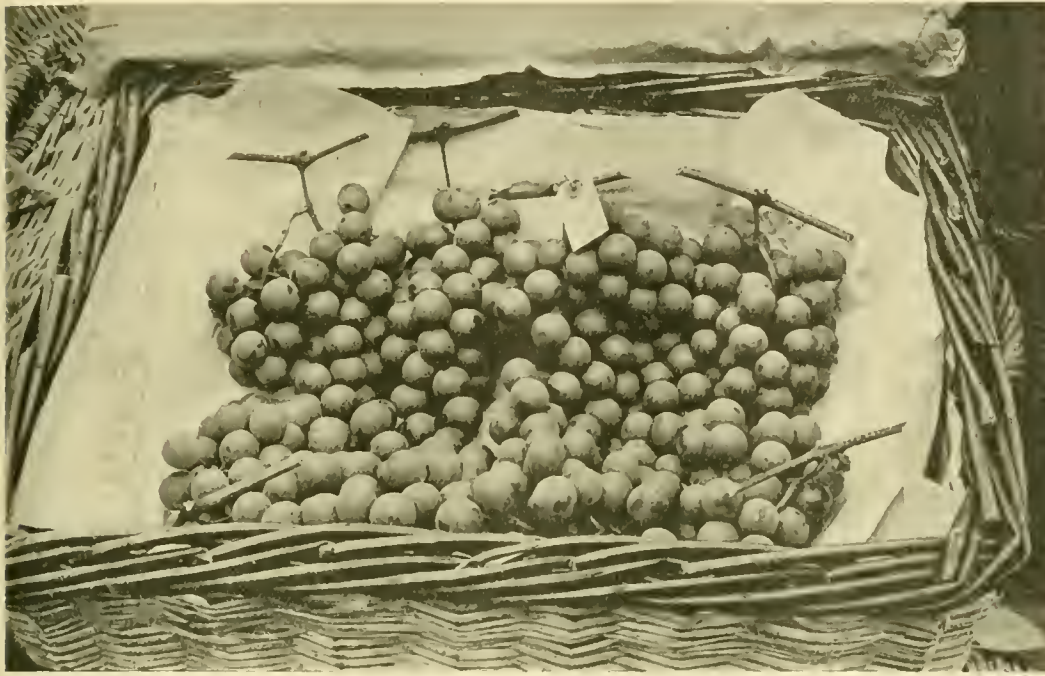
Plants wintered in frames or on a warm border may be transplanted in well-enriched soil on a similar site. *Cabbage Stanstead Park* we find excellent for turning in quickly. It is followed by the old hardy *Bath Cos*. The newer types of *Lettuce* are better adapted for present sowing for succession batches. In bleak, wind-swept gardens some kind of shelter should be given early *Lettuce*, such as evergreen branches.

CUCUMBERS.

The plants put out for early fruiting will be growing freely now that the days are lengthening. Seeds should be sown for successional houses as required. The aim should be to build up strong, short-jointed plants by the time the structure will be ready to receive them. It is better to shift into larger pots, and keep near the roof-glass, than to restrict their roots. The same remarks apply to *Tomatoes*, with the one exception of potting on. *Tomato plants* are the better for being kept in somewhat small pots, both in the young stage and when fruiting.

THE HERB BORDER.

As far as my experience goes, sufficient attention is not paid to this part of the vegetable garden. A border facing west is a good one for the cultivation of all kinds of herbs, and a few plants of each should be found room for if possible, and duly labelled with the botanical name as well as the common one. It would occupy too much space in this column to enumerate all of them, and the



HOW GRAPES ARE PACKED FOR MARKET.

The most convenient basket for market is one that will hold about ten bunches weighing from 12lb. to 15lb. The baskets are strongly but roughly made of white wicker, and should be deep enough to accommodate a good-sized bunch resting its full length on the side of the basket.

The basket is prepared as follows for the reception of the Grapes:— Wood shavings are placed in the bottom to the depth of about half an inch, and on this a layer of cap paper, lining the sides also with the same paper. The bunches are then placed in the basket in an upright position resting on the sides, and the shoot (which should always be cut with the bunch) is tied securely to the rim of the basket, allowing the base of the bunch to rest firmly in the bottom. Thus bunch by bunch (placed close together) should be fixed until the sides of the basket have been filled. Cover the top of the basket with paper securely tied on, and the Grapes will travel any distance without the least injury to bloom or berry. Another successful way favoured by many is, after filling the bottom with wood shavings and papering the basket as above stated, to place the basket on end at an angle of 45°, and then gradually build the bunches

from the bottom upwards, firmly placed one against another until the basket is filled.

This is an excellent way, and more weight can be got into the basket than by the other method, the only danger being that possibly some of the bloom may be rubbed off all round the bunch, whereas, with the other, the front of the bunch is not in contact with anything. The efficacy of packing in baskets instead of in boxes lies in the fact that railway officials dare not throw and bang baskets about as they do boxes, but are compelled to carry them by the handle, thereby securing immunity from porters' negligence and a safe delivery of the Grapes at the same time. A label should be attached to each basket stating the nature and weight of the contents and indicating the time when delivered to the railway company for transit, so that in case of delay the company can be held responsible.

T. B. FIELD.

Ashwellthorpe Hall Gardens, Norwich.

methods usually adopted for the culture of each. Suffice it to say that the perennial kinds should be divided and replanted at this time, working in some manure as the ground is dug. The annual herbs may now be sown. A sufficient stock of some, notably Tarragon and Mint, may be readily worked up by annually dibbling rooted pieces into well-enriched soil during the latter part of March. By keeping them partially shaded and frequently sprinkled, strong plants are quickly built up.

Stoneleigh Abbey Gardens H. T. MARTIN.

FLOWER GARDEN.

PLANTING.

By the end of the month all deciduous trees and shrubs should be planted, and all alterations and improvements in the flower garden completed. This is a good time to form rockeries, repair or replant box edgings, and turn or regravell walks. Should any of this work be neglected now, it will cause endless confusion later on when work gets into full swing.

PLANTING ROSES.

November and December are the most favourable months for planting Roses, but where the soil is wet and retentive, and the holes opened in the winter so that the mould becomes pulverised by frost, planting should be proceeded with at once. After planting give a surface dressing of at least 2 inches in depth of good rotted manure. This will help to keep the roots moist and eventually enrich the soil.

"RUSTIC" GATES AND FENCES.

These might receive a little more consideration than is generally accorded them. When gates and fences in suitable parts of the garden are constructed of strangely formed limbs of trees, they may, with a little taste and forethought, be made very interesting by training suitable climbing plants over them. Roses of the Crimson Rambler type, Honeysuckle, Clematis, and various other plants lend themselves to this object.

HERBACEOUS BORDERS.

The best time to plant is in September, but planting may be safely done now, with but little risk. Large tufts of Arabis, for instance, might be lifted any day with care from September to February, and would flower in the ensuing month of April.

ACHILLEA EGYPTICA

is one of the most handsome of all our herbaceous plants. Its heads of rich, clear, yellow flowers

makes it an object to be admired wherever it is well grown. This plant should not be allowed to remain more than three years without division or the flowers become small, and the foliage loses much of its beauty.

CIMICIFUGA JAPONICA.

This is another plant that I have found to do well if carefully divided at this time of the year. In good soil it makes a large mass of roots, and if well manured will throw up large spikes of its handsome flowers year after year, but where the object is to increase it, now is a good time to do so. Take the plant up carefully and with a sharp spade divide into as many pieces as is desired; replant with fresh soil, place the soil firmly round the plant, and give a good top-dressing of rotten manure. When the plants have made a start to grow give a good watering. This plant loves moisture and a good soaking of liquid manure will do it no harm just before the flowering season.

T. B. FIELD.

Ashwellthorpe Hall Gardens, Norwich.

THE FRUIT GARDEN.

HOW TO PACK GRAPES.

NOT the least important of the operations in connexion with the management of the Grape Vine is packing bunches for safe transit by rail or road, either for long or short distances. In consequence of the enormous increase in Grape culture during the last twenty years, both for market and private use, increased attention has been given to this important subject, not only by growers generally, but also by the Royal Horticultural Society in the encouragement they have given to good packing by the liberal prizes offered at their great annual exhibition of fruit held at the Crystal Palace during the last few years. In consequence of this increased attention and encouragement given to the subject, it is now generally admitted that the best way in which Grapes can be packed for travelling is by the use of cross-handled baskets of various sizes, according to the weight desired to be sent.

FRUITS THAT WILL MATURE IN ADVERSE SEASONS.

This was the subject of a lecture recently delivered by Mr. C. Hott, one of the technical instructors to the Cornwall County Council, and in the course of it he mentioned a number of interesting facts. He stated what is too well known as a fact, that some sorts of fruit trees which bear well in ordinary seasons fail entirely in adverse ones. In 1902 Cox's Orange Pippin, in the form of fine trees, almost failed; Peasgood's Nonsuch had given a good crop. It was added, by way of parenthesis, that those who observed the seasons would have noticed that once in every ten years there would be invariably an adverse season for everything; there would be a time unduly wet or unduly dry. When a season of abnormal growth happened there would be large fruit and little colour. Then it was advisable to remove the leaves which shaded the fruit and better colour would follow. It was pointed out that the foliage on the trees of this variety was of the strongest, and this was an important point, for it was the strongest foliaged varieties that did best in adverse seasons. On the other hand, Cox's Orange Pippin is a small-leaved variety, and upon the trees of this sort there was practically no fruit. The leaves of the tree were the breathing organs, and it

was obvious that the stronger and healthier the foliage in an adverse season the greater was the probability of the trees' bearing. Bramley's Seedling, Lane's Prince Albert, and Colonel Vaughan were all of vigorous growth, and there were fair crops on them in 1902; the moral of this was that in selecting fruit trees which would suit all seasons the texture of the foliage should be considered to some extent. It was true that in certain districts of Cornwall Cox's Orange Pippin and Gascoigne's Scarlet had produced fair crops, but in 1902 they failed, though in ordinary seasons they exist as croppers. The lecturer did not suggest the ignoring of Cox's Orange Pippin, because it bore well generally, and it always was a valuable crop; but Lane's Prince Albert not only does well in ordinary seasons, but bore a splendid crop in 1902. If any one were to set about growing Apples for profit they might plant only Lane's Prince Albert, 9 feet apart, the trees on the Paradise stock. This is a surface-rooting stock, and it would go on bearing for twenty-five years planted in a soil of good substance. Gold Medal was mentioned as an excellent companion, and Golden Spire for its earliness. The latter is a variety generally found to bear in bad seasons. Gold Medal had proved the best cropper in 1902. Mr. Ilott said he would not cultivate Keswick Codlin nor the American King of Tompkins County; it was a free grower in Cornwall, but gave little or no produce. Christmas Pearmain, one of Mr. George Bunyard's introductions, was highly spoken of; it is a good grower, and it is thought will take the place of King of Pippins. He would not recommend planting Blenheim Orange if immediate returns were wanted, but it could be safely planted for posterity. Worcester Pearmain had always cropped well, and should be planted for an early crop. The following were mentioned as the best Apples: Warner's King, Peasgood's Nonsuch, Lord Derby, Bismarck, Hambling's Seedling, a large green, late-keeping kitchen Apple; Gold Medal, Golden Spire, Stone's, Cox's Orange Pippin, Allington Pippin, Christmas Pearmain, Early Juneating, Baumann's Red Winter Reinette, and Gascoigne's Scarlet. The lecturer's experience is no doubt largely determined by what the varieties he names will do in the West, but there appears to be matter for consideration in what is said, and probably many of the conclusions arrived at by Mr. Ilott would apply to most of the southern counties. It is highly desirable to obtain a group of Apples which may be expected to bear under any conditions of weather common to the summer season. Some of Mr. Ilott's conclusions may be open to debate; still, he has opened up a subject of the highest importance to fruit cultivators.

R. D.

APPLE GOOSEBERRY PIPPIN.

THIS very ancient variety may not be so handsome as some of our more modern varieties, but it certainly possesses sufficient good points to warrant its more general culture. One comes across an old tree every now and again, and the verdict of all who grow it is the same—a valuable late keeping Apple. Given fair treatment it is one of the most regular croppers we have; indeed, it is as a rule so burdened that thinning is essential if medium to large fruits are required. As a culinary Apple it is only rivalled by such monarchs as Wellington, Bramley's Seedling, and Newton Wonder, and the tree is free from defects found in all of these. Its keeping properties are unexcelled.

H. W.

THREE EASILY - GROWN INCURVED CHRYSANTHEMUMS.

If the most successful grower of incurved Chrysanthemums were asked to name the varieties representing what may be regarded as ideal incurved flowers, there is good reason for believing the list would include Mrs. George Rundle (white) and its two sports, named respectively Mr. George Glenny (primrose-yellow) and Mrs. Dixon (rich yellow). These three varieties it will be seen

belong to one family, and they are now the smallest of the incurved varieties generally grown. These flowers are not seen at the shows in the stands as they used to be some twelve to fifteen years ago, but in centres where the claims of the incurved Chrysanthemums are still well recognised they are regarded as almost indispensable in their own particular department. I have often wished that those responsible for drawing up the schedules of prizes for the many shows now held throughout the country could see the really beautiful display made at the Sheffield show in a class exclusively confined to these three varieties. They have to be exhibited in pairs, making six blooms in all, and the competition is very keen for the eight prizes which are offered each season. There is little to choose between many of the exhibits in point of merit, and some of the blooms are superbly finished and very refined. This is quite an attractive feature in this fine show, and may with advantage be copied by other societies. The plants are very easily grown, and are valuable for the production of exhibition blooms for competitions of the kind just referred to or for the conservatory. Why the members of this family of incurved Chrysanthemums are not grown for grouping is a matter for surprise. The cuttings should be inserted in good time and the resulting plants grown on to terminal buds.

D. B. CRANE.

CORRESPONDENCE.

(The Editor is not responsible for the opinions expressed by correspondents.)

ROYAL HORTICULTURAL SOCIETY AND ITS GARDEN.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—As a lover of horticulture I was pleased to read your leader on the new Hall, and whilst giving the society every encouragement to bring the new scheme to a successful issue, you point out at the same time the value of the Garden. You certainly put the matter most plainly when you state a garden is the foundation of the society's existence, and there are many Fellows who would take no interest in the society if it were merely for shows. Those who never think of anything else but the meetings I fear forget that before any new plant, fruit, or vegetable can become a standard variety it must have a thorough trial, and who can give it this better than the Royal Horticultural Society, which has no trade interest? Growers have their own trial grounds, but, naturally, they are more interested in their own things than in those of others, and here is seen the value of the Royal Horticultural Society's gardens. Again, take the committee formed of men with good knowledge of the subject. Some are the best experts in the various branches of horticulture; others, who may have less knowledge in some respects, have great interest in cultural work, and combined the two form a strong body that makes their opinion valuable. This is more seen at Chiswick than elsewhere, as at the society's gardens a better result is secured than at a crowded committee table at the Hall. I am aware Chiswick is not an ideal place for trials, but I trust in the future the council will not use the funds derived from the surrender of the lease for the Hall. I do hope we are not to become a mere flower show society. Now is the time before it is too late for the real gardening Fellows to point out to the council that they are willing to support them to bring the Hall to a finish, but they do so upon the conditions that a garden is, and must be, one of the society's chief aims. The council will be wise to keep a firm hold of the gardening Fellows who would like to see the new Garden a school of practical and scientific horticulture.

AN OLD FELLOW.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—The fear lest in the haste to secure a handsome sum of £5,000 the Royal Horticultural

Society may presently find itself without any gardens materially dwarfs the important matter of the erection of a new Hall. I cannot have much sympathy with some of the council's critics at the recent annual meeting all the same, because it was their action at an earlier general meeting in starting up without much consideration as to what they were doing, and offering on the spur of the moment huge sums of money towards the erection of a Hall, which killed the effort then being made to secure a new Chiswick. But our position as Fellows of the Royal Horticultural Society now is that we have yet no Hall, although the site is there and the plans are ready. Is there anything like money enough to pay for the proposed erection? And upon that fact comes the even more disturbing one that very soon we may have no garden. It is poor consolation to learn that any agreement made with the Duke of Devonshire will stipulate for a year's notice to quit Chiswick. But we have already practically expended three years in looking for a new garden, and if driven into the short space of one year only in which to find one we may be forced to accept any site, however unsuitable, that may offer. We shall never get offered another Limpsfield site, one of the finest and cheapest in the whole kingdom, and where, had it been secured, we could have ere now laid the foundation of the best horticultural garden and training school in the world. That prospect was wrecked, and the society is in this foolish war over sites and designs being in danger of a similar misfortune. We must back up the council in their efforts to get the money and erect the new Hall on the best possible lines, but equally we must prevent the loss of Chiswick absolutely until the new garden has been found to replace it.

A. DEAN.

THE KITCHEN GARDEN. CLIMBING OR RUNNER BEANS.

ALTHOUGH the Scarlet Runner was introduced into this country from South America as far back as the beginning of the seventeenth century, it is only during recent years that the splendid varieties of Runners have been raised and placed upon the market. When one compares many of these with the old varieties, it is surprising to me that anyone should think of cultivating any but the newer and improved forms, which, as far as I know, have everything to recommend them, being quite as robust, indeed, more so, very prolific, much less trouble to pick and prepare, realise better prices, and the quality far superior to the older ones.

No vegetable cultivated is more appreciated or responds better to liberal treatment by way of making thorough preparation for the roots, and indeed the growths also, than the above. A deeply worked and well manured soil is of the utmost importance, and this applies to all land. That these will exist and give fair crops even on poor shallow ground I admit, but let anyone make comparisons, of course allowing for the extra work and expense in preparing and managing one short row, with one grown in a haphazard way and I venture to say (to the inexperienced) that the results will be astounding.

In kitchen gardens, many of which are of small dimensions, one has or ought to consider the best means of producing the greatest supplies from the smallest space, and by making a careful study as to this it is surprising what can be achieved in this way. Generally speaking it is not the farmer who has the largest acreage of land under his charge who produces the best crops, but the one that strives to make one blade of grass grow instead of two. The most profitable way to grow these is to prepare trenches about the end of March or beginning of April, precisely in the same way as is done for Celery. Fill up the trench to within about 6 inches of the top with thoroughly good half decayed farmyard manure, on which is placed

about 5 inches of the best of the soil taken from the trench, leaving it in this state till the time of planting. Allow plenty of room between the rows, 9 feet to 10 feet at least. The seed should be raised in boxes, and be sown about the middle of May and placed in quite a cool house to germinate. These should be carefully hardened and planted in the prepared trenches about the end of May or the first week in June. Plant in double lines, allowing 10 inches between each and 8 inches from plant to plant, and put them in right up to the seed leaf. Place some finely sifted cinder ashes around each plant which will successfully prevent the slugs from ravaging them; these often inflict considerable damage in some seasons. The rows should be staked at the time of planting. Good staking I contend is essential, and when well done these present a very pleasing appearance throughout the summer months. Extra strong and stout sticks should be prepared if possible, which should be not less than from 10 feet to 14 feet above the ground level. These should be thrust in perpendicularly as near the Beans as possible. At every 10 yards plant two strong poles on each side of the row in a line with the sticks, and thoroughly drive in. Strong tarred cord should be stretched from pole to pole about 10 inches from the top. The twiggy tops should be taken off neatly with the garden shears and put in between the sticks to give the young growths a start. The tops of the Runners should be taken off after reaching the desired height, when these will occasion very little further trouble till the frost puts an end to them, and are practically safe against the severe gales we generally experience during autumn. The ground should be thoroughly mulched with long litter between the rows, and apply slight dressings of some good artificial vegetable manure when in full bearing during showery weather, and during spells of drought give copious supplies of well diluted farm-yard manure. By syringing the growths during early evening in hot weather this will assist the pods to set and swell away freely.

Among the best varieties which have come under my notice are Sutton's Best of All and Prizewinner, Neal's No Plus Ultra, a fine type when true. Carter's Jubilee is the finest white flowered kind, and good for any purpose. The new French climbers are much liked by some, especially where French Beans are preferred to Scarlet Runners. These are unquestionably very prolific, but require to be picked when quite young. Veitch's Climbing French is an excellent Bean. E. BECKETT.

THE YELLOW TOMATOES.

I WAS pleased to read Mr. Beckett's note on page 104 of THE GARDEN advocating the extended use and cultivation of the Yellow Tomatoes. The one named Veitch's Golden Jubilee is certainly a beautiful fruit, and not so much grown as it deserves, but, as Mr. Beckett will know, it is not so great a favourite in the market as a red fruit. Why, I know not, except that the colour is against it, as the quality is superior to many red varieties. On the other hand, fortunately, many have not to study the market, and could give the Golden Jubilee a good place. I feel sure it would be much appreciated in many establishments. I do not know whether Mr. Beckett has noticed that some of the yellow fruits with a very tender skin do not keep so long as some of the old red fruits. I think this is the case, and it may affect the fruits when packed, but of course this only applies to the market, as the delicious flavour of the fruit referred to should not be overlooked for home supplies. There are now several beautiful yellow kinds, such as Golden Queen, Golden Perfection, Sunbeam, the small but delicious Golden Nugget, and the Cluster Tomato. All these are of fine quality and crop well. The new Chiswick Peach is also a splendid fruit, and just the size for salad purposes. G. WYTHES.

THE JASMINE.

HISTORY tells us that it was a Duke of Tuscany who was the first possessor in Europe of this very pretty shrub, and he was so fearful lest others should

enjoy what he alone desired to possess that strict injunctions were given to his gardener not to give a slip, not so much even as a single flower, to any person. To this command the gardener would have been faithful had not love wounded him by the sparkling eyes of a fair but portionless peasant, whose want of a little dowry and his poverty alone kept them from the hymeneal. On the birthday of his mistress he presented her with a nosegay, and to render the bouquet more acceptable ornamented it with a bunch of Jasmine. The young lady, wishing to preserve the bloom of this new flower, put it into some fresh earth, and the spray remained green all the year. In the following spring it grew and was covered with flowers. It flourished and multiplied so much under the fair maiden's cultivation that she was able to amass a little fortune from the sale of the precious gift which love had made her; when, with a sprig of Jasmine in her breast, she bestowed her hand and wealth on the happy gardener of her heart, and the Tuscan girls to this day preserve the remembrance of this adventure by invariably wearing a nosegay of Jasmine on their wedding-day; and they also have a proverb which says a



THE LATE MR. R. MACKELLAR.

young girl worthy of wearing this nosegay is rich enough to make the fortune of a good husband. We are afraid she would not make much of a fortune in these days out of sprays of Jasmine. But the story is a very pretty one and well worthy of preservation. W. N. B.

Nuttallia cerasiformis.—This is by no means a showy shrub, but flowering as it does during the month of February it is very welcome, added to which the flower racemes are graceful. Its usual habit is to form a roundish bush, seldom more than 6 feet high, and as a rule quite as much or even more in diameter. The flowers, which are borne in great profusion, are in short pendulous racemes, much after the manner of the flowering Currant (*Ribes sanguineum*). They are of a greenish white tint, but the profusion in which they are borne compensates for any lack of colouring, as an isolated specimen is, when at its best, extremely graceful. The *Nuttallia* itself is a native of California, and serves to perpetuate the memory of a noted American botanist—Thomas Nuttall. It is a neat ally of the Plum and Cherry family, and, indeed, is sometimes known as *Prunus californica*.—T.

OBITUARY.

ROBERT MACKELLAR.

THE news of the sudden death of Mr. Mackellar on the 27th ult. will be received with widespread regret. It has certainly been so to me, as one of his oldest and most intimate friends. As a clever, practical, and well-informed gardener, Robert Mackellar unquestionably stood in the first rank, and as an exhibitor of plants and fruit in the neighbourhood of Manchester he was most successful. He received his training in the first instance under his father, who still survives to mourn his son's loss, and afterwards at Floors Castle, the Royal Gardens Kew, Chatsworth, and Drayton Manor. He was for a short time head gardener at the Agricultural College, Cirencester, subsequently at Elvaston Castle, and for the last twenty-nine or thirty years head gardener at Abney Hall, Cheadle, near Manchester. He was one of the most unselfish and generous of men; nothing gave him greater pleasure than to be of service to others. The gardening charities had a warm place in his heart, and he took a keen interest in the local Literary and Technical Institute. His funeral was largely attended by residents in the village, by whom Robert Mackellar was greatly esteemed. OWEN THOMAS.

MRS. F. L. AMES.

MRS. F. L. AMES, eminent patron of horticulture, died on Wednesday morning, the 21st ult. She was a woman of noble character, charitable, and widely beloved. Her notable estate at North Easton, Mass., and her extensive Orchid collection, of which W. N. Craig has charge, have world-wide renown.—*The American Florist*.

CHARLES PENNY.

WE much regret to learn that Mr. Penny died recently, at the age of seventy-six. Mr. Penny became a well known personality in the horticultural world when head gardener to the Prince of Wales at Sandringham, and his name will always be associated with the Royal Gardeners' Orphan Fund, as he was one of its founders.

SOCIETIES.

BECKENHAM HORTICULTURAL SOCIETY.

MR. J. YOUNG, grower to Messrs. John Peed and Son, recently gave a lecture before the members of this society in the Church House on the "Cultivation of the Gloxinia," illustrating the same by coloured photographs. There was a good attendance of members. Dealing briefly with the history of the Gloxinia, introduced from South America and named after G. P. Gloxin, Mr. Young dealt with the items of watering, potting, insect pests, shading, and drying off the plants. A brisk discussion took place, in which many members assisted. A hearty vote of thanks to Mr. Young and Messrs. J. Peed and Son brought the meeting to a close.

ROYAL BOTANIC SOCIETY.

A REUNION of past and present members of the Society's Gardening School, which took the form of an evening entertainment and concert, was recently held at Regent's Park. Tea was provided in the class-room, after which a programme of music followed. During the interval between the first and second half of the entertainment, Mr. E. F. Hawes was presented with a large and handsome silver casket. Mr. E. J. Winstone, in making the presentation on behalf of the present students, said that this was a mark of esteem and in appreciation of the worthy manner in which the school work had been conducted during the past year. Mr. Hawes, in returning thanks, said it was a great pleasure to be the recipient of such a handsome present. This is the fifth occasion on which Mr. Hawes' work has been publicly acknowledged by the various classes of students under his charge at the Royal Society's Gardening School. Mr. H. D. Strathfield was also presented with a silver-mounted letter case.

BROMLEY AND DISTRICT CHRYSANTHEMUM SOCIETY.

THE members of the above society held their annual dinner on Wednesday evening, the 11th inst., at Bromley, when about eighty persons were present. The president (Mr.

Coles Child, J.P., D.L.) occupied the chair, and supporting him were Messrs. T. C. Dewey, A. C. Norman, J.P., E. M. Garner, H. J. Jones, W. Weeks (hon. treasurer), D. B. Crane, F. Tapper, J. Lyne, the hon. secretary (Mr. W. Collings), and others well known in the Chrysanthemum world. The dinner on this occasion was to celebrate the twenty-first anniversary of the society's existence, an event rightly regarded as a red-letter day in its history. After the usual loyal toasts had been given with enthusiasm, the chairman proceeded with the toast of the evening, "The Chrysanthemum Society." In doing so he briefly sketched the history of the society from its inception in 1882 until the present time—its coming of age. They began, he said, in a fairly flourishing condition, and offered £40 in prizes the first year. Subsequently the society proved itself capable of expanding, and under the presidency of Mr. Tedworth and the late Captain Torrens up to 1890 progressed favourably and was regarded as a success. In the succeeding year the chairman said he became president of the society, since which period he had occupied that position. It was mentioned that the income varied between £90 to £120 during the period just alluded to. With the advent of Mr. William Weeks as honorary secretary some twelve or thirteen years ago the society increased in popularity. Its income increased from £80 to £180 per annum, and the amounts taken at the door and sale of tickets from £18 to £50. The exhibits had advanced in numbers and quality. Six times they had competed at the National Chrysanthemum Society for the National Trophy, winning it on two occasions, placed second three times, and on one occasion third. The toast of the society was coupled with the names of Mr. W. Collings (hon. secretary) and Mr. W. Weeks (hon. treasurer). The toast was received with the greatest enthusiasm, and the responses listened to with much interest. Mr. A. C. Norman, J.P., gave the toast of "The Executive," to which Mr. F. Tapper responded. Mr. T. C. Dewey proposed "The Visitors," coupling the name of Mr. D. B. Crane with the toast. Mr. J. Lyne, in well-chosen words, spoke of the high esteem in which the president was held by the members. A most enjoyable evening was spent.

HASLEMERE GARDENERS' ASSOCIATION.

THERE is no place within a radius of fifty miles from the metropolis that has such a reputation for scenic beauty as Haslemere and the surrounding district. Hindhead is the home of many a man of outstanding ability, and it was here that the late Grant Allen found the repose from ungenial work in studying Nature. To the beauty of Nature has been added the skill of man, and hundreds of residences, presided over by men of sound knowledge encompass the town. Curiously enough, Haslemere, though boasting an excellent summer show and a fine autumn exhibition, has not had that most desirable of institutions—a gardeners' mutual improvement association—but this want will soon be filled. Something like forty gardeners have foregathered on Fridays during the past six weeks to hear Mr. Horace J. Wright lecture upon "Hardy Fruit Culture," under the auspices of the Surrey County Council, and Mr. Newman, the energetic chairman, thought the occasion a fitting one to start an association. The matter was placed before those in attendance at Mr. Wright's last lecture on the 13th inst., all of whom were in favour of the suggestion. A public meeting is to be called shortly, when the matter will be placed upon a business basis, and a committee and officers will be appointed. Practically all the leading gardeners of the district were present, and as they are supporting the movement, success is well-nigh assured.

SHROPSHIRE HORTICULTURAL SOCIETY.

ANNUAL MEETING.

THE annual meeting in connexion with the Shropshire Horticultural Society was held at the Music Hall, Shrewsbury, recently. The Mayor of Shrewsbury (Mr. H. R. H. Southam) presided, and among those present were Mr. E. C. Peele (chairman of committee), Major-General the Hon. W. H. Herbert, the Rev. W. Leeke, Colonel Robinson, Messrs. Admitt and Naunton (joint hon. secretaries), Mr. James Vine (treasurer), &c.

The honorary secretaries presented the annual report as follows: The committee have much pleasure in congratulating the members of the society on the successful results of last summer's show, when it will be remembered the very wet season experienced throughout the country naturally affected the quality of many of the exhibits and prevented exhibitors staging some of their best productions through want of sun to ripen and bring them up to the standard of perfection. The show was, however, favoured with splendid weather on the two days in August last, and the result was a record attendance of visitors, as evidenced by the fact that the total receipts from all sources amounted to the large sum of £5,001 15s. 5d., being £254 19s. 4d. in excess of the previous year, which up to that date was the society's largest income, viz., £4,746 16s. 1d. It has long been the ambition of the committee that the society's total return should reach £5,000, and therefore it is with a degree of pride that the success attending the twenty-eighth show has placed them in a position to announce such has at last been realised.

Mr. Vine presented the statement of accounts, which showed that the profit on the summer show was £873 18s., while the total profit for the year amounted to upwards of £1,000, compared with £827 10s. 3d. the previous year. During the past year the society voted from their funds several large sums, including £200 for the laying out of the Abbey Public Gardens. They also expended £154 8s. 7d. in "improvement of the river banks in the vicinity of the Quarry, making the total which the society have expended for this one purpose £1,500. Since 1875 the society have voted to various deserving objects no less than £6,953.

The Mayor, in moving the adoption of the report and balance-sheet, congratulated the members of the society on its continued prosperity. He remarked that it was very

creditable to the railway authorities that, notwithstanding the enormous traffic, there had been but one accident during the twenty-eight years the show had been held.

Mr. G. M. Salt seconded the motion, and it was carried. On the proposition of Mr. E. C. Peele, seconded by Mr. Salt, Lord Forester was elected president of the society for the ensuing year; and on the motion of Major-General Herbert, seconded by Mr. H. Owen, a vote of thanks was passed to Mr. H. J. Allcroft for his services as president during the past year and for his liberal gift of prizes.

The retiring members of the committee were re-elected, with the addition of Mr. R. Blakeway Phillips, who was elected to fill the vacancy caused by the death of Mr. W. Lyon Browne.

Mr. W. Thorne (superintendent of the Joint Railway Companies) said it would probably interest those present to learn that, apart from ordinary trains, on the occasion of the last show there were between fifty and sixty specials. So far-reaching was the popularity of the Shrewsbury floral fête that the honorary secretaries were always anxious to increase the number of excursions and tap new ground; and last year between 3,000 and 4,000 people were brought from a new district.

A vote of thanks to the Mayor for presiding terminated the proceedings.

BRISTOL AND DISTRICT GARDENERS' ASSOCIATION.

THE fortnightly meeting of this association was held at St. John's Rooms, Redland, on Thursday, the 12th inst., Mr. E. Binfield, Old Sneyd Park, occupying the chair. The subject for the evening was "Melons and Cucumbers," introduced by Mr. Collier, of the Cardiff Gardeners' Association. The lecturer detailed the best methods for cultivation, including time for sowing the seed, training, stopping, tying, and general treatment. He also described the insect pests and diseases to which they are liable, and the best means for eradication and prevention. Soils and composts also received his attention, and were fully explained. A good discussion followed Mr. Collier's lecture, and he was voted the thanks of the meeting for his able paper. Prizes for two Orchids were awarded equal firsts to Mr. W. Howell Davis, J.P. (gardener, Mr. Curtis), and Mr. J. M. Harris (gardener, Mr. Venn). Certificates of merit went to Mr. Garnish for some cut Tulips; Mr. W. Howell Davis, J.P. (gardener, Mr. Curtis); for *Odontoglossum crispum*; and to Mr. H. Killely for a pot of double *Daffodils* grown entirely in moss. The society's certificates of special merit were recommended to Mr. Hall (gardener, Mr. Ware), for two good pots of *Freesias*, and to Mr. Ayres for a fine collection of *Cypripediums*.

NATIONAL CHRYSANTHEMUM SOCIETY.

ON Monday evening, the 16th inst., the executive committee of the above society held a meeting at the Albert Hotel, Victoria Street, S.W., Mr. Thomas Bevan occupying the chair. After the usual preliminaries had been disposed of, it was announced that the vacant position of president of the society had been offered to and accepted by Mr. C. E. Shea. It was also announced that Messrs. Mackenzie and Moncur would offer a special prize at the next November show of the value of £10, the allocation of this prize being left in the hands of the schedule committee. A very satisfactory interim financial statement to date was submitted, and the usual motion made that the secretary's annual salary be fixed and paid at the same rate as last. Some discussion on ways and means then ensued, and it was requested that an estimate of receipts and expenditure be submitted at an early opportunity. In reference to the arrangements with the Crystal Palace, enquiry was made, and the reply received that it was hoped the agreement between the Palace Company and the National Chrysanthemum Society would be signed and handed over in a few days. The floral meetings during next season will be held in Essex Hall, excepting those that fall on the dates of the society's shows, and these will therefore take place at the Crystal Palace. There was a suggestion that a registration fee of 1s. per variety be made on all novelties submitted for adjudication by the floral committee, but this was allowed to drop. The annual excursion for 1903 was discussed and one or two places suggested. The event will take place as usual in July, but further details will be furnished later.

On the election of members for the floral committee, who retire in rotation, eight names were submitted for six vacancies. The successful candidates were Messrs. J. Brookes, Norman Davis, A. W. Sealbrook, T. L. Turk, C. Blich, and J. B. Riding. The election was by ballot, the scrutineers being Messrs. Berridge and Foster. Other elections followed, there being several vacancies to fill up in the schedule, finance, arbitration, and classification committees.

A member drew attention to the dressing of Japanese incurved blooms, but it was felt that little or nothing could be done in the matter.

New members were elected, and the meeting was brought to a close after a somewhat busy evening.

EALING HORTICULTURAL SOCIETY.

EALING is one of those localities in which matters horticultural have fallen to a lower stage than they once occupied in the estimation of the residents. This is to be accounted for to a large extent from the fact that the urban character of the place has materially changed of late, not a few small estates on which lived inhabitants who took a warm interest in local institutions, and in the horticultural society in particular, where plants were grown for exhibition, having been broken up for building purposes. These have given place to streets of small houses, and what was once country is now town. The new inhabitants, who are largely in London during the day, take little or no interest in the affairs of the neighbourhood, and old institutions decline. In this way the Ealing Horticultural Society has ceased to be as successful as it formerly was, partly on this account

and partly on account of the wet season of 1902. At the annual general meeting held recently the report of the committee stated that there was a serious deficit of funds owing to the wet character of the weather on the occasion of holding the annual flower show in Gunnersbury Park in July last. Some years had elapsed since the society had pitched its tents in these charming grounds, and some expense had been incurred in making the fact known in the large neighbourhoods south of Ealing. As the day proved wet, few could attend, and the loss was heavy, swallowing up all the means of the society. The autumn Chrysanthemum show which had been held for several years past had to be abandoned to the regret of many. The society therefore enters upon the year 1903 not only without funds but actually in debt. The annual show in the present year has been fixed for Wednesday, July 8, and will be held in the Walpole Public Park in the centre of the town, and it is hoped that a Chrysanthemum show may take place as usual. The officers and committee were elected, including the president (Mr. Leopold de Rothschild) and the secretary (Mr. George Cannon). The committee were instructed to take the necessary steps to bring the claims of the society more prominently before the people of Ealing.

HORTICULTURAL SOCIETIES' SCHEDULES.

THE fifty-second annual show of the Woodbridge Horticultural Society will be held in the Grange grounds, on Thursday, July 9. Roses, Carnations, pot plants, cut flowers, fruit, and vegetables are all well provided for in the classes. Mr. John Andrews, Gordon House, Cumberland Street, is the hon. secretary.

IPSWICH AND EAST OF ENGLAND HORTICULTURAL SOCIETY.

The summer show will be held on Wednesday, July 1. Messrs. H. J. Cutbush, J. Hudson, W. Allan, and S. T. Wright will be the judges. The Chrysanthemum show will take place on Tuesday and Wednesday, November 10 and 11. Secretary, Mr. H. E. Archer, 13, Museum Street, Norwich.

RICHMOND HORTICULTURAL SOCIETY.

In the annual report we read during the year 1902 energetic steps "have been taken towards freeing the society from debt. A substantial increase in the number of annual subscribers is the greatest present need, and the committee hope that the coming year will bring many new applications for membership. The accounts of the first and second annual dinners have been made up, showing a substantial profit to the society, which has enabled the committee to repay £150 of the loan from the bankers."

The next flower show will be held in the Old Deer Park, Richmond, on Wednesday, July 1. The Gunnersbury Park silver challenge cup for Roses, presented by Leopold de Rothschild, Esq., is to be held by the winner of the first prize in class 13 for one year, 1903-1904. Honorary secretary, C. R. King, 61, George Street, Richmond.

ROYAL CALEDONIAN HORTICULTURAL SOCIETY.

The spring show will be held on Wednesday and Thursday, May 20 and 21, and the autumn show, Wednesday and Thursday, September 9 and 10. At the spring show prizes are again offered to under gardeners for a plan for laying out three acres of land. For both exhibitions the schedule is an excellent one. A special prize is offered in September by Mr. and Mrs. J. Martin White, Balrudery, Dundee, for the best essay on the preservation and lasting qualities of flowers, foliage, and plants in a cut state in water. Secretary, P. Murray Thompson, York Place, Edinburgh.

MIDLAND CARNATION AND PICOTEE SOCIETY.

The report for 1902 says:—The twelfth annual exhibition was held at the Edgbaston Botanical Gardens on Thursday and Friday, August 7 and 8, and, taking into consideration the exceptionally unfavourable season, was quite up to the society's standard. The committee regretted the absence of exhibitors from the South, but the Midlands were strongly represented. They were pleased to see Mr. Robert Sydenham again competing after his regrettable absence last year owing to ill-health.

Owing to the inclement weather on the first day of the show the attendance of the public was not so large as in 1901, a fact which has, unfortunately, largely affected the balance sheet. The new classes for undressed blooms, added by the committee last year, were a distinct success, the entries being numerous and the flowers staged being of the highest quality. It will be noted in this year's schedule that a very stringent rule has been made with regard to all the undressed classes—viz., "That the flowers must be shown with a perfect calyx, and not with the points of the calyx turned down," as some exhibitors have been in the habit of doing in the past.

Mr. Sydenham has, unfortunately, been obliged to give up the management after a splendid effort dating from the inception of the society; but Mr. W. H. Parton, jun., has undertaken the vacant post, and hopes, with the kind assistance of all the members, to maintain the prestige of the society in the future.

CARDIFF GARDENERS' ASSOCIATION.

THE usual fortnightly meeting took place at the Grand Hotel on Tuesday, the 10th inst., Mr. C. E. Collier in the chair. Mr. E. A. Parsons, gardener, Strathearn, Cardiff, gave an interesting lecture, entitled "Chrysanthemums," dealing with their history, cultivation, and exhibiting. Great emphasis was laid on the importance of noting the proper time for propagating various varieties, which, the lecturer added, was quite as essential as timing the buds. Owing to the growing popularity of the flower in this district there was a large attendance of members and friends, who contributed to an enthusiastic debate. At the close Mr. Parsons was heartily thanked for his lecture. For a nice spike of *Cattleya Harrisoni* Mr. Parsons was awarded a second-class certificate.

THE GARDEN

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[MARCH 7, 1903.]

HARDY GARDENING UNDER GLASS.

GOOD WORK AT KEW.

AT Kew the alpine house is doing admirable service to the gardening public by bringing into notice new hardy plants as they are being introduced, by showing what can be done with them, and the illustrations on the next page of some of the first spring flowers to be found in bloom there at this early season come as a timely reminder. In April and May this house is crowded with visitors, but interesting as it is at that time of year, the chief use of such a structure is not then so clearly demonstrated. It is from the middle of January and for two months onwards, when spring flowers are few and far between, and wintry weather prevents our enjoying even these few out of doors, that we learn the real value of the alpine house.

Very many owners of greenhouses which for various reasons are insufficiently heated for ordinary tender plants, or not heated at all, would do well to turn their attention to this particular phase of winter gardening. It is often a subject of regret that so many of these structures are practically useless, when they might be made an unfailing source of pleasure and occupation. Looking over garden records of more than twenty years ago concerning an unheated greenhouse, such things as *Crocus Imperati*, *Sisyrinchium grandiflorum*, Christmas Roses, *Seillas*, *Orobis vernus*, *Anemone blanda*, *A. stellata*, *Milla uniflora*, Wallflowers, *Coronilla glauca*, *Myosotis dissitiflora*, and others are noted as being in good flower between January 10 and February 1. Hardy gardening under glass in those days had scarcely been tried, and was looked upon as a brave but hopeless attempt to make the best of adverse circumstances. Now Kew leads the way to show that so far from the unheated house being a make-shift, it presents exactly the right conditions under which certain plants can be most successfully flowered.

To get hardy plants into early flower is mainly a question of forethought and preparation. The present moment is not too soon to enter a resolution in any scheme of work for the year, to seek out and make ready as many suitable hardy plants as we can, so that we may have the enjoyment of them during the first inclement weeks of 1904. As to suitability, the behaviour of early-flowering hardy plants in the open borders will be a fair

guide. How many of these, like some of the Primrose tribe, wake up too soon in our uncertain climate and begin to make premature efforts to bloom? Any such may be noted, for they plainly ask for shelter.

A visit to Kew, or to one of the famous botanic gardens of Edinburgh or Dublin, of Birmingham, or at Cambridge and elsewhere, note-book in hand, will always be instructive and suggestive of new and desirable plants; but failing opportunities of making acquaintance with living examples, we can turn to garden literature. There is no lack of means of obtaining information where there is energy enough to seek for it. Given suitable plants, the one great secret of success is to get them well established, either in pans or pots in cold frames, or, in some instances, by a preliminary course of planting out in reserve quarters in the open ground, where they can be well cared for during the summer. In the case of bulbs, early potting—or repotting according to circumstances—is of utmost importance, or again it may be the sowing of seed or the putting in of fresh cuttings at the right moment. It is just upon this point of attention to apparently trifling matters that success or failure often turns. Time slips by unheeded, there is no immediate incentive to work, and the prospect of months of waiting is intolerably tedious. Nevertheless the reward, when it does come, is worth waiting for.

Nor need we wait for this kind of gardening until we have an alpine house—at any rate, to make a beginning. In most country houses there are positions that can be utilised. A glass porch, a covered verandah, a bay window in an unheated ante-room may each or all serve passably well for plants in flower. The only place to avoid is the ordinary warm greenhouse. Here such hardy things will quickly sicken, and, if they do not die outright, will become so drawn up and weakened that they will be of little future use, whereas the aim and end of such winter gardening must be to get strong established plants which will last for several years, growing better with each succeeding season. All timely notes—cultural and otherwise—on the subject of the alpine house at Kew, and the work going on there, will undoubtedly be welcomed by many readers of THE GARDEN.

We have illustrated the interior of the house again, because we have never seen so many interesting and beautiful flowers open at one time before, and the illustration of the exterior shows quite a modest little structure.

NOTES OF THE WEEK.

FORTHCOMING EVENTS.

March 9.—Annual General Meeting of the United Horticultural Benefit and Provident Society, Caledonian Hotel, Strand, at 8 p.m.

March 10.—Royal Horticultural Society Meeting, 12 noon; Horticultural Club, 6 p.m.

March 24.—Royal Horticultural Society Meeting (Tulip and Hyacinth Show).

March 25.—Liverpool Horticultural Association Spring Show.

Royal Horticultural Society.—The next fruit and flower show of the above society will be held on Tuesday next in the Drill Hall, Buckingham Gate, London, S.W., 1—4 p.m. A lecture on "Natural Selection *v.* Adoption" will be given by the Rev. Professor G. Henslow, M.A., V.M.H., at three o'clock. At a general meeting held on Tuesday, the 24th ult., 103 new Fellows were elected, amongst them being Baron Anthony de Worms, Sir John Dickson-Poynder, Bart., M.P., Lady Allen, Lady Cunliffe, Lady Constance Ryder, Lady Edwards, Lady Smyth, the Hon. Mrs. Charles Trotter, and the Hon. Mrs. Parry-Evans, making a total of 323 elected this year. At the society's fortnightly exhibition on the 24th inst. special prizes will be offered by the Royal Bulb-growing Society of Haarlem for Hyacinths and Tulips as follows: 120 Hyacinths in pots (one bulb in each pot), in not less than forty varieties and not more than three pots of any one variety (open), first prize, £7; second, £5; third, £3; 100 pots of Tulips (three bulbs of one variety in each pot), to include fifty varieties at least and not more than two pots of any one variety (open), first prize, £4; second, £3; third, £2. At least six days' notice must be given of intention to compete.

Primula kewensis.—This hybrid mule *Primula*, even though it thus produces no seed, can be rapidly increased by division, as the very fine stock of plants of it now in Messrs. Veitch and Sons' nursery at Feltham shows. The stock is sown largely in 5-inch and 6-inch pots, and is of very robust growth. Flower-spikes have been plentiful for some time, showing that the plants retain all that blooming precocity which characterises the seed parent, *Primula floribunda*, whilst the growth is so much stronger and the flowers larger, features due to the pollen parentage of *P. verticillata*. That this *Primula* will soon be in great request as a half-hardy greenhouse winter bloomer there can be no doubt. It may be described truly as being the only known real Primrose hybrid. Its mule character may be regarded as conclusive proof that it is a genuine cross product.—D.

Fresh impetus is given to good greenhouse plants by the appearance of a new hybrid or quite new species, and the placing in commerce of the above plant is almost a case in point. Singularly enough, like not a few other good plants the above is a natural hybrid I believe, the obvious outcome of the crossing of *P. floribunda* and *P. verticillata*. Not only is the new-comer a fine plant from every point of view, but it is a great advance upon the parents. This is so not only in the flowering and its great freedom, but in the effect produced. *P. verticillata* has pale yellow blossoms and quite whitish mealy stems and leaves—so much meal or



INTERIOR OF THE ALPINE HOUSE, ROYAL GARDENS, KEW. (Photographed on February 24 last.)

farina, indeed, that it detracts rather from the pale-coloured blossoms. In *P. kewensis*, fortunately, the colour of the leaves is that of *P. floribunda*, and these, coupled with the richer, deeper yellow coloured blossoms provide a plant of great beauty and effectiveness. The rich yellow flowers are exceedingly beautiful, and there is just that compact habit and freedom of blossoming that go to make an ideal pot plant for the conservatory or the greenhouse. In growth the new-comer is taller than *P. floribunda* and a little less tall to the first whorl of flowers than is usual in *P. verticillata*; in short, were the stems of the parents measured out, I believe one would find the new hybrid to be just nicely balanced between the two. *P. verticillata* or its influence has given a plant of taller stature as compared with the generally too low-growing *P. floribunda*, while the influence of the last-named species is clearly seen in the greener leafage and colour of the flowers. Thus analysed it will be seen to be almost intermediate between the parents. Curiously enough, while both species seed freely, the hybrid will not. There is consolation in the fact, however, that both parents may be largely increased by division, an attribute imparted in the freest manner to the new plant. There is yet one point of interest and merit to be mentioned—*P. verticillata* is a wonderful plant for fragrance, possessing the pure scent of the meadow Cowslip, and just this identical and welcome fragrance has been inherited by *P. kewensis*. In the former the fragrance of a single strong plant in flower may be detected a dozen feet away, and that *P. kewensis* is similarly endowed I quickly noted the other day even in the much-maligned Drill Hall, where colour and fragrance and all other meritorious points are said quickly to vanish away.—E. JENKINS, *Hampton Hill*.

Extension of Brockwell Park.—Residents in the neighbourhood of Brixton, Camberwell, and Norwood who have appreciated the advantages of Brockwell Park will also be delighted with its extension. The

new part was formally opened on Saturday last by Mr. John Piggott, chairman to the Parks Committee of the London County Council. The park can be reached by thousands of dwellers from long distances, as the services of trains, trams, &c., in the district are good. That portion opened contains fine cricket and football fields; the whole forty-three acres are not yet available, as the leases of several acres have not run out.

A notable concert.—The seventh annual concert, organised by the George Monro committee, took place at the King's Hall, Holborn Restaurant, on Thursday, the 26th ult. The audience was

crowded and representative, and composed of members of the trade and many eminent growers, with some foreign and colonial guests engaged in the fruit growing industry. The programme left nothing to be desired. The chairman, Mr. George Monro, received an enthusiastic vote of thanks, and in reply paid a warm tribute of praise to the entertainment committee and the zeal and energy of Mr. H. Baker, the honorary secretary.

Damage in Phoenix Park, Dublin.—During the recent storm it is estimated that no fewer than 1,000 trees were uprooted. Surrounding districts have suffered severely.

Acacias in Flower at Kew. The following Acacias are now in flower in the Temperate house, Kew, many of them represented by fine specimens:—*A. acinacea*, *A. armata*, *A. var. undulata*, *dealbata*, *decurrens* var. *mollis*, *dietrichiana*, *Drummondii*, *glaucescens*, *hastulata*, *juniperina*, *latifolia*, *leprosa*, *linearis*, *limifolia*, *longifolia* var. *magnifica*, *Meissneri*, *myrtifolia*, *obliqua*, *peninervis*, *pentadenia*, *pubescens*, *pycnantha*, *riceana*, *urophylla*, *verniciiflora*, *verticillata*, v. var. *ovida*.—C. R.

Wandsworth Park, which has been acquired and laid out by the County Council, the Wandsworth District Board contributing part of the cost, was opened recently. It is more than 19 acres in extent, and lies between Putney Bridge Road and the Thames, having a frontage of 1,456 feet to the river. In a description of the park, Mr. Gomme, Clerk of the County Council, says: "The locality is shown by the names of Point Pleasant and Frying Pan Creek to be connected on the one hand with Thomas Cromwell and the general history of England, and on the other hand with the Huguenot refugees and the consequent growth of English industry, while the history of the park as part and parcel of the common fields of Wandsworth points to an interesting economic stage in the world's progress." This is a notable addition to London's open spaces, and one that citizens cannot fail to enjoy.



THE ALPINE HOUSE AT KEW.

(Inside measurements: Length, 40 feet; width, 9 feet; height at apex, 8 feet 6 inches; at sides, 5 feet 6 inches.)

Colours in Rose-beds.—I note in THE GARDEN of February 14 a suggestion of colour with regard to a Rose-bed. May I suggest another which I think blends the colours red and white closer. Plant four or five plants of Ulrich Brunner (having good long trailers) in the centre, draw the branches out and train on bent twigs of Willow about 4 inches to 6 inches above the surface; between each plant put in bushes of Viscountess Folkestone. The colours I have found are better blended and catch the eye sooner than when the red is higher, and therefore becoming too prominent detracts from the whole.—C. W. CROSBY.

Encouraging juvenile gardening. Very commendable facilities are being offered for the encouragement of horticulture among the juvenile section of the community by the Buckinghamshire County Council, which is under the presidency of Lord Cottesloe. The idea is to establish a "County Council garden," the technical education authority undertaking to employ a skilled instructor, and also to supply the necessary seeds, manure, &c., and each lad instructed will not only have the superintendence and cultivation of his own plot, but the absolute advantage of the crops which by his industry he produces. Beyond a minimum fee for a course of lectures, these amateur gardeners will not be put to any other expense.

Destroying the Devonshire hedgerows.—Efforts are being made in Devonshire to put a stop to the wholesale destruction of the hedgerows—which are the pride of the county—by Fern and flower gatherers. There are men who make a business of plucking up Primroses by the roots and sending them to Covent Garden and the Midlands. So systematic are the spoilers that they leave some of the hedgerows as barren as if there had been a plague of locust. In fining William Johnstone, Fern and flower gatherer, London, £2 and £1 costs for digging up Primrose roots belonging to Sir Edmund de la Pole, the Colyton magistrates said any others brought before them for this offence would be sent to prison without the option of a fine.

Colletia cruciata.—This fiercely-spined shrub, alluded to on page 36, is comparatively rare in gardens. If employed as a fence it would prove an even more formidable barrier than the American Aloe, which in certain countries is used for this purpose. I note that your correspondent says that the flowers "do not add much to the effect of this singular shrub." This is doubtless usually the case, but I know of one instance where the blossoms were borne in such countless thousands that the great bush, 9 feet high and almost as much in diameter, presented a striking sight in December, even at some little distance. I believe the specific term *bictonensis*, sometimes applied to this shrub, arose from its having been raised from seed of *Colletia horrida*, which carried spike-shaped spines at Bicton about fifty years ago. For a considerable period it was thought that a mistake had been made, and that the seeds sown were not those of *C. horrida*, but of another species. Later experience, however, as detailed by the writer of the earlier note, proved the two plants to be identical, both forms being found on the same branch.—S. W. F.

Burchellia capensis.—Some well-flowered examples of *Burchellia capensis* recently noted in flower at Messrs. Veitch's nursery at Chelsea showed this pretty South African shrub in the new light of a winter-blooming subject, for late spring and summer is usually recognised as its period of flowering. It is in every way a very desirable plant for the warm greenhouse or intermediate structure, forming as it does a freely branched shrub, clothed with ovate, oppositely arranged leaves, about 4 inches long, and of a deep green tint. The flowers, which are borne in

clusters on the points of the preceding year's shoots, are tubular in shape, a little over 1 inch long, and of deep orange-scarlet colour, a tint which shows up very effectively against the dark green background. This *Burchellia* is a native of South Africa, where from the hardness of its wood it is known as the Buffalo-horn. The order to which it belongs (*Rubiaceæ*) contains many beautiful flowering plants, such as the different members of the genus *Bouvardia*, *Gardenia*, *Ixora*, *Manettia*, *Rondeletia*, and others. The cultural requirements of this *Burchellia* are not at all exacting, provided a warm greenhouse temperature is maintained. Cuttings of the half-ripened shoots strike without difficulty if put in well-drained pots of sandy soil and kept in a close propagating case in a structure rather warmer than that in which they have grown. A good soil for established plants is two-thirds loam to one-third peat, and a liberal sprinkling of sand.—T.

The Pink Coralita.—Under the name of Pink Coralita, *Antigonon leptopus* is a well known climbing plant in West Indian gardens, where, according to the *Agricultural News*, it is much

and will do much good. A great development of irrigation systems has been going on for years, and by means of great reservoirs, more economical distribution, and the development of all resources, such as tunnelling springs or boggy spots and pumping from gravel beds, the supply of water from mountain streams has been so much increased as to not only make present communities safe, but to allow the reclamation of large additional areas of arid lands. A large area of true desert land west of the Colorado River, in what is known as the Colorado Desert, is now being irrigated by means of a great canal from the Colorado River. This region is practically both rainless and frostless, and the soil, which is an ancient lake bed, is exceedingly rich. In all probability the earliest fruits and vegetables in the United States will be grown there. Extensive irrigation systems in Central California are being extended. While in regions where we have always considered irrigation unnecessary, experience is proving that a thorough wetting in midsummer much improves the fruit in size. In such locations the water is pumped from wells or the beds of streams. Fuel was a great



WISTARIA-COVERED LODGE IN WINDSOR GREAT PARK.

appreciated for its sprays of rose-pink flowers. Attention is drawn to the existence of a white variety of this charming plant which was recently seen at Antigua. It has also been introduced from India into Montserrat. Seeds of this variety have been distributed to several of the botanic stations of the West Indies, the plant being a distinctly interesting one and worthy of more extended cultivation.

The famous Wistaria at Windsor. The accompanying illustration represents one of the finest specimens of *Wistaria sinensis* in the British Isles. The wealth of flower is clearly portrayed, and we are not surprised that many come from far and near to see it when it is in full beauty. It covers the front and part of the roof of the lodge.

A note from California.—California is just now experiencing the coldest wave for many years. Snow fell in the mountains throughout California during the week ending February 7, while in many valley towns the inhabitants had their first sleigh rides. The last reports would indicate that cloudy weather had saved the Lemons and Oranges, although some injury is probable. The storm that brought the snow in northern California gave the south a thorough drenching,

item of expense until within the last few years, when large deposits of petroleum were developed, and that fuel is now supplanting both coal and wood for all purposes. It seems probable that oil will, in its turn, soon be supplanted by electricity. The Sierra Nevada range slopes very abruptly to the west, giving 7,000 feet fall in a little over 60 miles. The snowfall is heavy, and the numerous resultant streams are rapidly being put in harness, and the power is being distributed as far as 200 miles away. The greatest horticultural problem in California is labour, and a very serious one it was in 1902, for great quantities of fruit were wasted for lack of it. However, 1902 was a year of great prosperity to us, in which the producers of grain, live stock, Raisins, and wine shared to a marked degree. The crop of deciduous fruits, too, was great, and profits were in many cases disappointing, as great quantities could not be harvested or disposed of. The rural industries of the Pacific slope have profited much by the great extension of American activity in Alaska, the Sandwich Islands, and the Orient, and even more by the growing scarcity of beef. The future of California is bound up in the labour problem and transportation. We have so specialised in Raisins, wines, fruits of all sorts,

Hops, and Nuts that a very large supply of labour is needed from June to October. Only Oranges supply a considerable amount of winter work. The mildness of our summers, with the absence of rain, makes out of door living pleasant, and a large number of white people lead a nomadic life, moving from point to point as the harvest proceeds, and settling in some town for the rainy season. By far the greater part of the labour is done by white people. This life is in many ways excellent in the dry season, but our country towns are nearly destitute of factories, and winter employment is precarious. The present labour supply is not sufficient even in ordinary harvest, and no one here wants another influx of Japanese or Chinese, and the solution of the problem is not in sight. Bulb and seed growing have passed the experimental stage, but they, too, are dependent on a cheap and trustworthy labour supply. Whenever that is solved, Europe will have a dangerous competitor to cope with in these industries.—CARL PURDY, Ukiah, California.

Leucojum aestivum.—On February 8 last year I sent a note on the Summer Snowflake, mentioning my experience with a strain that for years proved flowerless. As I related, Mr. S. Arnott, with whom I had some correspondence on the subject, kindly sent me some bulbs of this *Leucojum*, which flowered well. On my departure from Torquay I sent some of each lot of bulbs to a neighbouring garden, and was much surprised on visiting it during the first week of 1902 to find my hitherto flowerless Snowflakes in bloom, while those I procured from Mr. Arnott showed but a few inches of leafage. In the past summer I imported into my present garden on the banks of the Dart a dozen or so bulbs of both strains and planted them side by side. On going into the garden on February 2, after my return from Cornwall, I found that my original Snowflakes, that formerly refused to flower, but blossomed in January last year at Torquay, were in full bloom; in fact, rather past their best, while the foliage of Mr. Arnott's bulbs was only about 3 inches in length. It is curious that after a period of flowerlessness that extended over some years, these bulbs should have developed such a precocious habit, for January is certainly an abnormal time for the flowering of the Summer Snowflake.

Clematis calycina.—This *Clematis*, perhaps more generally known under the synonym of *C. balearica*, referred to on page 35, though not particularly showy, is almost indispensable on account of its early blooming. In January and February its greenish white flowers, spotted in the interior with purple, are borne in great profusion, having as companions few open-air flowers besides the Winter Jasmine, *Chimonanthus fragrans*, the Wych Hazel, *Prunus davidiana*, *Iris stylosa*, Christmas Roses, and the earliest bulbs. I see that in the note I have alluded to it is stated that its branches are 10 feet to 12 feet long. In the south-west its growth is far stronger, and I know of one specimen that has climbed fully 25 feet into the branches of a variegated Tulip Tree; in fact, from its vigour in this and other instances I should consider it almost as good a tree climber as *C. montana*. Another very similar *Clematis* is *C. cirrhosa*, this being later in flowering and bearing greenish white unspotted flowers rather smaller in size than those of the subject of this note. Both are grown on a trellis in a Falmouth garden, where I have had the opportunity of comparing a late flower of *C. calycina* with an early one of *C. cirrhosa*. In the illustration of *C. cirrhosa* given in Nicholson's "Dictionary of Gardening" the foliage appears to me to be that of *C. calycina*, as the leaves of *C. cirrhosa* are, so far as my observation goes, composed of three oval segments slightly indented.—S. W. F.

Natural habitat of *Lilium speciosum*.—A few weeks ago I sent you an article on *Lilium auratum*, in which I gave the grounds for my belief that without doubt *Lilium auratum* is a native of Japan. As Mr. Augustine Henry, in the article which caused me to write the above-mentioned account, also speaks of *L. speciosum* (*THE GARDEN*, vol. lxii., page 284, October 25, 1902) I send an account of some

discoveries I have made during the last few months. I must acknowledge that up to now I had believed that *L. speciosum* must have been introduced from China or Corea, for I had never found it wild here in Japan, and as China is such a vast and comparatively unexplored country I took it for granted that this plant was one of the many which had reached Japan in such a way, especially as Mr. Elwes states that it was found wild by Dr. Hance in Kiu-Kiang, China. However, the very bad Lily harvest of 1902 has led to unexpected discoveries. The past spring and summer were so extraordinarily cold and wet that all the Lilies exported from Japan have suffered greatly, and none more so than *L. speciosum*. The production of cultivated bulbs was not half of the normal crop, and the natural result, the great rise in price, led some enterprising Japanese dealers to search for districts where the Lily grew in abundance. Following them, I have in this way discovered through a good Japanese botanist that *L. speciosum rubrum* grows wild and most abundantly in the group of islands Koshikijima, situated south of Nagasaki and west of the province of Satsuma. In these islands the same variety is found on the volcano, Kirishima, near the village Noshitakemura in the province of Hyuga Kinshin, also in the province of Tosa on the island of Shikoku, especially in the following places: (1) near the mountain pass, Kabanotoye in Yokohatamura; and (2) in Sakawa, near Takaoko. But in all these places the red variety alone is found, a fact that the dealers also substantiate. *L. speciosum album* seems, therefore, to be a garden variety not known in Japan, at least in the wild state. Mr. H. J. Elwes, in his monograph of the genus *Lilium*, states that the Japanese call *L. speciosum* Koraijuri. This is not right, for the Japanese name of *L. speciosum* is Kanoko Yuri, the red form Akai=red Kanoko, and the white form Shiroi=white. The Japanese name for Corea is Chosen, and has certainly nothing in common with the name above mentioned.—ALFRED UNGER, Yokohama, Japan.

SWEET PEAS.

THESE charming flowers have now become universal favourites, and this is hardly to be wondered at when one considers the ready way with which they adapt themselves to all forms of decoration, and their great variety of colour and delicate perfume. Moreover, there is no reason why they may not be brought to perfection by the humblest cottager as well as by the professional gardener. The great secret consists in selection of varieties, deep tillage of the soil, keeping the seed-pods



SWEET PEA EMILY HENDERSON. PART OF A HEDGE.

picked off, and supplying the roots with copious quantities of moisture during spells of dry weather. There is probably no other class which repays the cultivator so amply for any trouble he bestows upon them, and here I may mention, as with all other plants, success is not obtained without a reasonable amount of care and attention. To grow Sweet Peas really well a border should, if possible, be devoted entirely to their culture, and each variety grown in a clump by itself. The old-fashioned way of growing them in a mixed hedge has little to recommend it, but by isolating the various colours one is able easily to determine the best and most distinct sorts to grow, and the seed of each variety, if it is desired to save it, can be kept separate for further cultivation. The past year was a bad one for ripening the seed-pods in many parts of the country, owing to the lack of sunshine and prevailing dampness, notwithstanding the fact that the rainfall did not reach the average quantity at many stations. Consequently the home-grown seed this year will not have such good germinating powers as it has when we experience a favourable season, and when sowing it will be advisable to allow for this.

CULTIVATION OF THE SOIL.

Sweet Peas enjoy a well-tilled soil, and in dry weather the roots penetrate deeply in search of moisture, yet this is often disregarded by many who expect the best results. Therefore a thorough trenching should be given in winter and some good manure freely incorporated. Leave the ground in a rough and lumpy condition till planting-out time arrives, as the action of the weather will prove

most beneficial to the subsoil brought to the surface, and after the keen winds and frost have penetrated the clods will break up and rake down easily afterwards.

SOWING THE SEED.

The practice of sowing the seed in the open ground in the autumn has, I think, little if anything to recommend it, for unless well protected, which would mean a considerable amount of labour, birds and mice are sure to find it out and work havoc. Frost and rain will also prove detrimental, and nothing will be gained in the end. The method I practise, and have always found successful, is to make a sowing about the middle of March in a light porous compost consisting of two parts fibrous loam, one part leaf-mould, and some road or silver sand to keep it open. Clean, well-drained 3-inch pots should be used, and the seed sown as thick again as required, about half an inch below the rim. A sufficient number for planting is then assured. Cover the seed lightly, carefully label, damp over with a fine rose water-pot, and place in a gentle heat. An early Vinery or Peach house is a very suitable place. When the young seedlings are well above the soil remove to a cold frame for a few days, and then place them under a south wall in the open to harden off thoroughly, where they may be protected in case of frost.

PLANTING OUT.

When the plants are of sufficient size to place in their final quarters the surface of the ground should be got ready by breaking up the lumps with a fork and rake down finely. Choose a day when the ground is not pasty. A very good distance at which to place the batches apart will be 5 feet. Before removing the plants from the pots thin out to the required number. I always find from five to seven plants to a batch ample, as nothing is gained by overcrowding, and more vigorous growth and finer flowers will result than if a large number is grown at one station. Turn the plants out carefully so that the roots are not damaged in any way, and do not attempt to remove the crocks. Plant firmly, and if it is needed add a little fresh soil to start the roots into growth. When the planting is completed, damp over with a rose water-pot, place some finely-sifted cinder ashes round each group, and stake on the same day if possible. Good bushy sticks should be used, about five to a group being sufficient, and after being pressed firmly into the ground should measure not less than 6 feet. To keep them in position tie round not too tightly with tarred string, and clip off the tops of the sticks all to the same level. These twiggy pieces of stick will be just the thing for placing round the plants and assisting them to climb the large stakes. If sparrows are very numerous, tie some cotton round the sticks. Place a good label to each, and leave the border in a tidy condition by lightly forking it over.

In dry weather a thorough mulching of long stable litter should be placed over the border. This will prevent the soil from cracking, and will keep the roots cool and moist. Give copious supplies of water, and if extra good blooms are wanted a little soot in liquid form will prove beneficial. Keep the growths tied up to the sticks if any require it, and on no account allow any seed-pods to form or a short flowering season will be the result. If any blooms are wanted for exhibition pick off all those expanded about a week before the event, and if the sun should prove very hot the blooms must be protected in some way, light tiffany being as good as anything for this.

STAGING.

When arranging the flowers either for exhibition or for home decoration these, in my opinion, always look best when staged loosely and in as natural a

way as possible. Use a small quantity of the young growth or foliage, which is far more pleasing than any other. When two or more varieties are used in the same vase a careful blending of the colours should be studied, and when arranging a collection for exhibition endeavour to show the colours as distinct as possible, and arrange them so that they harmonise effectively and pleasingly.

VARIETIES.

In giving a selection of the best varieties only the most distinct are named, as there are a great number which differ but little except in name. I give them in their respective colours.

White.—Undoubtedly the best white is the new Dorothy Eckford. It has a thoroughly good constitution, flowers of great substance, immense size, and the majority of spikes carry four flowers. The next best white is Sadie Burpee.

Crimson.—George Gordon and Salopian.

Lavender.—Lady Grisel Hamilton and Lady Nina Balfour.

Pink.—Countess of Lathom and Hon. F. Bouverie.

Orange.—Miss Willmott, Triumph and Gorgeous.

Magenta.—Captivation.

Maroon and dark colours.—Duke of Westminster, Othello, and Dorothy Tennant.

Primrose.—The Hon. Mrs. E. Keayon and Queen Victoria.

Rose.—Prince Edward of York, Prince of Wales, and Lord Rosebery.

Striped.—America and Princess of Wales.

Cream, tinged pink.—Gracie Greenwood and Venus.

Bright pink.—Countess Spencer. This variety is not yet in commerce owing to the bad season last year for seed saving. It is a very large flower, distinct in colour, and the spike is well formed. This should be made a note of to obtain when offered, in all probability next year.

Blues.—Countess Cadogan, Navy Blue, and Emily Eckford.

Lilac.—Colonist and Lady Skelmersdale.

A GROWER.

EARLY SWEET PEAS.

The Sweet Pea, which has been so much improved during late years, is grown for its beauty and usefulness. As in the case of other things, it is thought more of when a good supply of early bloom is obtainable. Methods innumerable have been employed to secure

an early supply, and out of these many have failed. Autumn sowing in favoured localities and sheltered spots may be the means of securing blooms early in May. In North Wales, for example, I have seen them do exceedingly well when sown in November on a warm south border; but in the cold Midland counties the sowing of Sweet Peas before Christmas would be attended with disastrous results should the weather be very cold. In order to minimise the risk of failure there is a decidedly better principle, thoroughly modern, and one which, if carefully carried out, will guarantee a supply of cut bloom early in the season, and of good quality.

The following is a *résumé* of the methods employed: At the end of February or early in March secure some small boxes, say, about 18 inches long by 6 inches deep and wide, possibly with rather thin bottoms. Place some rough leaves in them as drainage, and then fill up with good loamy soil; water, and allow them to drain. When this has been accomplished sow the seeds about 1½ inches apart, covering with about 1 inch of soil. The sowing completed, place the boxes in a frame where the average temperature does not exceed 56°. Here they will soon germinate, and great care must be exercised to prevent the young seedlings becoming drawn.

To prevent this place them as soon as possible in open frames, where they can be protected at night and in cold weather. As soon as the seedlings are 4 inches or 5 inches high they are ready for planting out. Dig trenches to correspond with the size of the boxes, placing some well-decayed manure at the bottom, and after knocking out the bottoms of the boxes place the plants in the trenches and fill up with soil. Place a few light twigs to support the young plants, increasing them as the seedlings grow. As the sun gains in strength liberal waterings should be given, occasionally supplemented with weak liquid manure, the result of which will be an abundance of fine flowers.

J. DENMAN.

The Laurels, Cains Cross, Stroud, Gloucestershire.

EVERLASTING PEAS.

ALL the Everlasting Peas are useful, but the pure white variety is especially so for supplying cut flowers during the hottest summer months. Everlasting Peas may be easily increased in spring by taking off the young growths as soon as they



JARFUL OF WHITE EVERLASTING PEA.

have pushed about 6 inches through the soil. Take a sharp knife and run down so as to sever them about 2 inches below the ground level. Insert these cuttings round the edges of pots or pans and treat like any other soft-wooded cuttings at that time of the year. A very large percentage of them will soon root, and may be potted singly and hardened off before planting out.

DIVIDING AND TRANSPLANTING HARDY PLANTS.

No small part of the charm of this increasingly popular class of plants consists in their healthy and robust growth under good conditions, these conditions including as absolute essentials a sufficiency of plant food and moisture and an ample root run, the latter being the main factor in obtaining the former. No one but the most ignorant of jobbing gardeners uses a spade among herbaceous perennials, whether in beds or borders, the consequence being that the ground necessarily becomes very hard, especially in dry weather, and also very deficient in plant food. Moreover, as the only plant food that can be given has to be applied to the surface, the roots are attracted there, and are apt to suffer in dry weather, no matter how much the ground is mulched. It is a most common thing in dry weather to see Phloxes, Michaelmas Daisies, Lychnis, perennial Sunflowers, and many other things with their leaves hanging round their stems as if they had been scalded. Such plants present a pitiable spectacle, and can never produce fine flowers. If a plant in this condition was taken up it would be found that the ground underneath and all around was quite dry, while the soil directly under the plant was as hard as a millstone, the wonder being, not that the plants were doing badly, but that they managed to live at all. The plants themselves would be found to consist, not of a few stout well-developed stems, but of a multitude of weakly stems crowded together, each one only just strong enough to produce a few blossoms. This is the result of leaving the plants to take care of themselves. People sometimes say they like to have things in the garden that "come up year after year" and need no attention. Some plants will fulfil these conditions for a good many years, but it is doubtful if there are any which succeed by this method indefinitely. The object of this article is to mention a few things, and the ways of doing these few things, which are really necessary if even the hardest plants are to do their best, and unless they do their best they are, to any true lover of flowers, unsatisfactory.

The heading of this article—Transplanting and Dividing—is not mere tautology, for the two operations are not the same.

TRANSPLANTING

does not necessarily imply dividing any more than dividing necessarily implies complete transplanting, for many people have a lazy way, when a clump is getting rather big, to shear off pieces of the outside with a spade, leaving the central woody part of the clump unmoved, a practice which is much to be condemned, not because good young plants are not obtained in this way, but because the old part of the clump remaining after such an operation is almost worthless, and should not be allowed to cumber the ground. Funkias, Kniphofias, Geums, Heucheras, Phloxes, Sunflowers, Crane's-bills, and others are often treated in this way. When a plant has been growing on the same spot for, say, half a dozen years, it has almost exhausted its special plant food in that particular patch of soil, and, if it cannot be moved into a different position altogether, the earth should be dug up deeply, some of it taken away, and its place filled up with some good new soil and rotten manure. Then, not only will the plant have a fresh supply of food, but it will have such an increased and renewed root run, both below and all around it, that it will be able to withstand the driest summer unharmed with a little help in the way of mulching.

When replanting it is better, instead of relying upon one large clump to make a display, to put

three small ones in a triangle 1 foot or more apart, according to the nature of the particular plant treated, when, though the effect may be thin the first season, there will be a fine display the following seasons. The best time to do this for most plants which make hard woody clumps is in late October, when the young plants will get so well rooted before the winter that no watering is necessary when growth takes place in the spring, however dry it may set in. But there are many things which also do well if moved and divided in damp weather any time in May, if not put into a dry or hot situation. The summer of 1902 will be remembered as a very damp one, and thus perhaps it is scarcely fair to quote results in that year as a fair index of what may be done in this direction, but I will give my experience. At the end of May of that year I severed from a clump of *Helianthus multiflorus maximus*—a tall, single perennial Sunflower—two or three small-rooted pieces, each with two or three shoots 6 inches or 8 inches high, put them into good ground and watered them, keeping a flower-pot over them by day for a few days until they began to get hold of the soil. Each of these little pieces made a clump 6 feet to 8 feet high during the summer, and though they were later than the others coming into bloom by a full month, yet they remained in bloom till October, and made the handsomest clumps of that particular Sunflower in the garden, being quite 2 feet higher than the clumps from which they had been taken, and the flowers much finer. The same method may be successfully adopted with Phloxes, perennial Asters, border Chrysanthemums, *Achillea Ptarmica*, and others. With early summer or spring-flowering things the operation must be done at the time most suitable to the particular sort dealt with, some moving well during flowering time, some just before, and some not till a good time after. Discretion is necessary, as it would be simply ruin to *Pæonies*, *Delphiniums*, and *Irises*, not to mention others, to move them in the spring, as old-established plants usually take a year to recover from a careful autumn moving. Many spring things, however, never move better than just before coming into bloom, some even when in full bloom. Daisies, for instance, may be pulled all to pieces when just coming into bloom and the after display be but little affected, while each piece will make a fine large plant the following season. Daisies need moving every other year. With Primroses it is pretty much the same, though many prefer to divide them up as soon as they have finished blooming and cutting the plants through with a sharp knife, inserting each rooted piece in a prepared bed in a shady place and keeping moist for a few days.

From the above instances it will be seen that some knowledge is necessary for the amateur who takes in hand the transplanting of old-established things in a garden, or he may not only lessen very considerably the floral display, but may even lose some of the things altogether. As a general principle it may be laid down, though there is no rule which will apply to all plants, that the best time for taking up and dividing is late October, and the next best the spring, the winter being an unsatisfactory season, as the plants do not re-establish themselves in the cold wet ground, and their roots may fall a prey to worms and other underground creatures, and their shoots to slugs in the meantime.

PLANTS THAT ARE BEST LEFT ALONE.

Though we are dealing with the removal and division of plants it should be stated that there are some things which it is best to leave alone for a good many years at a time. Japanese Anemones, Sea Lavenders, and Sea Hollies are cases in point. They are deep rooters, and it is not easy to take them up without considerable damage to their roots. Hence they should be well planted in the first instance with a good depth of soil underneath them, and then left to themselves till they show signs of weakness. The Hepaticas, a very different class of plants, seldom seen in modern gardens, though they will stand removal, do not take at all kindly to being divided, and when they are doing

well it is a good plan to leave them alone. As with Lilies of the Valley, they should only be disturbed when the flower supply is diminishing through overcrowding of the crowns. Hellebores, which include both the Christmas and Lenten Roses, are best left alone as much as possible. If increase of stock is wanted, or the plants are becoming too dense, they may be taken up about midsummer, and carefully divided with a sharp knife, but there will probably be no bloom for two years. *Pæonies*, referred to above, are also difficult to move, and at whatever time it is done, if they have become large congested clumps, it means the loss of bloom the following season. If done in September, taking them up very deeply and separating the tubers very carefully while the leaves are still not quite dead, they may get so far re-established by the winter that some will bloom the next season. As their next season's shoots are well developed by July they need to be moved correspondingly early. White Lilies (*Lilium candidum*) are somewhat unique in their manner of growth, nearly all the foliage dying off before, or soon after, the flowers open, while bunches of leaves, which are really the basal leaves of the next year's stems, appear above the ground towards the end of August. If these Lilies are taken up in the spring they are certain to fail that year, and even if taken up in October the heads of bloom will at best be but small. The best time to transplant—and they will pay for a change of soil every three or four years—is soon after they have bloomed, when they will show but little ill-effects from it the following season.

Dicentra spectabilis is another rather peculiar plant in this respect. It is almost impossible to take it up without breaking some of its large roots, as they go very deep down and are very brittle. The first year after it is moved it does little, but gets better year by year if in a suitable soil, growing as much as 4 feet or 5 feet high if the soil is damp and rich. About the fourth year it begins to decline, and gets smaller each succeeding year. It should be taken up directly the decline begins, the best time being about August or September, as its next year's buds are well developed by that time.

Auriculas, too, need special mention. In light, sandy soils not too dry and hot they will go on for years without disturbance, whilst in others they need moving at least every other year. As a general rule, when getting crowded or lanky they should be taken up and divided in the spring before flowering or early in the autumn. If earthed up a month or two before they emit rootlets from the bare stems, which help growth after the plants are cut up. Columbinas and Everlasting Peas are two things which should never be moved, and as a contrast to these may be mentioned the giant *Marguerite* (*Chrysanthemum uliginosum*) and some of the spreading Sunflowers, which it is well to take up and reduce to proper limits every autumn. The

METHODS OF DIVIDING PLANTS

are as diverse as their habits of growth. Daisies may be pulled all to pieces, each little piece making a plant. Primroses, Polyanthuses, and Pansies need to be cut up into rooted pieces with a sharp knife, the cutting up of the two first being one of the sweetest smelling operations in gardening. Some things that grow with a tap-root cannot generally be divided at all, but advantage may be taken of side shoots arising from the crown or below it which will develop roots. Many things which grow in solid clumps, like Phloxes, many species of Sunflower, some of the taller Veronicas, Michaelmas Daisies, Crane's-bills, and others need the help of a cold chisel to divide them, as the rough-and-ready method of the spade breaks off shoots and knocks the earth from the roots. A cold chisel is a wedge-shaped piece of iron 8 inches or 9 inches long and an inch or more broad, with a sharp edge at one end and a flat surface at the other for striking with a hammer. Most woody clumps can be separated in this way. As a rule it is best to take off all the younger growths, that is, the outside part, as these are usually furnished with the best fibrous roots. The woody

and congested middle portion should be rejected unless stock is very limited. It is often a help if a month or two before it is intended to divide a plant earth is put round the stems or crowns, for by this means pieces may be obtained with roots which would otherwise possess none.

ALGER PETTS.

SWEET VIOLETS.

FEW flowers are more universally loved than Violets; they bloom at the dullest time of the year under glass, or, in the south, may be picked out of doors from October up to the time when the spring flowers come to cheer us with their fresh beauty. The little old-fashioned Russian Violet nothing can surpass as far as sweet scent

enjoy. In April rake it over evenly and plant firmly, letting the ground be moist, though not wet. Choose strong, healthy single crowns, and put them about a foot apart for all large varieties. During summer it is not generally thought that there is much to do except to keep the plants free from weeds and all the runners cut off, but they must have a good mulching now and then, and if the weather is dry give a thorough watering and syringe hard to keep down red spider, for on their growth now depends the future blooms for winter. If frames are to be used for planting they must be prepared in September. See that the drainage is good, and then fill the remainder with good loam, not too rich in case it becomes sour, the plants having stored their food for the winter while they were making such fine growth in the summer. It may interest some and also

help in the growing if the idea is once grasped that Violets, like many other plants, absorb and assimilate a great quantity of food, far more than they need at the time. Let the frames then be made up, the soil being as near the glass as possible, 6 inches or 9 inches, according to the varieties, and then lift the plants with a good ball of earth and plant so that the leaves of one plant do not quite touch those of another. Give plenty of air and keep them hardy, guarding against frost and rain.

If air is given they will not get mildew, which otherwise sometimes happens. Syringe in the autumn to keep the leaves clean and free from red spider, though this is less likely to attack the plants if they have been well cultivated. Pick off all dead leaves. For outdoor culture the single varieties are best, and the beds should be remade every two years on fresh ground.

For varieties I cannot do better than recommend the best of those I have seen growing in a Devonshire nursery. Last year I was there, and in one house (the entire length) was a bed some 5 feet or 6 feet wide, upon a stand about 3 feet or so from the ground, of

La France, a perfect sheet of purple, with just the groundwork of green. Then there are other single ones, viz., Kaiser Wilhelm II., much like La France, only a little lighter and with a very long stalk; Admiral Avellan, a rich rose; Sulphurea, a dainty apricot, pretty, but rather curious; but the daintiest, almost a fairy-like little thing, is the Princesse de Sumont, white, with a sort of Picotee edge of clear blue and sweet scented. These are the chief single ones, with one or two newer, such as Mnie. le Pages (a pink variety) and Perle Rose (rich rose colour). In the double ones Parma Perfection is a good one for early bloom, giving large flowers. Lady Hume Campbell with us is deep lavender and is always admired. A very lovely double white, one of the best, is Comte de Brazza, which does very well for pots or in frames. Mrs. J. J. Astor is a very sweet and beautiful rosy heliotrope, quite distinct in colour. There is no need to mention the old

favourites Marie Louise and Neapolitan; they were the first, and one will always have an affection for them.

M. MITCHELL.

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A CHAT ABOUT ANNUAL FLOWERS.

WHEN the hardy perennial came forward, and gardening began to be a preoccupation with many people who had previously been unable to find their places in horticulture, nearly all annuals shared to some extent in the *début* which overtook the Alternantheras, the Iresines, the cropped Beets and plucked Lobelias, and the Cabbage-headed Echeverias of the unlightened early and middle Victorians. Penny packets were the base uses to which most of them were consigned. Children's gardens were good enough for them, and juvenile culture, or its parallel in simplicity—which is a roundabout way of saying cruel neglect—was generally all that they received. A very few, Nemophila, Virginian Stock, scarlet Linum, and Mignonette being perhaps the most usual, with the unconquerable Nasturtium, most self-assertive of all plants, enjoyed a sort of contemptuous toleration only a shade less galling than oblivion, and were scratched into the front of shrubby borders, in patches whose duration, what with thick sowing, starvation, and drought, was sufficiently fugacious to justify the curt epitaph "Untidy things!" with which they were generally dismissed.

But within the last few years, the fever of reaction being past, we have been finding out what virtue, after all, lies in a race no more to be despised than any other, and even in certain cases to be preferred.

What flower-picture, for example, could be found more exquisite in its way—and that way not an insignificant one—than such a group of crimson, rose-red, shell-pink, and snow-white Lavateras as one may see in the rich loam of a West country garden? Were this plant—*Lavatera trimestris* (the Tree Mallow), a thing to be bought in any seed shop for two or three pennies the packet—a novelty or an expensive rarity, its beauty would be not a whit the more, but those who will not trouble about it now would be the loudest in its praise.

It is true that, like all annuals, and, indeed, all plants of any kind, Mallows are poor things if they are neglected. But none would blame Hollyhocks for failing in dry soil and without support, and the Mallows, to do their best, need exactly the same conditions as suit the stately Althea. They are massive in growth, and when the rich leaves clothe the plants, as they should, well down to the ground, while the flowering, with blossoms of the size and shape of the large white hedge Convolvulus, is profuse and continued over a very long period, it will be readily seen that they need liberal treatment, and will repay it nobly. *Lavatera arborea variegata*, with large leaves marked and splashed with white, is well worth growing as a foliage plant, and is suited to background work and sub-tropical bedding. Strains of these plants vary, and the best I have ever seen were in a cottage garden, where the soil was that fat loam of much cultivation, over yellow clay, that in these tiny plots sometimes produces an almost tropical luxuriance of bloom on common plants.

It would be impossible to imagine anything easier to grow than dwarf Marigolds—unless it were the despised Nasturtium, refuge of the idle that know not the spade—and where a poor strain exists and is allowed to have its own way we may frankly own it detestable, raw in colour, pushing in habit and manners,



VIOLET LA FRANCE. (The flowers are over an inch in width.)

goes; not one of the fine monster blooms that tower about this tiny friend.

The variety La France, one of the largest single varieties, is a handsome room plant and deliciously scented. The flowers are as much as 1½ inches across sometimes. This is one of the best for frame culture; it blooms freely and holds its head well above the foliage. The best position for growing Violets in is what we must next consider if we wish to have the full pleasure out of these favourites. Out of doors partial shade is the best, not under trees; a border facing north is better than a south aspect, because if fully exposed to the sun they are apt to be troubled with red spider, which is one of their worst enemies. In winter prepare the ground by trenching deeply and digging in good manure, leaving it in the rough until about March, when a further dressing may be given by forking in short manure from a hot-bed, so that the plants may have a rich soil to

and evil as to odour. But the tall orange and lemon African Marigolds are without this latter drawback, and are beautiful in colour, with a certain prim stateliness of growth that makes them valuable: also, they require good soil and good care, and do credit to the grower who can show them at their finest. The dwarfs might be replaced by certain annual Chrysanthemums that are among some of the most charming of hardy flowers lately introduced—Golden Queen and Morning Star. The latter has been for a season or two past a good deal grown in pots for sale by florists, and even in these stiff receptacles and the unbecoming surroundings of a shop the pretty sulphur-yellow Daisy-shaped flowers, which have plenty of substance and stand out well over the neat Fern-like foliage, were very attractive. Morning Star is quite dwarf, but Golden Queen, which is much deeper in colour, is taller, and cannot conceivably be accused, as the daintier flower might be, of being "squatty."

For sweet smell it would be hard to find a flower, unless it were that compendium of spicy delights the insignificant *Dianthus superbus*, that could beat the old Sweet Sultan. There is something not quite pleasing about the colour of the ordinary white form, though the yellow is very good indeed in this respect, while the pink is frankly magentish, and therefore the giant white *Centaura Margarita*, which is perfectly pure white, and has all the delicious quality of the older forms in scent, is most welcome. Here we have a flower that with ordinary care and a little lime will grow anywhere, and it is easily doyen of all summer annuals for cutting—though that is a purpose which should never come first with a true flower lover—since it lasts miraculously in water, keeping its fragrance to the end. The Blue Butterfly *Delphinium* (Carter's) and pretty Annual Rose have both been praised in THE GARDEN pages, and therefore need no more recommending. The latter, however, if it is like other so-called annual Roses, will become on invitation a perennial, and make a dainty little bush akin to the "pet" type—*Mignonette* and *Paquerette*. Some of the newer Candytufts, in crimson and carmine tones, are good, and with the delicate blue *Nigella* (Love-in-a-mist) that will never grow too old-fashioned for the eye that rejoices in its exquisite pure turquoise blue, rarest of all flower colours, and the jewel variety of a good strain of *Phlox Drummondii* are worthy of places in all gardens. It is the fashion nowadays to dislike anything approaching to mixture in colours, and as these latter flowers, as also the *Verbenas*, that always seem associated with them and perhaps also with *Petunias*, are uninteresting to most people when massed in one shade, and are also scarcely classed as annuals, though their duration is only of a season, they need not be discussed.

The *Nasturtium* family nearly always manage to disappoint the grower in one way or another. Either they go all to leaf or they straggle, anything but produce the masses of bloom in compact heads over the leafage that catalogues offer us. But if they can be kept dwarf and even, and here strain is everything, a bed of straw, primrose, and orange shades, leading up to vermillion, is exquisite. The dark-leaved *Tropeolum lobbianum* may be grown as a creeper over low shrubs to very good effect, but needs raising in heat, or winter will take it unawares before its time to go.

With the Sunflowers this brief review of a vast army, many of whose best must perforce be left unnoticed, must end. The new dwarf miniature bush Sunflowers, many branched,

and growing from 3 feet to 4 feet high, are most valuable, and ask for no special culture. *Helianthus cucumerifolius Stella*, in primrose colour with a dark brown disc, is very charming; so, too, is the taller *Primrose Perfection*, while the tiny *Perkeo* is a very distinct novelty, said to be only 12 inches or 18 inches high, and those who like double forms—which in the Composites are apt to be lumpy—should try another novelty in *Cactus* or *Sun's Eye*, a flower of good form and colour. M. L. W.

THE ROSE GARDEN.

ROSE PLANTING IN MARCH.

ANY other time than November the planting of Roses to some is little short of utter folly. I do not go so far as to recommend March as a more suitable time than November, for all authorities on Rose culture agree that there can be no better month wherein to plant; but I do believe that cold, heavy, badly-drained soils are not in a fit state to receive the plants before the spring unless the ground is well prepared beforehand by trenching or ridging. Rather than plant when the ground is wet and sticky, the plants would be better heeled in under some north wall or hedge until March, when wind and frost will have played their parts in sweetening and aerating the soil. Its condition should be somewhat similar to that which all good gardeners wish for when potting, namely, neither too dry nor too wet. It may be urged that one can give the plants even in November some fresh soil at planting time, and doubtless this is so, but on a large scale this would be somewhat impracticable, so that my advice is avoid planting Roses late in the year if the land is unfit, but rather wait and seize the first favourable opportunity in February or March.

Where many fail in spring planting is in the omission to trench or ridge the ground beforehand. Bastard trenching is best for most soils. By incorporating the manure with the forked-up subsoil, the roots of the plants are encouraged to strike down deeply, which enables them to withstand a season of drought much better than they would do if only the top spit were moved as in ordinary digging. I have seen the greatest success attending spring planting of Roses. Why should not they succeed equally as well as seedling or cutting Briars and Manetti stocks, which are rarely planted before February or March, and invariably make fine plants by the autumn? I would always recommend that Rose plants be rather severely pruned first, save those of a climbing nature. Obviously the roots have less work to perform in supplying these fewer eyes with nourishment than they do when the growths remain for a considerable time unpruned.

It is often asked how late may one plant Roses. I may say, providing the plants are dormant, they may be planted as late as the first and second week in April.

I do not say wait until this time before plants are secured. Preferably I would purchase in autumn, and heel my Roses in until an opportunity occurred to plant, but I should take the precaution to move them now and then in order to keep them as dormant as possible. March is an excellent month wherein to plant own-root Roses, especially those that are pot-grown and have been hardened off in cold pits. The plants are naturally much smaller than budded ones, but providing they are hard and well ripened they make rapid progress as soon as the influence of the sun is felt upon the soil. Anyone with a very light gritty soil would do well to try some own-root Roses; their fine roots seem peculiarly adapted to soil of this description. In all cases where Roses are planted now the roots should be moistened previously to putting them in the soil. Dipping in thin mud is very good for plants from the open, and pot-grown Roses should be previously immersed in a bucket

of water for a few minutes. All plants must be artificially watered once or twice after planting, unless heavy rains arrive. I prefer to defer watering until April, unless the plants show signs of needing it before this time, but when water is given let it be applied copiously, and the soil hoed a day afterwards. I think we are wrong in not planting in the month of September—especially in respect to Roses. Last year in the first week of the month just named we transplanted some old half-standard Tea Roses. These plants had not been moved since they were budded some four or five years before. When transferred to another part of the garden in September they were in full growth and covered with bloom, but I think all have survived and apparently are little the worse, if any, for being transplanted at such an unusual season.

We were careful to cut back the growths pretty severely, and all flowers and tender foliage were removed, and of course we did not allow the plants to remain exposed to the air and sun, but replanted immediately they were lifted. One has always some compensation for late planting, and that is one obtains flowers just when the established plants are waning. This is no small advantage where large demands are made for cut blooms. We have had splendid blooms in August from bushes planted as late as the second week in April; in fact, these late-planted Roses will often escape the spring frosts, which play sad havoc among established plants. PHILMEL.

THE FRUIT GARDEN.

MARCH APPLES.

VERY many kinds require more care than others at this season; indeed, it would be much better if some of the earlier Apples had separate storage from the later ones, the last-named being gathered later and with more care. There is ample room for new varieties of both dessert and cooking kinds if they are late and of good quality. I find those that keep best have a firm skin, as if at all soft they soon bruise and travel badly. If we take the imported Apples as a test as regards quality, it will be observed that the best of them are very firm and have a thick or hard skin. The well-known *Blenheim Orange* gets very soft early in the new year. What a gain this would be to growers if it could be had as good in March as in October. Of late years we have had some excellent new varieties added to the list, but not many late kinds. Two certainly stand out prominently, viz., *Newton Wonder* and *Royal Late Cooking*, and these will when better known be largely grown. In the dessert section the new *Charles Ross* promises well, but it is not later than *Cox's Orange*; at least such was my impression when exhibited a season ago.

DESSERT APPLES.

A few varieties that are new or little known do excellently in well-drained soils, and these are worth noting. Most of them are either of continental or American origin, and it would in this case be advisable to grow them at first on a small scale. If they succeed they are certainly a valuable addition to the fruits in season.

Buckingham.—This is an American variety, and I have seen good results in some soils. It is a fine fruit, handsome, of beautiful shape, and excellent quality. It is not to be recommended for heavy clay soil or late districts, but it is worth culture for its size and appearance; the fruits keep sound till April.

Wagner.—This is a Canadian Apple of considerable merit, and is in season from March to May; it has a peculiar Quince-like flavour which many like. The fruits, in addition, are remarkably showy, being of a bright scarlet colour, and it is an excellent bearer. This is one of the best I have grown of the American varieties. With careful storage it may be kept till June.

Reinette du Canada.—This is a better-known dessert variety than those named above, and,

though not so prolific in all gardens as one may wish, it is one of our best March dessert Apples, as the quality is first-rate. It does well in warm or well-drained soils. To obtain fine fruits it does best when grown on what may be termed a dwarf standard, not hard pruned, as it is a vigorous grower, gathered late, and given cool storage.

Prince Edward.—This is a new Apple introduced by the well-known fruit growers Messrs. Rivers of Sawbridgeworth, and is in season from December to March. It is a remarkably pretty dessert fruit, bright red on the side next to the sun, and with russet markings. The flavour is brisk, and the flesh good and juicy. It is well worth growing as a cordon or bush fruit.

St. Martin's.—This is another new introduction of Messrs. Rivers, and a larger fruit, conical in shape, dull red in colour, covered with a greyish bloom. The flavour is very rich, and if it crops well it will be a valuable addition to the fruits now in season.

White Nonpareil.—A fruit of medium size, but one of the most delicious of the dessert varieties at this season. It is larger than the old Nonpareil, handsome, richly flavoured, and a good bearer, the trees making a close growth and doing well in a sheltered spot.

Lord Burghley.—This is not nearly as well known as its merits deserve. It is a medium pretty dessert fruit, at its best in March, and when grown on dwarf trees is a profitable garden variety. A yellow fruit, with bright crimson cheek, tender flesh, very juicy, and of excellent flavour.

Allen's Everlasting.—An old but good variety, of medium size, and keeps well; the flavour is good. A most valuable late sort, and can be grown in any form, as it usually does well.

Court Pendu Plat.—A very useful late dessert variety and a good bearer, as it blooms late, thus often escaping spring frosts. It does well as a standard, being a compact grower, and is equally valuable as a bush or pyramid in small gardens.

Claygate Pearmain.—A valuable dessert Apple, in season from Christmas to April, not large, but a good cropper, and in flavour something like a Ribston. It is very suitable for gardens of limited size, as the tree is a compact grower, though drooping. It does well as a small standard or as an espalier or bush on the Paradise stock.

Sturmer Pippin.—A valuable dessert Apple. It will keep sound till June. The fruit is of medium size, brisk flavour, and good when season is considered, being sweet, firm, and juicy. It does well as a standard, and should be grown in all gardens for late supplies. There are others, such as D'Arcy Spice, Brownlee's Russet, and Fearn's Pippin, worth including for late use.

COOKING APPLES.

These are quite as important, as the demand is even greater, and I find few crops give so good a return as the best cooking Apples. Fortunately we have of late years paid more attention to hardy fruits, so that some of the best kinds are more valuable if given good storage and the crop is carefully gathered.

Royal Late Cooking.—A most valuable cooking Apple that will keep for nine months, so that it is at its best at this season. A large, handsome fruit, of splendid cooking qualities, with a light yellow skin and pleasant flavour. A vigorous grower, doing well as a standard and as a bush on the Paradise stock.

Wellington (Dumelow's Seedling).—Doubtless where this variety succeeds it is one of the most profitable late Apples grown. It is scarcely necessary to describe it, the fruits being so well known. It makes an excellent standard, but is remarkably fertile on the Paradise. Grown thus the fruits colour well and are very handsome. I would recommend that it should have a well-drained soil.

Newton Wonder.—An Apple of recent introduction, and one that has become a standard variety in a short time. It is a large, handsome fruit, midway between the Wellington and Blenheim. It is very handsome, keeps well into the spring, is a free grower and good bearer, and

its cooking qualities are excellent. If not too severely pruned it soon attains a bearing stage. I have kept this variety well into May when not gathered till late and given cool storage.

Lane's Prince Albert.—Certainly one of the most valuable late cooking Apples. It is the best Apple we have, and never fails. As it blossoms late, it often escapes spring frosts. Its quality is excellent indeed. I place Prince Albert in the highest list among the late Apples for its keeping, cooking, and cropping. The tree does well in any form, grown as a bush or pyramid. On the Paradise stock it produces handsome fruit, and useful for the dessert at this late season. When grown as a standard it bears very freely, and grown thus, owing to its pendulous growths, it is out of the reach of cattle.

Bramley's Seedling.—A good cooking fruit, in season from December to April, and when well grown making a vigorous growth. Grown in bush form on the Paradise stock it does not like severe pruning, and it fruits more freely as the trees attain size. The flavour is briskly acid. The fruits are solid and keep well without much care. It makes a fertile standard.

Alfriston.—An old but good Apple, and a variety that does well near large towns. It is of close growth and prolific. We have both bush and standard trees of this variety, and the first-named give large fruits; the standard trees crop very freely. It is an excellent variety for light soils, and the quality of the fruit, which is in season from December to April, is first-rate.

Norfolk Beautifin.—Though not such a good grower in some soils as most of those noted above, it is valuable for its good keeping properties. It is a large fruit, of dull red colour, hard, and of brisk flavour; a free grower in good soil, but not suitable in wet or poor land. The tree grows freely in a young state and crops well; in season from March to June.

Sandringham.—This is a very good Apple, in season from Christmas until April, and at this later date is a good dessert variety. It is a free grower. Here in bush form on the Paradise stock it is one of our best croppers and the quality is excellent. This is one of the varieties that has found favour of late years, and it is a decided acquisition.

Hambling's Seedling.—This also is an Apple of recent introduction that will become a standard variety. The fruit is very large and handsome, dull green, firm flesh, of brisk flavour, and a splendid cooking variety. It is a robust grower, crops freely, and is in season from December to April. It gives very fine fruit on the Paradise stock.

Northern Greening.—A valuable old variety and one of the best when grown in standard form for use from December to May. It is a medium-

sized fruit and a great cropper. A strong grower, and the fruit is of excellent quality when cooked; it is reliable as regards crop and quality.

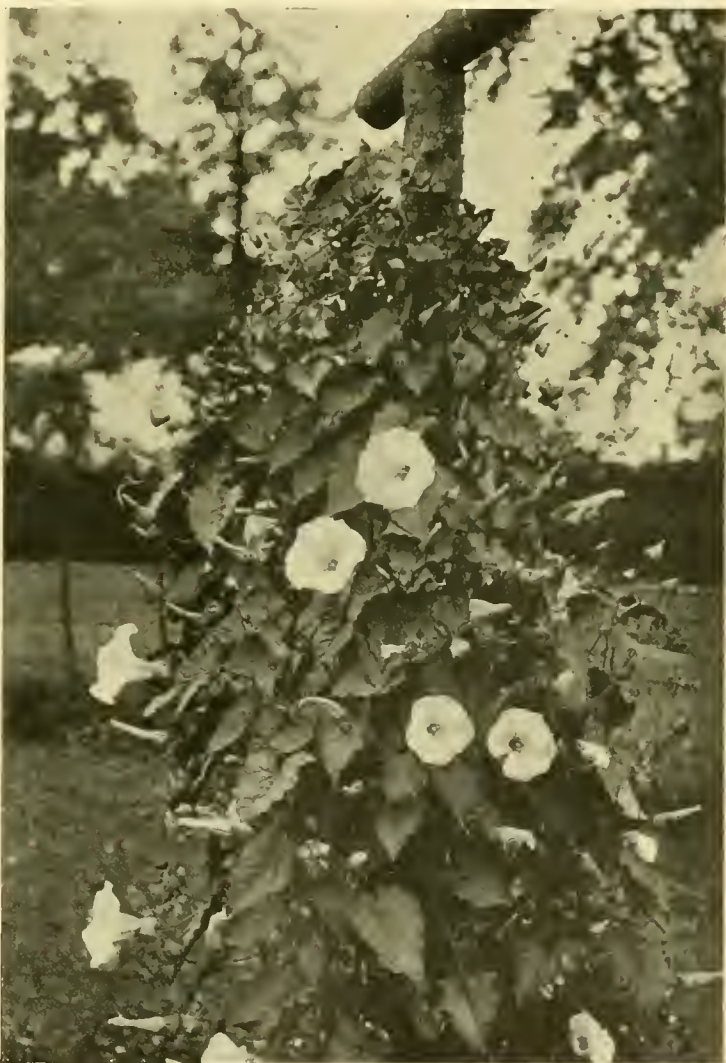
Royal Russet.—Valuable for its lateness, but not always a great cropper. The fruit cooks well and is a great favourite where it succeeds.

Syon.

G. WYTHES.

CONVOLVULUSES.

For forming a pillar of lustrous green, frequently touched with bud and blossom of large size and snowy purity, some of the more common species of Convolvulus or Bindweed are without rival. It is true that some of the perennial sorts are troublesome weeds, but they are beautiful weeds if rightly placed. Among such plants some of the Convolvuluses occupy a front place as pillar plants, and for rambling over porch, trellis, or balcony. More beautiful still are they when in woodland or copse, or shrubby border, they overtop their host and produce an effect which in these unkempt surroundings is delightful in the extreme. In saying this I recall a fine Holly hedge, the boundary fence of a wayside garden, that for a long time each year is bespattered with pure white blossoms of perhaps $3\frac{1}{2}$ inches across. Such occasional instances of how Nature clothes her bowers should not be lost sight of; indeed, it is just here that the



LARGE WHITE CONVULVULUS ON PILLAR.

plant may be tolerated and provide its wealth of blossom. In all probability the bits of roots were planted with the Hollies, and while the latter have developed to large size the climber has not asserted itself in any alarming degree. One of the best for this purpose is the greater Bindweed (*C. sepium*), with large arrow-shaped leaves and square flower-stalks, producing white or slightly tinted rose flowers of large size. It is a British hedgerow plant. It is possible this kind is surpassed by *C. sylvaticus*, which has very large white flowers, but whether this is in cultivation is doubtful. In any of the foregoing positions or in those places where the root area is restricted this is a fine plant. Of coloured kinds, *C. althæoides*, with rosy purple blossoms, is very pretty, and to this may be added *C. tenuissimus*, with blossoms of a full deep pink shade. All these are perennial and of climbing habit. Then there is that useful plant known as *Convolvulus major* (*Ipomœa purpurea*), one of the most popular of hardy annuals, that with its variety *I. p. incarnata* should be grown by all who require quick-growing free-flowering climbers. E. J.

THE FLOWER GARDEN.

ANNUALS NOT MUCH GROWN.

IT has always been surprising to me to find that annuals are not more widely used in the flower garden, and in speaking of annuals I do not refer to Sweet Peas, Stocks, Asters, &c., which everyone who has a garden grows to some extent, but such things as *Linaria reticulata aurea*, *Bartonia aurea*, and *Brachycome iberidifolia* for example; they are easily obtained, inexpensive, and easily grown, and yet are very seldom seen. One reason for their neglect may be traced indirectly to their cheapness; a liberal supply of seed of most of them can be had for 3d. or less. The would-be grower obtains a packet, and directions thereon tell him to sow the seed in March or April, which he does, often in one or two patches about 1 foot in diameter. The seed comes up thickly—almost every seed has grown—with the result that about one hundred plants occupy the space which is sufficient only for one. One hundred flowers are obtained on one hundred plants, instead of one hundred flowers on one plant; the natural effect of the plant is lost entirely because it has no chance to develop, and the

whole bunch soon dries up and is dead. This is no imaginary statement. I have seen it in numbers of gardens, and I am not surprised that persons interested get tired of annuals under such conditions.

To grow them successfully good liberal treatment is necessary; they ought not to be sown on shrubby borders, because the ground if bare above is full of roots below, and in dry weather, when annuals want the most support, they get next to nothing, because the shrubs have first choice. For such positions herbaceous plants or ordinary bedding plants will give better results if a judicious selection is made. In large gardens it may sometimes be possible to devote a separate portion to annuals; in others a few kinds may be grown in a small bed or border by themselves, and those who have herbaceous borders may add to their beauty and interest by interspersing good-sized groups of some of the best annuals where other plants have failed or in spaces left for the purpose. Some partially decayed manure from old hot-beds or farmyard manure, for instance, should be dug in about two months before sowing. When the seed is sown it is necessary to have an idea of the ultimate size of the plant under good cultivation, and to remember that most of the seeds sown will grow. Overcrowding means starvation and failure, thinning is tedious and apt to be neglected, and transplanting cannot be successfully carried out in the majority of cases, therefore thin sowing is absolutely essential to success.

The following will be found both ornamental and distinct, and may be sown in the open ground early in April for the Midland Counties. For warmer parts of the kingdom the middle of March is more suitable. *Anagallis* (various colours), *Bartonia aurea*, *Brachycome iberidifolia*, *Coreopsis atrosanguinea*, *C. Drummondii*, *C. nigra speciosa*, *Centaurea Cyanus minor*, *Clarkia elegans rosea fl.-pl.*, *C. marginata*

fl.-pl., *Cosmos bipinnatus*, *Delphinium grandiflorum*, *Dianthus Heddeggii*, *Didiscus cœruleus*, *Godetia* (various colours), *Gypsophila rosea*, *Hunnemannia fumariæfolia*, *Lathyrus sativus*, *Lavatera trimestris*, *Linum grandiflorum*, *Linaria reticulata aurea*, *Lupinus hybridus atrococcineus*, *L. mutabilis Cruickshankii*, *Malope grandiflora*, *Phacelia campanularia*, *Sanvitalia procumbens*, *Shirley Poppy*, *Salpiglossis* (various colours), *Scabious* (various colours), *Stachys coccinea*, and *Viscaria oculata*.

This list might easily be made longer if more are required. Some of those mentioned will occasionally survive the winter and flower again the next season. They are not, therefore, true annuals, although for cultivation they are best treated in this manner.

A few choice and distinct things succeed best if sown in March in a gentle heat and transplanted to the open borders after being gradually hardened. Some of the best of these are *Ageratum* (dwarf blue), *Alonsoa Warscewiczii*, *Celosia* (various colours), *Diascia Barberæ*, *Gaura Lindheimeri*, *Gaillardia aristata*, *Helichrysum* (in variety), *Heliotrope*, *Nemesia strumosa*, and *Sweet Sultan* (various colours). Another class I would mention consists of those kinds which may be sown in September, and will flower early the following spring. *Shirley Poppies* are always the finest if treated in this way, and the same may be said of most of the following: **Bartonia aurea*, *Centaurea Cyanus minor*, *Clarkia pulchella marginata fl.-pl.*, *C. elegans rosea fl.-pl.*, *Collinsia bicolor*, *Erysimum perofskianum*, **Eschscholtzia californica*, *Leptosiphon hybridus*, *Limnanthes Douglasii*, **Malope grandiflora*, *Nemophila insignis*, *Saponaria calabrica*, and *Xeranthemum annuum*. Those marked * will not always survive the winter north of London. The foregoing lists may all be lengthened if desirable. I have endeavoured to give only the choicest in each section.—

W. H. DIVERS,
Belvoir Castle
Gardens, Grant-
ham.

THE WHITE PINK.

HOWEVER many new forms of garden Pink may arise, it is not likely that there will ever be one that will put the old white Pink out of favour. First of its kind to come in the early summer, of sweetest fragrance, and with that simple charm that makes some of our garden flowers individually lovable, it will ever be one of the most welcome. It is also one of the best of plants for an edging, not only in summer bloom but in the depth of winter, when its neat bluish foliage appears to be at its best.



THE OLD WHITE PINK.

THE ROCK GARDEN.

ROCK GARDEN-MAKING.

VII.—LESSONS FROM NATURE IN ROCK BUILDING WITH STONES OF THE STRATIFIED KINDS.

IN the previous chapters on rock garden-making the illustrations dealt with the igneous rocks, and depicted not only natural rocks of that class, from which valuable hints from Nature's own work might be obtained, but also various rock gardens artificially constructed. I will now deal with rocks of a totally different kind, viz., the sedimentary or stratified rocks, and their treatment in the rock garden.

Sedimentary or stratified rocks were formed under water. In some cases they consist of the minute shells or skeletons of small organisms; in others they were formed by disintegrated previous rocks, sorted by the water into successive layers. Some of these layers might be fine as dust, while others are of a coarser nature, but as time went on became consolidated. But though ages have elapsed since their formation these distinct layers or strata are more or less plainly discernible in all sedimentary rocks, though not to the same extent. In sandstone, slates, chalk, &c., these lines are very distinct. In limestone, oolite, flint, and others they are more irregular and indistinct.

Now, among some rock builders a notion seems to prevail that just because originally all such rocks were formed in horizontal layers, the only proper way of imitating them in our gardens would be to place stone upon stone in horizontal, or at least parallel lines. I have even seen so-called rock works built up with small stones and cement or mortar, after which the whole structure was uniformly plastered over with coloured cement, into which (with a trowel) horizontal lines were scratched to represent "strata."

This method of rock building, in my opinion, is a thing to be avoided. It is monotonous in effect, unpractical to the highest degree, for none of the choicer kinds of alpine plants can grow in rocks so constructed, and finally it is extremely ugly. It may be said to be in imitation of Nature. Perhaps so. If we look at the natural rocks where perhaps a railway cutting was made through sedimentary rocks, we may, in certain districts, see miles of such parallel lines of strata, either horizontal or elevated to the same angle throughout. This is natural, it is true, but when we imitate Nature in our gardens why should we choose the ugliest works for our models? Let us rather select the choicest bits of scenery. The stratified rocks which we admire most in Nature are not those which show monotonous and even lines all at the same angle of inclination, but the wild and rugged scenes, where massive rocks—no matter how evenly or regularly their successive layers might have been disposed originally—have become disturbed by subterranean forces which shattered their once regular strata in the wildest profusion.

We admire the rocks which during violent convulsions or upheavals were cleft asunder, or which, when the water under which they were formed receded, toppled over each other in the greatest disorder. We admire rocks which by the

mysterious forces of Nature have been broken up, and which have been distributed into groups of varying shapes and sizes, sometimes massive or pierced by caves and ravines, sometimes scattered or vanishing altogether below the surface of the sward and reappearing further away amongst a mass of vegetation, either flowers or greenery.

Such are the stratified rocks with which Nature has provided her most charming pictures. Such should be our models. Our illustration, from Nature's own handiwork, is prepared from a photograph, which, by the courtesy of Mr. Ford, I was allowed to take in that gentleman's garden at Lynmouth (North Devon).

The magnificent rocks and charming picturesque scenery of Lynton and Lynmouth have a

groups of boulders of all shapes and sizes and of every conceivable angle of elevation.

But, in spite of this apparent chaos, it will be observed, even in the illustration, that each section shows distinctly its stratified character. Not only the massive rocks in the background, but also each group, and even each boulder, shows parallel layers. But though these strata in each individual group may be parallel, they are anything but parallel collectively. In one group they may be running from north to south, in another from east to west. In one they may be horizontal, in another at an angle of 45° and so on. Even the picture here illustrated shows that wherever a sudden change occurs in the direction of the strata, there it is distinctly seen that such rocks or boulders or groups of rocks have no connexion with each other, but were severed from the adjoining block.

It may be only a narrow fissure which intervenes, or it may be a broad gap, a cave, or a patch of greensward studded with plants, but, whatever the cause of the divergence in the strata may be, the separation will be plainly visible.

This, then, is the lesson Nature teaches, and this should be our keynote for arranging in a picturesque manner such rock gardens as are to be constructed with stones of the stratified kind. When we arrange our artificial rocks let us have no continuous masses, but let us break them up into groups of varying sizes, some large and bold, others small and scattered and gradually vanishing towards the outskirts. Let us introduce between the groups of stones places of varying sizes on which suitable plants can grow. Let the scene appear as if an earthquake had been at work among the regular strata of the rocks, cleaving and shattering them in all directions. By all means let us have stratification more or less distinct, according to the kind of sedimentary stone used, but though this stratification should be more or less parallel in each individual group, let us have no two adjoining groups at the same angle. Above all wherever an alteration in the angle of the strata is to occur let us give a reason for it by plainly showing a separation from the adjacent block.

It must not be thought that I am presumptuous enough to desire to lay down the law. This is Nature's own law, and a careful study of the natural rocks depicted in the illustration will prove my argument. If I had been able to photograph the rocks in question during the summer season the picture would also have shown the numerous flowers which adorn the scene, but having been taken at midwinter the rocks are comparatively bare. For this reason, however, their structure is more plainly seen.

In a later chapter I hope to illustrate in a practical manner the actual construction of rock gardens arranged on the principle referred to above.

Elmside, Exeter.

F. W. MEYER.

(To be continued.)



NATURAL STRATIFIED ROCKS IN THE GARDEN OF MR. FORD, LYNMOUTH.

world-wide reputation. But their wild grandeur generally is beyond anything which might be successfully introduced into a garden. The illustration, however, shows an exceptional case, viz., an absolutely natural rock garden within a private garden, whose owner is an enthusiastic admirer of mountain plants, and alpine plants in particular.

The picture shows plainly what a wild and rugged appearance Nature can impart even to rocks which were originally regularly stratified. The rocks consist of the rugged Devonian slaty grit known as "bastard shale." The rocks shown in the illustration were not rearranged by man, but were left untouched in all their wild glory as their owner found them, and a glance at the picture will show how terrific must have been the natural forces which had split the rocks into boulders and

Crop production in the United Kingdom.—The agricultural returns for 1902 give the following yields: Beans, 7,703,966 bushels; Peas, 5,105,608 bushels; Potatoes, 5,919,919 tons; and Turnips, 29,116,224 tons. There is a decrease in Potatoes, but a decided increase in the other crops mentioned.

DELPHINIUMS.

THERE is a characteristic boldness about the Larkspurs, as the Delphiniums are not infrequently called, quite apart from their predominant colour feature, that appeals at once to all lovers of hardy flowering plants, and in such a way that some at least of the many varieties find favour with a very large majority of those who direct their attention to effective border gardening. No group of hardy herbaceous plants flowering in the first half of the year attracts more attention than the Delphiniums when these are well grown. To be well grown, however, and quite representative, the plants must be fairly well established, because small crowns can but produce proportionately small spikes of bloom. This is always the case when plants supplied late in the season as these must of necessity be in pots. When orders for plants are received in good as well as seasonable time, and planted with due care, they quickly develop into flowering examples that display their worth in a very definite way.

TIME OF PLANTING OR TRANSPLANTING.

In those districts with a light soil and with a sand or gravel subsoil, thorough drainage is secured naturally, so a considerable license may be allowed, although even in such cases as these I am well assured upon one point—that no time in the year suits the plants so well for removal and replanting as the early spring. Where the soil is heavy I would interfere with the plants at no other period. Why? Because the roots of these plants are at rest in the winter season, and removal at such time of necessity throws the plant upon its own resources until new life appears with the longer and warmer days. Left alone in the ground the crowns maintain their fullest development. When taken in hand early in the year, when the freshly appearing shoots are some 3 inches or 4 inches long, we have every assurance that presently fresh young roots will also appear, and indeed so quickly do they appear that the growth comes away without more ado. Spring planting is, of course, of infinitely more importance when the breaking-up of the stools become necessary in greater or less degree. At such times, if the welfare and future progress is considered at all, spring planting is absolutely without equal. My remarks apply to plants grown in the open ground, which is infinitely the best means of securing strong vigorous growth and, naturally, finely developed crowns also. Such as these planted at the right moment and with a clear growing season ahead make up really grand specimens as the result of a single year's growth.

Very different is the case of the plants which have long been confined to pots. The latter can only be regarded as a prison for these stout, vigorous-growing perennials. Freshly established pot plants—that is, stock divided in March to be planted out in May or thereabouts—are open to very little objection, but plants that have remained a year or more are not only in a very weakly condition as compared with ground plants, but they are also the least likely to give satisfaction when liberated from the pots. The season wherein to plant them is ample, and it but remains for those who would do justice to so fine a group to take advantage of it. A word or two as to

SOIL AND ITS PREPARATION.

The Delphinium is a deep-rooting plant and a gross feeder, therefore a deeply trenched, heavily manured soil is best. The manure may with advantage be buried 12 inches or 15 inches deep at least. Sandy loam suits the Delphinium excellently, heavy clay soils being less well suited, and in such the plants are more subject to root canker. Heavy soils may be improved by the addition of burnt earth, ashes from the rubbish fire, and a good addition of leaf-soil or grit. Any of these or a combination of all will render material help to the plants. Such a mixture will render much assistance to the roots and give the plants a good start. If the plants are liberally dealt with in the original planting, it is possible for them to remain three years in the position, provided also there is room for development. At the end of such a term

a single good crown of a vigorous variety will produce as many as eighteen to twenty-four splendid spikes of bloom. Such a plant will require a space 3 feet square where effective grouping is the aim. The beds may be so arranged, however, that some plants may be removed for stock as soon as they break through the soil.

SEEDLING STOCK.

Break up some of the plants each spring and so maintain a vigorous stock. Where plenty of good plants exist already it will not be necessary to multiply them unduly. Where a specially good sort is wanted in quantity then every crown, with root attached, should be separated, and such plants may with advantage be potted for a month, particularly if only feebly rooted. On no account should these divisions be placed into artificial heat. It is almost fatal to the plants, as it elongates the stem, while below no equivalent in roots is forthcoming. The most that is required then is a close cold frame for a short period. Frequently with good varieties there are many growths that by reason of the trunk-like character of the stool cannot be detached with roots, and it may be helpful to some to know that if these shoots are pulled off with a good heel many will root in a cold frame in sandy soil. In this way I have raised much valuable stock. It is, however, only by early spring propagation that this can be done. Without the heel these cuttings are valueless; indeed, the shoots should be torn off and inserted under a handlight. The knife should never touch them. In planting these in the ground later, and, indeed, in all planting, the crown tuft should be buried about 2 inches deep. This is ample, as the Larkspur is not surface rooting in the least degree. E. JENKINS.

TREES AND SHRUBS.

THE APPROACH OF SPRING.

THE CATKIN-BEARERS.

OF the earliest-flowering hardy trees and shrubs the majority are those whose flowers are borne in catkins. Their appearance is one of the first evidences of the approach of spring. It is to the catkin-bearing group that the Poplars, Willows, Birches, and Alders belong. These catkins are pendulous, cylindrical, often slender inflorescences, carrying flowers of one sex only, which spring from the axils of scaly bracts. Being mainly dependent on the wind for their fertilisation they have none of the varied or bright colours that are characteristic of flowers fertilised by insect agency. Often, indeed, sepals and petals are entirely absent. Still many of these catkin-bearers possess a quiet charm and beauty of their own, which, taken with the early, often inclement, season when they appear, make the best of them indispensable in gardens where early spring effects are desired. As a rule it is the male or pollen-bearing catkins that are most ornamental. They are longer and more graceful than the seed-bearing ones.

POPLARS.

First among Poplars to bear its flowers and almost before winter is past is the Aspen (*Populus tremula*). This and its weeping variety bear their catkins in February. But closely following it, and perhaps still more ornamental, is the American Aspen (*Populus tremuloides*). This species flowers early in March near London in mild seasons, but later farther north and when kept back by severe weather. The pendulous variety of *P. tremuloides*—known commonly as Parasol de St. Julien—is, at the flowering time, probably the most beautiful and striking of all catkin-bearing trees. Both it and the type produce long slender catkins

so light as to be swayed by the gentlest movement of the air. The weeping variety, whose branches naturally keep low, is especially well adapted for growing, more or less isolated, on a lawn. In all these Poplars the male catkins are 3 inches to 4 inches long, chiefly of a grey-brown colour; the scale-like bracts, however, are suffused with a reddish tinge. The weeping varieties of these two Aspens are frequently grafted on the White Poplar, which is not a suitable stock. The species to which the varieties severally belong should be used for the purpose. It would be even better if they could be got on their own roots by means of layers or cuttings, and trained up to the required height before allowing the weeping habit to develop.

There are other Poplars that bear their catkins freely, such as *P. alba*, *nigra*, and *balsamifera*, but being of loftier habit they do not show to the same advantage as those of the Aspen group.

HAZELS.

Between the middle and the end of February the flowers on the catkins of the various species of *Corylus* begin to expand. Early as that date is the catkins have, nevertheless, been in evidence since the previous autumn; they were, in fact, formed before the nuts fell. Being comparatively low and shrubby the different varieties of the Hazel (*Corylus Avellana*) show their catkins to best advantage, and there are few among the catkin-bearers more charming. It is not often that any but the coloured-leaved varieties find a place in the garden proper, but either in the orchard or in the woodland the soft yellow of the Hazel catkins is one of the most pleasing notes of earliest spring. The Tree Hazel (*Corylus Colurna*), a fine and interesting tree, growing 30 feet or more high, also bears its catkins in February.

WILLOWS.

Of the almost innumerable species and varieties of *Salix*, it is only a few that need be mentioned here for their beauty when in flower. So far as I have been able to judge, the most ornamental of the Willows in catkin time is *Salix smithiana*, known also as *S. mollissima*. This tree flowers about mid-March, producing its shortish, thick male catkins in very great abundance; the numerous exposed anthers give a soft but glowing yellow tone to the tree, and entitle it to rank as one of the most ornamental of early-flowering trees. The pendulous variety of *Salix Caprea* is known as the Kilmarnock Willow. Although of weeping habit it is somewhat stiff in character; but towards the end of March and later it is exceedingly pretty loaded with its grey catkins. The flowers of the typical *S. Caprea* (the Goat Willow) are commonly known in many country places as Palm, and are used for decorating churches on Palm Sunday. The slender, coloured twigs of the Purple Willow (*Salix purpurea*) bear red or purplish-tinted catkins in early April. *Salix stipularis* may also be mentioned for its beauty when in flower.

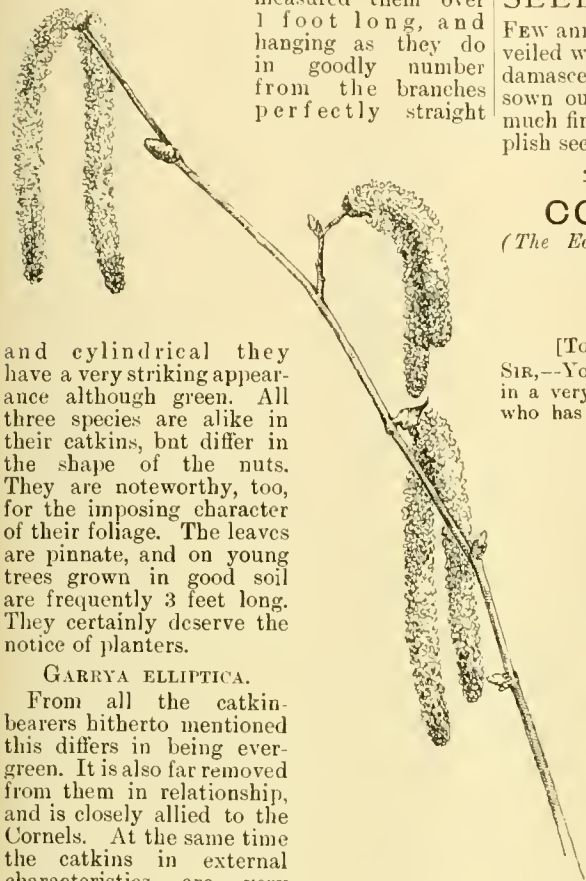
ALDERS.

With the exception of a few species, such as *Alnus nitida* and *A. maritima*, which flower in September and October, all the Alders develop their blossoms in February and March. The common Alder (*A. glutinosa*) and its varieties are perhaps as ornamental as any at that time. Like the Willows, they look best and grow best in association with water. In such a position an Alder at that time, leafless, but laden with its slender greenish yellow catkins, is a beautiful object, and characteristic, too, of our English landscape. Other species possessing a similar quiet beauty are *Alnus*

incana, A. viridis, A. oregona, and especially A. cordifolia with its green and yellow catkins.

JAPANESE WALNUTS.

Juglans sieboldiana and its close allies J. mandshurica and J. cordiformis do not flower till May, but bear at that time very remarkable male catkins. I have measured them over 1 foot long, and hanging as they do in goodly number from the branches perfectly straight



HAZEL CATKINS (REDUCED).

and cylindrical they have a very striking appearance although green. All three species are alike in their catkins, but differ in the shape of the nuts. They are noteworthy, too, for the imposing character of their foliage. The leaves are pinnate, and on young trees grown in good soil are frequently 3 feet long. They certainly deserve the notice of planters.

GARRYA ELLIPTICA.

From all the catkin-bearers hitherto mentioned this differs in being evergreen. It is also far removed from them in relationship, and is closely allied to the Cornels. At the same time the catkins in external characteristics are very similar. Not only the catkins but the plants themselves are unisexual, and, as is usual with the catkin-bearers, it is the male that is most ornamental. These catkins are from 4 inches to 8 inches long, and I have heard of (but not seen) them as much as 1 foot in length. The time at which the flowers expand depends, as with all the early catkin-bearers, on the mildness of the season. This year on a wall the catkins have been in beauty ever since the first week of January. They are very attractive in their grace and quiet beauty.

Chiefly of soft grey and green colours, the bracts are, however, suffused with a warmer reddish tint. In the neighbourhood of London Garrya elliptica is quite hardy in ordinarily sheltered positions, but does not flower so freely as against a south wall. As it is of Californian origin this is not surprising. This shrub resents disturbance at the root, and in transplanting great care is necessary.

There are other species of Garrya in cultivation, but they are more suitable to the south-western counties than to the average climate of Britain.

To the catkin-bearing family belong several other well-known trees, such as the Birches, Hornbeams, and Sweet Chestnut; but flowering later in the year their beauty is apt to pass without notice in the great flush of bloom that comes in with April. The beautifully fragrant Sweet Gale must not be passed without

mention. Its reddish brown catkins are formed before autumn, and expand on the still leafless twigs in spring. W. J. BEAN.

AN ARTIST'S NOTE-BOOK.

SEED OF LOVE-IN-A-MIST

Few annuals are prettier than the blue flowers veiled with foliage of Love-in-a-mist (Nigella damascena). It is very easily raised from seed sown outdoors in March. There is a variety much finer than the ordinary type. The purplish seed-pods are quite handsome.

CORRESPONDENCE.

(The Editor is not responsible for the opinions expressed by correspondents.)

ROSE ECÆ.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Your correspondent "Tuscan" (page 118), in a very interesting note, asks: "Will anyone who has tried the Afghanistan Rose Ecæ give their opinion of its wants and merits?" I have grown this for more than twenty years, and the more I see of it the more interesting I find it to be. It is not one of the most showy of the single Roses; the flower reminds one of a miniature Christmas Rose, it is so very like it in appearance. Last season it was in flower with me until quite late in the autumn. It is growing in rich soil and in a rather shady situation, but these are not the conditions I should recommend for its best cultivation. This Rose is perfectly hardy, and delights in dry, loamy soil. If grown against a low wall, or where it can be sheltered from cutting winds, the flowers will last much longer than when grown in the open, but I like to see it best as a bush. Here its thorny nut-brown wood helps to show off its pretty flowers and make it an interesting feature, either in the front of the shrubbery or in the herbaceous border. T. B. FIELD.

Ashwellthorpe Hall Gardens.

PROPAGATING EUPHORBIA JACQUINLEFLORA.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Some gardeners are very clever in propagating the above beautiful winter-flowering plant, and some are quite the reverse. It may be increased to almost any extent by firmly adhering to a few simple rules. Most people are extremely partial to planting in a peaty soil, which is a mistake. A strong soil or a good brick earth to one half, and a similar material well burnt into ballast for almost the other half, is far better. This indeed will, with certain modifications, such as the addition of sand and charcoal, make a capital mixture to grow the plant in. When potting is done, let the soil be so dry that firmness may be assured. Now as to the propagation. When flowering is past plant the old plants, if only a few, in a half reclining position on the stage in an intermediate house, not in a stove, nor yet under the stage, where so many of these and

Poinsettias often go. Shorten the stems to below the flowering axils. Plant firm in moderately dry, well-drained soil, and keep dry for a few days (about fourteen), subject to the condition of the soil at the time. Then give one good watering. At no time should the plants be kept continuously wet. Such a condition and much warmth result in soft cuttings. With roots moderately dry, the tops in full light and in a medium temperature, cuttings can be produced that will root to 99 per cent. almost with the stems (tops) in a reclining position. Each axil will presently produce a good cutting, which must be cut clean out with a perfect heel attached, and inserted without more ado save the removal of the tiny leaves on the lower part of stem. Dip the base of the cuttings in dust-dry sand as soon as these are separated from the parent plant, and in this way seal up the exuding milky juices. Cuttings 3 inches or 4 inches long are excellent, and these sturdily-grown cuttings rarely droop at all. The best propagating medium I ever found for these may be made by plunging a 5-inch pot inside one of 7 inches, using a 6½-inch bell-glass for cover. Treat the cutting pot thus: One-third clean crocks, one-third sandy soil and fine ballast made firm, one-third pure sand. In this way the cuttings rest in pure sand when inserted. Get them in as quickly as possible, keeping all sunlight away in the meantime. Water thoroughly, and fifteen minutes later place on the bell-glass. Give no more water for a week, then another watering. Take off the glasses each morning and wipe out. On a bottom heat of 85° or 90° such cuttings root in three weeks. In this way I have rooted many hundreds in a season, and with less than 5 per cent. of losses. Hampton Hill. E. J.

LILIUM SPECIOSUM ROSEUM.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—The query by Mr. Max Leichtlin in THE GARDEN (page 127) concerning this Lily is full of interest to me, as I have never been able to



SEED OF LOVE-IN-A-MIST (NIGELLA DAMASCENA). (About half natural size.)

fathom any real distinction between the varieties roseum and rubrum, though the two are kept separate in all the lists of Lilies. In a paper read at the Lily conference at Chiswick by Mr. E. H. Krelage of Haarlem, the writer speaks of rubrum having brown stems and roseum green. This is all very well as far as it goes, but unfortunately for this theory the brown stems do not always bear the deepest-coloured blossoms, and a rubrum lighter in colour than roseum is, to say the least, a misnomer. I cannot go back to the year 1842, but the form alluded to by Mr. Max Leichtlin as having flowered in that year must have been a very beautiful one, and well merited the varietal name of roseum. The nearest approach to a flower of a uniform rose tint that has ever come under my observation occurred a dozen years ago among an importation from Japan. At that time we used to receive more dissimilar forms from the Japanese than we do now, probably from collected rather than cultivated bulbs. The individual just alluded to had green stems. While on the subject of this Lily, I am induced to supplement Mr. Max Leichtlin's query by another: "What is the typical *Lilium speciosum* of Thunberg, which equals *L. lancifolium* of many old-fashioned gardens?" H. P.

IRIS ROBINSONIANA NOT FLOWERING.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Some fifteen years ago I purchased from the late Dr. Wallace of Colchester a plant of *Iris robinsoniana*. I have always taken very great care of it, and it is now 6 feet high and 6 feet through. It is growing in what is known as a No. 1 pot. I always keep it in a cool greenhouse, and sometimes give it a little liquid manure, but never over-feed it. When I purchased this plant I was told it was a fine species, with large pure white flowers, and that it required a warm sheltered position. I believe it is a native of Lord Howe's Island. With all my care and attention up till the present time I have not been successful in flowering it. I should be glad if any of your numerous readers who have had experience with the cultivation of this interesting plant, and have been fortunate enough to flower it, would give me the benefit of their experience.

Norwich.

T. B. FIELD.

BOOKS.

Guide to Hope Gardens. *—Mr. Fawcett, Director of Public Gardens and Plantations, Hope Gardens, Jamaica, has issued this guide under the authority of the Governor. The general description of the gardens is by Mr. Walter Jekyll, a resident of the Port Royal Mountains, whose knowledge of plants, sympathy with beautiful nature, and ready pen combine to produce a practical guide which in itself is pleasant reading and will be a help to visitors. After a fairly complete survey of the gardens, Mr. Jekyll adds:—"It is hoped that this article may supply here and there a missing name. Everything cannot be labelled, though much is done in that way. Yet that is not its chief object, for names matter little. It is on the writer's part a small thank-offering for the ready helpfulness and courtesy which has been so freely extended to him by those who have charge of the gardens. And the pleasure of writing it will be doubled if it serves to help anyone to see and appreciate that beauty of Nature which makes up so large a part of our happiness. At Hope the weather is almost invariably fine, and there is always something beautiful to see. At one time there will be the *Poinsettias* and *Erythrina*. As the splendour of these wanes the *Bougainvillea* and *Spathodea* come in, then the *Poinciana*. And even should there happen to be none of these greater glories, there are always the yellow stretch of *Crotons*, the delicate masses of *Plumbago*, the mist of the *Olives*, the great lawn, and the encircling hills." The guide also gives

in a few words the history of the Hope Gardens as an experimental and teaching station, with a notice of the principal economic plants grown for observation and distribution, these being Sugar-cane, Cocoa, Coffee, Tobacco, Banana, Nutmeg, Citrus, Grape Vine, Pine-apple, Yam, Sweet Potatoes, &c.; also a list of such plants as may be bought from the gardens at almost nominal prices.

SASSAFRAS (LAURUS).

THE demand for trees and shrubs would seem to be steadily on the increase with each succeeding year, not so much as to the quantity of common things planted as to a careful selection of things hitherto comparatively rare—the reason for calling attention to the tree named above as a most interesting specimen for a small lawn. The flower is quite insignificant, but the foliage is handsome right away from spring until late in autumn, when it assumes a bright golden shade with a tinge of red in the majority of the leaves, which, except in the case of severe frost, are long maintained. A decidedly pronounced Bay-like scent is emitted alike from foliage, green, and dry wood. The specimen here is probably the largest in England, being close on 40 feet high and 8 feet in circumference at its base. In common with many other things, it has during the last few years changed its name, and is now generally known as *Sassafras officinale*.

Claremont.

E. BURELL.

GARDENING OF THE WEEK.

INDOOR GARDEN.

(GREENHOUSE CLIMBERS.)

WHERE planted out in corridors or conservatories the drainage of the borders in which they are growing should be carefully examined, perfectly free drainage being essential to good cultivation.

Borders in positions such as we are now considering often suffer from excess of moisture, therefore remove sufficient soil to allow the outlet and make the drainage good where necessary. Whatever is necessary must be thoroughly done. Where the soil is sour remove it, and renew the border with fresh soil suitable for the plants that are to occupy it, generally speaking equal parts of peat and loam will satisfy the requirements of these plants. There are, however, some exceptions. Probably *Fuchsia corymbiflora* and *F. dependens* are as effective for this purpose as anything, and require only loam. *Lasiandra macrantha* for late summer blooming is a gorgeous plant and requires peat. *Diplacus Sunbeam* for covering back walls where plenty of light is assured will reward the cultivator with six months of continuous bloom. *Swainsonia galegifolia*, suitable for the same purpose, is of rapid growth, free blooming, and of a striking colour. *Tacsonias* are useful greenhouse climbers. *T. militaris*, recently introduced by Messrs. Sander and Sons, is a free bloomer, and requires an intermediate temperature.

BAMEOS.

When planted under glass these are very decorative and require good drainage, moderately deep borders, and abundance of water; red spider is their bane, and a free use of the syringe is necessary to keep it in check. *Arundinaria falcata* is the most useful for general purposes, but for planting under lofty domes *Phyllostachys Mitis* is much stronger and produces a grand effect; to have these plants in their most attractive form the foliage must be kept clean and healthy.

PALMS.

Attend to the repotting of these very useful plants. Guard against the use of too large pots. For *Kentias*, *Latantias*, *Seafortthias*, and the

stronger growing *Cocos*, a compost of good fibrous loam with coarse sand and charcoal and a liberal allowance of bone-meal or Clay's fertilizer will do well when established. For young plants a little peat or leaf-soil is necessary. Pot them firmly, and leave sufficient space on the top of each pot to hold a good supply of water. Place the plants in a temperature of 65° to 70° by day, and use the syringe freely in bright weather, keeping the plants shaded from bright sun to retain the fresh green colour of the fronds.

HANGING BASKETS

should now be prepared for summer work. Very effective baskets may be arranged with *Asparagus plumosus*, *A. p. nanus*, *A. Sprengeri*, and for choice small baskets *A. S. variegatus*. *Dracena godsefiana* is much more effective as a basket plant than in any other position. *D. sanderiana* is also very effective used in this way. *Goniophlebium subauriculatum* with its long pendulous fronds is very graceful. Several of the *Davallias* also lend themselves to this kind of work. Flowering plants adapted for baskets are not very numerous. *Achimenes* and all the stronger growing varieties are very suitable, and in such a position display their choice flowers to great advantage.

CAMPANULA ISOPHYLLA MAYII

is charming in a basket. Young plants propagated by division last season should now be in readiness for this purpose; the size of the baskets must be determined by the plants used in their arrangement. As a general rule avoid using them too large. Place green wood moss in rather thick layers inside the wire frame of the basket, then fill in with suitable soil, and place them in a growing temperature till established.

CANNAS.

Where it is desirable to increase the stock of any particular variety they should now be taken in hand. Cut up the rhizomes into short lengths of about two joints, which place in 3-inch pots filled with a light fibrous soil, plunged in a bottom heat of 70° to 75° they should quickly make roots, and as soon as growth is made pot them on. Ordinary varieties can be raised from seeds; before sowing the seeds place them in a bottle of water, which plunge in a bottom heat of 100° to 120° for twenty-four hours. Seeds of *Grevillea robusta* and *Solanum marginatum* if treated in the same way will germinate much more quickly.

Wendover.

J. JAUQUES.

THE FRUIT GARDEN.

VINES.

REMOVE all surplus bunches from the early Vines before they come into flower, leaving the most compact and best placed for the crop, and fertilising with *Hamburgh* pollen when they are dry and the temperature of the house has reached the maximum. All the *Muscata*-flavoured varieties, with the exception of *Madresfield Court*, require a little more heat than *Black Hamburgh* to set them properly, and on this account they should be grown at the warmest end of the house. Thinning Grapes is a very important operation, and requires great care both in the manipulation and selection of the berries. If insufficiently thinned the berries become wedged and distorted, and seldom keep well even in summer, while, on the other hand, too much thinning results in a large berried, straggling bunch, which never travels well, and spreads all over the dish or exhibition boards. A thorough acquaintance with the capabilities of the Vine is first essential, the rest is a matter of mechanical skill; but in all cases the early and complete thinning of free setting sorts as soon as they are out of flower should never be neglected. With increasing length of days and a continuance of mild weather good progress may be made by closing early, but 60° to 65° for *Hamburghs* and 65° to 70° for *Muscats* through the night will be quite sufficient to secure stout, leathery foliage and good health.

SUCCESSION HOUSES

containing such as *Black Morocco*, *Alicante*, *Mrs. Pince*, *Gros Colman*, and some of the best white

* "Guide to Hope Gardens." Aston W. Gardner and Co., Kingston, Jamaica.

varieties, exclusive of Muscats, should be helped forward with fire-heat and fermenting material to ensure an early break and a long growing season. If Hamburgs are not grown with them for fertilising purposes see that pollen is collected from the early house when in flower. The much-neglected Black Morocco, one of our best January Grapes, when left to itself is invariably a failure, but careful fertilisation with Hamburg pollen for several days in succession secures to us a set equal to the most prolific Hamburg. Provision should also be made for fertilising the Muscats when in flower, not with their own, but with foreign pollen, which may be kept for several weeks in a dry, warm place after it is collected. The roots must be kept active by a warm, well-drained inside border, and where these conditions do not exist the vigorous applica-

outside, and quality being of more importance than quantity, the borders should be elevated on good drainage, with a run of 6 feet to 9 feet inside and out.

Madresfield Court.

WILLIAM CRUMP.

KITCHEN GARDEN.

POTATOES.

IN many gardens with raised warm borders facing south or south-west the earliest varieties will have been planted before this for tubers to follow those grown under glass, but if not a plot should be planted without delay. In the midland and northern counties it is unsafe to plant before this date owing to late spring frosts. Sharpe's Victor, Ashleaf, and Duke of York are good first early varieties. The last-named is very prolific and of good flavour, and may be classed as one of the best earlies. Some of the second early varieties may also be planted, such as Windsor Castle, Snow-drop, Beauty of Hebron, and Syon House Prolific. Of late varieties we depend solely upon Up-to-date and Sutton's Triumph. These may be planted as the ground becomes ready for them. Methods of planting are various. We usually plant the tubers as the ground is dug and manured, by which method the ground is left quite level. If frosts occur when the sprouts appear some earth may easily be drawn up for protection. Potatoes growing in pits and frames should be top-dressed with fairly rich soil, taking the precaution to have it warmed before placing about the tender stems. Apply tepid water frequently.

CARROTS.

The main crop may be sown if the ground is sufficiently dry. Drills should be drawn 12 inches apart for the long, strong-growing varieties, while 10 inches will suffice for the Horn Carrots that will be first drawn for use. Where exhibition specimens are required boring with an iron bar should be practised, filling the holes

with some finely sifted rich soil and sowing a pinch of seed in each.

ASPARAGUS BEDS

will now require forking lightly over in order to bury the manure that was applied as a winter dressing. Cut out the alleys by setting a line on either side, and throw the soil therefrom on the beds, but avoid laying the roots bare in so doing; rake over if dry enough, and dress with salt. Sow Asparagus seed for producing plants for forming new beds. Drills should be drawn 2 inches deep and 18 inches apart and the seed sown thinly. These should make strong plants for transplanting to permanent beds two years hence.

CELERY AND CELERIAC.

For the main batch of plants seed should now be sown in pans or boxes and placed in heat as soon as the seedlings appear. Place near the roof glass

of a warm pit or house, afterwards removing to a cold frame to harden preparatory to pricking out into rough frames. Veitch's Superb White is excellent. Veitch's Early Rose is one of the best coloured varieties I have grown for main crop; it is reliable in every way.

CELERIAC (Turnip-rooted Celery)

is easy to grow and deserving of extended cultivation. The Turnip-shaped sorts are excellent when properly cooked, and, as they may be laid by in sand in the root shed for the winter, they form a welcome change in that dull season when vegetables are scarce. When large enough plant on a well-manured plot of ground in rows 18 inches apart and 14 inches from plant to plant.

Stoneleigh Abbey Gardens.

H. T. MARTIN.

FLOWER GARDEN.

CARNATIONS.

WHERE these are grown in beds or in the mixed borders no time should be lost in the preparation of both plants and soil. The soil in most gardens may be made suitable for Carnations, but heavy additions of rich manure are not advisable, as they tend to encourage disease. Where road scrapings can be procured nothing suits them better, add to this some wood ashes from a garden fire, and a little mortar rubbish well incorporated with the soil when the bed is dug. The end of April is the best time to plant. Where the plants are wintered in cold frames air should now be freely given night and day, and whenever the weather is favourable the lights should be drawn completely off. In planting press the soil firmly about their roots and give a good watering. To raise seedling plants sow the seed now or early in April, in pans of good sandy soil, and cover the seed about half an inch deep. Keep only moderately moist; do not force the seeds to germinate. A cold frame is the proper place for the seed pans. Patience and attention will result in success.

THE PANSY.

I am not certain that any other plant can be named that will produce such an amount of bloom at any season as the Pansy will, in April and May particularly. That it is a favourite flower is not surprising; it is easily cultivated, is exceedingly pretty, and continues in bloom for the greater part of the year. For borders, clumps, or pot plants it is useful and elegant, and the cut blooms last well in water. As young plants produce the finest flowers, it is best to sow seeds at intervals during the spring and summer. This applies more particularly to the spotted or fancy varieties; but where such varieties as Imperial Blue, Cardinal, Golden Gem, Purple King, and Yellow Prince are grown to give a mass of bloom, the best way to have these in perfection for large beds in spring is to propagate in September and plant out in March. Where the soil and climate are moist they bloom well nearly all the summer. They are very fond of well rotted hot-bed manure. Cliveden Blue is a good winter and spring variety, and yields a very heavy crop of flowers in March, April, and May, but in hot weather it does not bloom so well.

SAXIFRAGA.

The Megasea section of Saxifraga includes several very showy plants that flower about this time, but are liable to be cut down by frost. They are nearly all natives of the Himalayas, but are hardy in most places. A position should be given them where they can receive the protection of a handlight or bell-glass when in flower. They are handsome plants, with bold, thick, quite leathery leaves, which are of a rose-crimson and bronzy green colour in winter. They are very desirable plants when grown in pots in a cool greenhouse, and last a long time in flower. The best are cordifolia, purpurea, Stracheyii, Milesii, and crassifolia. Saxifraga oppositifolia and varieties are very pretty early-flowering plants, and their flowers will need protection where sparrows abound. Wire netting placed just above the plants will prevent these depreddators from pulling them to pieces.

WALLFLOWERS.

Where it is desirable to have this favourite in flower, either in beds or borders through the



SASSAFRAS (LAURUS) OFFICINALE AT CLAREMONT.

(Probably the largest specimen in England. It is nearly 40 feet high and 5 feet in circumference at the base.)

tion of steel forks, new drainage, and fresh compost will be found the best remedy.

LATE HOUSES.

The worst managed Vines in many gardens are the late ones. They are expected to accommodate themselves in a house full of bedding plants through the early spring, to break into growth, and set with a minimum of fire-heat, to ripen their fruit and wood by September, and support a full crop until Christmas, the usual time for bottling Grapes. Another drawback is the inconvenient season for renovating the borders, but this should not stand in the way, as first-rate old Grapes which will keep until the advent of new ones cannot be expected where the roots are not in the best condition. Inside borders may be renovated at any time after the Grapes are ripe; the month of February is perhaps the best for lifting and relaying the roots

summer months, a sowing should now be made of the Parisian Early. As soon as the seedlings are large enough to handle prick them off into pans or boxes. Keep for a time in cold frames, gradually harden off, and plant out about the end of May. T. B. FIELD.

Ashwellthorpe Gardens, Norfolk.

CHRYSANTHEMUMS.

EARLY OR SUMMER-FLOWERING VARIETIES.

THIS section is, I am glad to notice, becoming more generally cultivated each year, and when one considers their hardiness and the little trouble which they incur to bring them to perfection this is not to be wondered at. Not only are they admirably adapted for all kinds of bedding, either for the flower garden, grouping about in the shrubbery, or herbaceous borders, but to enjoy them fully a space should be devoted to a good collection, carefully arranging them as to heights and the pleasing blending of colours. They are equally useful for supplying large quantities of cut flowers, and adapt themselves readily to almost any purpose. By choosing colours which harmonise well and selecting suitable foliage these will make delightful dinner table ornaments quite as suitable for filling either large or small vases and specimen glasses. The propagation of these should be done any time during March. Mix up a nice light gritty compost, and dibble them in thickly either in pots or shallow boxes. These will root away quite readily if kept close in cold frames for a few days, after which pot off singly into small pots and return to the cold frames, when they will be found to make nice sturdy plants by the middle of April, and if properly hardened may be planted in the open quite safely by that time. A portion of the dwarf free-flowering kinds may also be potted and grown on to bloom in small pots for conservatory decoration, and are equally valuable for the embellishment of rooms, as they last for a considerable time in such places uninjured. The position in which these are to be planted outside should now be well dressed with good farmyard manure and the ground either deeply dug or trenched, when by the time of planting this will be found to be in a suitable condition for receiving them.

SPECIMEN PLANTS.

Though these are not generally so largely or so well grown as in times past, no doubt partly owing to the amount of room they require when the time comes round for housing and the little encouragement offered by way of prizes at our autumn exhibitions in comparison to that for cut blooms, yet when seen at their best they make fine features and demonstrate the skill of the cultivator as a plantsman; but, on the other hand, such poor attempts as we often meet with are unsightly and certainly not worth the space they occupy.

An ideal specimen plant to whichever section it belongs should not be stiffly trained, though a certain amount is necessary; it should be clothed with good foliage from top to bottom, and each bloom should be of good quality. One good bloom is worth a dozen poor half-developed ones, and to attain this every inducement should be afforded to make the foundation of the plant as early in the year as possible. To ensure this the plants when young must be kept in a growing temperature, but not unduly forced until this is practically achieved. Keep the young shoots freely pinched after making sure that a clear stem above the soil is assured. Pot on firmly as the plants become pot-bound, syringe frequently, and train out the young growths carefully as they need it. Some varieties when grown on in this way are persistent in showing flower-buds, but by keeping these picked out as fast as they are made, the plants will in time out-grow this trouble and in the end be none the worse. Even at this early date the foliage must be clean and healthy, and it will need a watchful eye to prevent their damage by the many pests which beset them, such as mildew, rust, thrip, green and black aphid, and always bear in mind that prevention is better than cure. E. BECKETT.

Aldenham House Gardens, Elstree, Herts.

ORCHIDS.

REPOTTING.

THIS may now begin in earnest. On either side we find a vast number of plants that need attention, and owing to the greater amount of sunshine during the past month—February—many will commence growing and rooting earlier than in seasons when February is a dull and almost sunless month. Plants must therefore be carefully watched, though it is never necessary to repot a plant at any specified time. This, however, should be done as much as possible when the plants are in the proper stage of growth or when new roots issue from the base of the last made bulb.

LÆLIA ANCEPS AND ITS VARIETIES.

These are now bristling with new roots from the base of the bulbs, and if the plants have far overgrown their receptacles they should be repotted, though with this *Lælia* it is not so important a matter as with some Orchids to keep them within bounds, for we find they thrive remarkably well when they have far overgrown them, providing watering, syringing, &c., is properly carried out. Nevertheless it is always advisable to keep them within a certain limit, and repot sufficiently often so as to keep the plants compact and as neat as possible in appearance. Repot the plants as soon as the new roots are visible at the base of the bulb, for if they are allowed to grow a few inches it is difficult to perform the operation without injuring the roots. Remove all old material and cut off dead and decaying roots. If the specimens are compact transfer to other receptacles of ample size sufficient to allow them to grow on two years or more without being disturbed. Place the plants in their receptacles to bring the base level with the top. Allow two-thirds drainage, and the compost, which should consist of equal proportions of peat and sphagnum moss, should be pressed moderately firm and brought level with the base of the plant. A few large crocks should be worked in the surface layer, which will keep the compost open and allow a free egress of water, for they need a good supply at the root and frequent overhead syringing during the growing season. *Lælia anceps* and its varieties are some of the easiest Orchids to propagate, for they seldom fail to produce young growths wherever the rhizome is severed, either at the first, second, or bulbs further back. The simplest way is to take a specimen that has overgrown its receptacle. Sever the rhizome so as to leave the back part of the plant as even and compact as possible, and let it remain undisturbed, then place the leads together in a compact specimen, or to increase the number pot up singly. Plants repotted must be sparingly watered until the new roots have taken to the fresh compost. Spray the plants lightly overhead on bright days, and syringe in among the pots. Sprinkle the surface of the potting material to prevent the sphagnum moss from drying, and that is all that will be needed until the plants are freely growing.

ONCIDIUM MANTINII.

This supposed natural hybrid between *O. marshallianum* and *O. Forbesii* is certainly one of the most beautiful *Oncidiums*, and one which ought to be in every collection and in quantity if Orchids are exhibited in groups. This *Oncidium* is beautifully adapted to the purpose. The flowers are large, and produced in numbers upon erect spikes 2 feet to 3 feet high. The sepals and petals are yellow, the centre covered with rich chestnut-brown, lip clear yellow, with a few purplish-brown spots. It is a good grower, and does not deteriorate under cultivation as some of the *Oncidiums*. It should be grown in the cool intermediate house, and now that it is beginning to grow any necessary repotting should be done in the usual way. Repot in equal proportions of peat and sphagnum moss, with Fern roots used in place of crocks, or leaf-mould may be used alone, or a portion mixed with peat and moss. If any Orchids are benefited by leaf-mould it is the *Oncidiums*.

ANGULOAS.

These, as soon as new growth is visible, should be repotted at once if more rooting space is needed,

as the flower-spikes push up with the young growths, and the latter emit roots when about 2 inches long. If attention be not given at once the flower-spikes are apt to get checked, and if left over until after blooming the growth and root action are too far advanced for repotting the plants without causing injury to some extent. Repot in peat and moss in the usual way. Although water must be somewhat sparingly applied until the new roots have penetrated the fresh material, the plant must not become very dry or the flowers may be injured.

F. W. THURGOOD.

Roslyn Gardens, Stamford Hill, London, N.

THE KITCHEN GARDEN.

ASPARAGUS FORCING.

TO have a supply of Asparagus from the middle of November to the end of February the best system to adopt, in my opinion, is to grow the plants specially for forcing, and to take the roots up and force them in heated pits, Mushroom houses, or other structures available where light and heat are at command.

To produce a supply from the end of February until the beginning or middle of April, when they come in naturally out of doors, the best plan to adopt (where the materials and appliances are available) is no doubt to force gently the permanent beds. There are many ways of doing this, the commonest and easiest way being to make a rough wooden frame with boards wide enough to cover the beds, laying pieces of wood across to support a layer of mats. Fill the alleys each side the beds to the depth of 18 inches or 2 feet with fermenting material composed of littery straw and leaves well pressed together. Cover also the mats with the same material to the depth of 6 inches. The heat generated by this quantity of manure will not be great, but it will be sufficient to stimulate the plants into growth (very little is needed to do this so early in the year), and to produce shoots fit to cut in the course of a fortnight or three weeks after it has been applied. More litter will have to be added from time to time, mixed with the original to keep up the necessary heat.

A better way of forcing the permanent beds where it can be managed is to make use of those useful small portable span-roofed pits, with portable boilers and pipes also. These are now to be purchased at a reasonable price, and are excellent for this purpose, as they undoubtedly are also for the growth of many early vegetable and salad crops. Both the houses and boilers are easily fixed and readily moved from one bed to another, and the heating is under perfect control. Should it be desired to blanch the "grass," this is effected by covering the glass, and if green "grass" is preferred the covering must be discarded.

As regards the system of taking up the roots for forcing under glass, the method of cultivation should be somewhat modified to meet the exigencies of this method of forcing. There are differences of opinion among growers as to the best roots to use for forcing. As regards age many prefer roots from six to eight years old. My experience does not confirm this belief. On the contrary, I think that three or four year old roots, when well grown, are the best, and will give the greatest return of useful Asparagus. In the case of old roots the crown buds (if they may be so called) in the centre invariably decay, leaving only the marginal ones to produce "grass," and these are never

so good as are the crown ones. Moreover, in the forcing pit two three-year-old roots can be accommodated where only one of the older ones could find room, a point of some importance where forcing accommodation is limited. When the system of growing roots to be lifted at the age of three or four years for forcing under glass is adopted, it may be naturally thought that the cultivator will hesitate to go to the same expense and labour in preparing the land for this fugitive crop as for those of a permanent character. In practice I have found that the returns obtained justify the most liberal treatment in the way of cultivation, to say nothing of the splendid condition the soil is in afterwards for the growth of such vegetables as Potatoes, Cauliflowers, Onions, Brussels Sprouts, &c. Indeed, it is not too much to say that the system of trenching and manuring the land to produce these three-year-old roots is one of the best possible ways of bringing poor land into a condition of the highest fertility.

The best structures for forcing the Asparagus in I have found to be lean-to pits or frames, having beds 3 feet deep, and heated with a flow and return 4-inch pipe. The pit is filled with fermenting material such as littery straw and leaves to within a foot of the glass and well pressed down. On this material 4 inches of ordinary garden soil should be placed upon which to rest the roots. These should be packed as closely as possible without overlapping. When packed in this way with strong young roots one light will furnish a surprisingly large supply of "grass." Cover them over with 3 inches of soil. If strong, sturdy heads are desired a high temperature must be avoided; a minimum of 48° and a maximum of 60° Fahr. during winter should be the rule. Water must occasionally be applied and always at about the same temperature as the atmosphere of the pit—say about 60°. There is not much to be said as regards the merit of one variety of Asparagus over another, size and quality being more the result of superior cultivation. The Giant, Conover's Colossal, and the Argenteuil are excellent.

O. THOMAS.

A NEW CUCUMBER.

CUCUMBER SATISFACTION, a houseful of which is shown in the accompanying illustration, was raised by Mr. Mortimer of Farnham, who exhibited it at the Temple show in 1902 under the name of British King. It is now in possession of Messrs. Sutton and Sons, who have renamed it Satisfaction. A descriptive note about it was given in *THE GARDEN* of the 14th ult., page 115.

SELECT VEGETABLES FOR PRESENT SOWING.

The next few weeks will be busy ones in the kitchen garden, and the sowing of the various kinds of seed will occupy a large share of attention. It is impossible to lay down any hard and fast rule as to the precise date at which many of the smaller seeds can be sown in the open, much depending upon the weather, the nature of the soil, and the locality. But it is well to bear in mind that there is nothing to be gained by being in too great a hurry at this season, and it is the best practise to wait for a favourable opportunity,



HOUSE OF CUCUMBER SATISFACTION. (Raised by Mr. Mortimer of Farnham.)

but this should not be missed when it comes. The soil should always be in a good workable condition, and if it has been properly prepared, as it should have been beforehand, by either trenching or deep digging and applying suitable dressings to the surface, a few fine days at this time of the year will render even the most stubborn ground a genial seed-bed. It will be well to bear in mind that last season was a very unfavourable one for ripening the seed crops of many things; indeed, one of the worst for some time past, especially for such as Onions, Carrots, Beetroot, and the like, consequently extra pains should be taken to ensure them having a good start, or many failures are certain to occur. The germination, as I have proved in many cases already, is very weak, and unless these receive special care a large percentage will never properly develop and come to perfection. Though I am by no means an advocate for thick sowing, for not only is it a waste of seed to do so, but it necessitates much extra work in thinning, and overcrowding even in a very young state is detrimental to the crop.

Fortunately, many vegetables can be raised in frames placed on very mild hot-beds, suitable boxes, or seed pans, and if properly hardened can be planted out not only with safety, but with advantage, when more favourable weather can be looked for, and in cold districts and on heavy land will prove to be a great gain.

PARSNIPS enjoy a long season of growth, and should be one of the first things to claim attention in the open. The land should have been thoroughly trenched, but not manured, some time previous to sowing, especially on heavy soil. I always prefer to make the bed for these on that which has been occupied with Celery. Fork over and rake down finely. Draw drills about 1½ inches deep, allowing a distance of 18 inches between the rows. When extra fine specimens are required deep holes should be bored and finely sifted soil used for filling them up before sowing the seed. Tender and True, the Student, and a good type of Hollow Crown are all excellent.

CARROTS.—Further sowings of Early Nantes and Intermediate should be made on mild hot-beds or cold pits. Allow a good depth of finely prepared soil. These will prove to be invaluable, not only when required for exhibition for early shows, but also for home use, long before those sown in the open.

PEAS should be sown largely in boxes for planting out. For many years I have raised all our first

and second earlies in this way, and if properly hardened and carefully planted I am convinced this is far preferable to sowing in the open, and in the end occasions less labour, as one has them under much better control during their early stages of growth and the yield is better. There is now such a fine selection of wrinkled suitable for early work, and which are vastly superior to the old white seeded forms in every way, that these are really hardly worth cultivating. Gradus, Early Morn, and Early Giant are among the best, and for a dwarf kind Daisy is unsurpassed. I have grown this variety since it was first offered, and have always considered it one of the finest Peas introduced. For second supplies Alderman, Duke of Albany, and Edwin Beckett are all good.

BROAD BEANS should be raised in boxes under glass in cool houses or pits. Leviathan cannot be beaten for general purposes. These come into bearing much quicker when transplanted than if sown in the autumn.

TURNIPS.—Sow in cold frames on last season's hot-beds. Carter's Forcing, a grand early Turnip, should be grown by all. It is a long-rooted variety of the finest quality, and remains a long time fit for use.

DWARF OR FRENCH BEANS.—Make good sowings of Ne Plus Ultra and Canadian Wonder either in 8-inch pots or in rows in heated pits and grown on in a brisk heat.

BEETROOT.—Make a small sowing of Globe Beet in cold frames, which will be much appreciated for salads.

CAULIFLOWERS.—Sow thinly in boxes in a gentle heat Autumn Giant and Magnum Bonum, and prick out immediately when ready.

BRUSSELS SPROUTS.—Sow in boxes or on very mild hot-beds about the end of the month Cambridge Champion and Sutton's Dwarf Gem, and prick out when in the seed leaf.

CAPSICUMS AND CHILLIES.—Sow in 6-inch pots in heat.

CELERY.—Sow about the middle of the month White Gem and Early Rose. The main sowing ought to be made about the first week in March. Standard Bearer and Giant White are both excellent and reliable varieties.

CELERIC should also be sown at the latter dates mentioned.

CUCUMBERS may now be sown for growing in heated pits and hot-beds. Telegraph and the

three varieties Ideal, Victory, and Achievement are all good and reliable.

VEGETABLE MARROWS.—Sow a few seeds in heat of Moore's Cream and the new variety (Sutton's Perfection) for growing on hot-beds under frames.

PARSLEY should be started in boxes and planted out, the best way to grow good Parsley. Veitch's Extra Curled is an excellent strain.

LEEKS.—Sow in boxes in gentle heat The Lyon, Model, and Champion. Prick out when large enough. These will make good specimens by late autumn.

LETTUCE.—Sow Mammoth Cos and All the Year Round Cabbage variety in gentle heat, and prick out in boxes as soon as they can be handled.

ONIONS.—Make the main sowing of these in the open whenever the ground is in a good condition. The end of February or beginning of March is the best time, but miss no chance if the soil is suitable. Sow 1 foot apart, dress well with soot, and rake down to a fine tilth. Veitch's Main Crop, and James Long Keeping are good reliable sorts. Sow in rows 1 foot apart.

POTATOES.—Plant fairly deep on a warm border, where protection can be given, Sharpe's Victor, May Queen, Harbinger, and Improved Ashleaf. Cover the sets with old Mushroom bed manure.

RADISHES.—Wood's Early Frame should be sown thinly broadcast on mild hot-beds.

SPINACH may be sown on a warm border in drills 1 foot apart of a good round leaved variety.

TOMATOES should be sown for the principal supplies under glass. Perfection and Polegate are among the best red kinds, and Golden Jubilee is a grand yellow. I have mentioned all those varieties which I have proved to be excellent, but there are many more belonging to the various classes which are undoubtedly of much merit, and many of which are equal to those named.

E. BECKETT.

Aldenham House Gardens, Elstree, Herts.

MISCELLANEOUS.

SOME REMARKABLE VINES.

IN Britain there are many splendid examples of the vigorous old age to which the Vine can attain, even under artificial cultivation. I will mention the most remarkable ones so far as my acquaintance with them goes, but there are doubtless others of which I do not know, and much interesting information on the subject of the longevity of the Vine might be imparted if correspondents would send particulars of other unusually fine Vines of which they happen to know. The Vine that has a world-wide reputation, although it is not the largest in this country, is the one in the gardens of Hampton Court Palace. In fact, it is almost one of the sights of London and suburbs, and is of as much interest in its way as is Hampton Court Palace itself.

This Vine was planted during the reign of King George III., in the year 1768, and is therefore now 135 years old. During this long period it is supposed never to have failed to crop, despite the fact that one does not know where the bulk of its roots are to be found, and that it has not been possible adequately to assist them with manurial applications. The girth of the stem is $3\frac{1}{2}$ feet, and the Vine's branches cover a root area of 2,200 square feet. At the height of $3\frac{1}{2}$ feet from the ground the stem is divided into three huge limbs, the largest of which is 90 feet long, the others are 80 feet and 82 feet respectively. Strange though it may seem, the roots also are divided into three at the base of the stem, in the same manner as the branches. In its early days the Vine is said to have matured 2,000 bunches of Grapes annually, each bunch averaging 1lb. in weight. Now it is allowed to carry only about 1,200 bunches, these in the aggregate weigh some 600lb. As is to be expected from the great age of the Vine and the difficulties of root cultivation, the bunches are small, and so also are the berries, but the old Vine makes amends for this by the

delicious flavour of its Grapes. The variety is a very good Black Hamburg. The Hampton Court Vine is open to the inspection of visitors every day in the year, and as many as 9,000 persons have passed through the viney in one day.

Another Royal Vine is the one in the gardens at Cumberland Lodge, and in some respects it is even more remarkable than the one at Hampton Court. It is not quite so old, though its age is known to be at least 120 years. Evidence of this is found in the statement of the attendant lately having charge of the Vine, whose father and grandfather were in the neighbourhood before him. It is more remarkable than the Hampton Court Vine so far as its size and crop are concerned; the branches cover a roof surface of 3,450 square feet, and annually bear over 2,000 bunches, nearly twice as many as are produced by the old Vine at Hampton Court. The Cumberland Lodge Vine is in the gardens adjoining the residence of H.R.H. Prince Christian in Windsor Great Park, about midway between Windsor and Virginia Water. In the gardens at Silwood Park, near Ascot, is another Vine of remarkable age and proportions.

Scotland boasts of one, if not more, Vines of great age. It is said to rival the Cumberland Lodge Vine in size and bearing, and is in the garden of Taymouth Castle, Perthshire, the residence of the Marquis of Breadalbane. Another celebrated Vine deserving of mention is that at Manresa House, Roehampton. This, however, is comparatively modern, having been planted within the memory of Mr. Davis, who lately died, and who had charge of the Vine for many years. It has filled several houses, and, had there been more room for its development, it is reasonable to suppose that it would now be larger still. It produces excellent crops of good quality Grapes every year; the variety is Black Hamburg.

Such instances of Vines that have borne and still bear excellent crops of Grapes throughout several generations naturally lead one to wonder whether much better results would not always be obtained by allowing Vines to grow much more freely than is usually the case. For example, instead of filling a viney with half a dozen Vines, why not let one Vine develop instead? It would be an easy matter to make use of pot Vines or to plant temporary ones so that valuable space should not be wasted; as the branches of the permanent Vine made progress, so in proportion could the others be removed or cut away. There is no doubt that Vines live much longer when allowed to grow freely than if restricted to one stem and subjected

annually to a severe pruning. This seems such an unnatural method of culture that it is difficult to understand why or how it has attained such popularity and is so generally practised. Perhaps some of your Grape-growing correspondents can say if they believe that Vines restricted to one stem, and therefore necessarily hard pruned, give better results than one Vine allowed to fill the viney, if any have tried this latter method. A. P. H.

NURSERY GARDENS.

BEGONIAS AT TWERTON, BATH.

DURING the past year the firm of Messrs. Blackmore and Langdon, Twerton Hill Nursery, Bath, have made a name as cultivators and exhibitors of Begonias. Commencing early in the season, they continued all through, exhibiting at the leading flower shows about the country, and always staging flowers representing the highest levels of quality yet reached by raisers of this interesting class of plants.

The Twerton Hill nurseries occupy a breezy height at Twerton, a rapidly growing village on the western boundary of Bath. The grounds comprise about six acres. There is a slight slope to the north, but a considerable one to the south. On the rising ground are show and propagating houses, the two leading specialities of the firm being Begonias and Carnations; but Roses, hardy plants, greenhouse soft-wooded plants, and other subjects are grown for sale. The soil is a fertile loam resting on clay. Begonias and Carnations alike do well in it. The same remark may be made of both the leading specialities that this young firm (for the business is of recent origin) cultivate. Some of the seedling border Carnations they exhibited during 1902 were of a highly promising character. Special mention may be made of Millie, a beautiful white ground fancy, the petals pencilled with rose and purple, which gained the highest honours at the annual exhibition of the National Carnation Society in London in July last.

Finding myself at Bath I went on to Twerton to see the Begonias. It had rained heavily all the preceding day and during the morning, and yet I could not help being struck with the brightness



SINGLE BEGONIAS IN THE NURSERY OF MESSRS. BLACKMORE AND LANGDON, TWERTON HILL, BATH.

and effectiveness of the Begonias in the open air under such depressing conditions. On the high ground near Mr. J. B. Blackmore's residence were some long borders planted with certain varieties which had been selected specially for bedding purposes, varieties of a compact free growth, very free of bloom, and remarkably persistent. Considering the weather the brilliance of these beds surprised me. The head of bloom was dense and unharmed or disfigured by the rain. The varieties were in panels, a goodly number of each, and an admirable opportunity was then afforded for making suitable selections; the colours varied from white to the darkest crimson. Some of the most effective, characterised alike by brilliance, effectiveness, and freedom, were Gladstone, rich crimson, very fine in colour, dwarf, narrow leaved, an excellent bedder; Marquis of Stafford, of a deeper shade of crimson, very fine, the flowers not so large as those of Gladstone; Argus, bright scarlet, very dwarf, and highly floriferous, a glorious bedder; Hollyhock, soft rosy pink, a beautiful double variety, of perfect form, of the build of a medium-sized Hollyhock, and of a delightful tint; Calliope, another very fine pink variety, but of a deeper tint of pink, the flowers fully double; R. B. Parsons (Cannell), of a pleasing pink shade, suffused with rose in the centre, dwarf, a most effective bedder; Mrs. French, creamy white, small, very double, like a perfect miniature Hollyhock, dwarf, very free; Hilda, bright carmine-rose, remarkably free, the flowers large, excellent shape, and standing up well to view; and Miss M. Griffith, white, with a tint of blush, bleaching to white in the open, fine form, dwarf, and very free. The foregoing list does not exhaust all the varieties bedded out, but all were most effective, and they had dwarf, compact habits, with a reserve of bloom that appeared to be as fine and plentiful in late summer as it was two months previously. These plants were put out the second week in June, in a compost of good loam and rotten manure. The ordinary bedding plants looked washed out in contrast with these Begonias. The Begonia is perhaps the best wet weather bedding plant in cultivation.

Passing down to the southern slope a remarkable sight met the eye; really a sea of brilliant colours afforded by named and selected seedling varieties planted out for stock and seed. Flanking these was a huge mass of seedlings, in which could be seen many individuals marked for naming or for the best selections. The former division were planted out in shades of colour, crimson, scarlet, rose, pink, apricot, blush, white, yellow, &c. The presence of yellow and apricot shades was very remarkable. The accompanying illustration gives some idea of one of these slopes of Begonias, but to appreciate their effectiveness they require to be seen. The splashing rain had not dimmed their beauty; the multitudes of blooms were heaped up in happiest profusion; the high quality seen on every hand was most noticeable.

In the large show houses were many fine examples in pots, all characterised by splendid quality; they represented the cream of the collection, and nearly all double flowered. For exhibition purposes they seemed to be unbeatable. I made a note of the following as remarkably fine: Marchioness of Bath, pure white; Mrs. Arthur Hall, very rich orange-scarlet; Vulcan, bright crimson; J. Chamberlain, rich crimson, with very fine quality of petal; Winnie Cook, delicate salmon, flushed with rich sunset hues; Mrs. Heathcote, clear yellow; Pollie, soft rose flowers of very fine shape; Sir Thomas Lipton, very rich deep shaded orange, extra fine; Catullus, rich dark red, large shell-like petals; Mrs. Joseph Chamberlain, delicate blush, extra fine; The General, brilliant scarlet; Mabel Keevil, white, large shell-like petals; and Brightness, a remarkably novel double variety, shaded orange, with white spots, very striking and distinct.

Several of the named varieties in the open ground arrested attention, such as Mme. Gaubier, bright salmon-rose, double, very fine, and Mrs. S. Pope, pale ground, with a distinct Picotee edge of rose, very large, and fine shape.

In the hardy border *Hemerocallis aurantiaca*

major was very fine, and in the open ground was a large batch of Tomato Blackmore's Success, a medium-sized round, red variety, of perfect shape, which was selected seven years ago, and which appeared to be doing remarkably well in a season not favourable to outdoor Tomato culture. Really a very interesting nursery to visit at Carnation time (for a large collection is grown) and when the Begonias are at their best. R. DEAN.

SALE OF POISONS.

The report, published by the committee appointed to consider the sale of poisons, with reference to the Pharmacy Act contains information of much importance to horticulturists, and particularly the following:—

"Under the law as it stands, certain poisons and poisonous compounds (other than liquid carbolic acid for sheepwash or other agricultural or horticultural purpose) cannot be legally retailed except by a registered chemist and druggist, and the Pharmaceutical Society is charged, under the 15th Section of the Act, with the duty of proceeding against unauthorised vendors.

"The administration of this section has been characterised by considerable uncertainty and irregularity, arising, your committee believes, out of the inadequate means at the disposal of the society, which has no staff of inspectors nor other regular machinery for detecting the sale of poisons by unregistered persons.

"It follows from this that the effect of the 749 prosecutions undertaken during the six years 1896-1901 by the Pharmaceutical Society, and of the numerous cases in which penalties were exacted without prosecution, has been very unequally felt; for while the law has been enforced in some districts, it has been wholly inoperative in others.

"Your committee are of opinion that the obligation laid upon the Pharmaceutical Society by the 15th Section of the Act is unduly onerous, seeing that even the limited extent to which they have taken action under it has involved them in a net loss of £700 a year beyond the sums received as penalties, which are due to be dealt with as the Treasury may direct, but which the society has been allowed to retain.

"Inconvenience has been experienced by farmers and gardeners owing to the restriction of the sale of poisonous material to registered chemists and druggists in such districts where there is no such qualified tradesman within easy reach. Your committee are convinced that the inconvenience would have amounted to a very serious interference with legitimate industry had the provisions of the 15th Section been universally put in effect. For example, in the Highlands and islands of Scotland, where sheep farming is the principal business of agriculture, farmers are sometimes upwards of fifty miles distant from the nearest registered chemist and druggist, and the sale of sheep-dips is regularly carried on by ironmongers and other traders, in contravention of the statute.

"A nurseryman and florist in Kent gave evidence as to the extreme inconvenience caused to cultivators when, owing to the successful prosecution of a firm of seedsmen, the sale of weed-killers and insecticides was discontinued by nurserymen. He alleged that in horticulture there are numerous small cultivators and amateurs who would use these materials if they could get them, to the advantage of their greenhouses and gardens; but that chemists and druggists do not know what to recommend, whereas the nurserymen have

knowledge of the proper remedies, and ought to be in a position to supply them.

"Your committee consider that it would be going beyond their reference to suggest changes in the administration of the 15th Section of the Pharmacy Act; they are of opinion, however, that preparations for use in connexion with agriculture, horticulture, or sanitation, might be placed in a third part of the Schedule, to be sold only by licensed persons, and subject to regulations to be made by the Privy Council.

"Your committee further recommend that the traffic in arsenic should be regulated either by an amendment of the Arsenic Act, 1851, or by more stringent enforcement of the provisions of the 17th Section of the Pharmacy Act, 1868."

NOTES FROM SCOTLAND.

THE TRANSACTIONS OF THE SCOTTISH HORTICULTURAL ASSOCIATION are to hand, from which it appears that the year 1902 was the most successful the society has had to record. Abstracts of good papers are provided for the great body of members who are precluded on account of distance from being present at the meetings of the association. We wish the papers were not curtailed, more especially that on "Pear Culture in Pots," by Mr. Moir, Rosehaugh Gardens, Ross-shire. In that extreme northern locality this able gardener produces high class Pears by means of pot culture. This paper is given, if not *in extenso*, at least fairly complete. The following varieties are recommended very highly, viz., Mme. Treyve, Conference, Emile d'Heyst, Princess, Beurré Baltet Père, Glou Morceau, Olivier des Serres, Nouvelle Fulvie, and Pitmaston Duchess, the largest fruits of which are the best flavoured. Some of the above sorts on walls in very favoured positions in Scotland do not succeed, hence the value of a paper like that referred to. It may be added that the lecturer seems to like trees not double grafted. The compost he recommends is worth noting: Gritty loam of red sandstone, ten barrowloads; sharp river sand, lime rubble, charred soil, and wood ashes, two barrowloads each; two bushels charcoal nuts, half a hundredweight of bone-meal, and half a hundredweight of basic slag. Mr. J. Brown, Houston House, Renfrew, one of the best cultivators of vegetables, contributes an excellent paper on "Vegetables for Exhibition"; Dr. Wilson, F.R.S.E., St. Andrew, one on "Experiments on Hybridising," and of the others may be mentioned a discursive paper on the chief northern horticultural societies, tracing their growth, &c.

THE CHRYSANTHEMUM SHOW of the association is fixed for November 19, 20, and 21, thus effecting a change in not having the closing day on a Saturday. A novel item in the prize schedule is a series of prizes, in all amounting to £36 10s., called the Queen Alexandra Prize, and confined to growers within the municipal boundaries of Edinburgh and Leith. In the

ROYAL CALEDONIAN SCHEDULE there is nothing novel, but Mr. and Mrs. Martin White again offer prizes for the best essays on cut flowers, viz., £5, £3, and £2. These sums may at the option of the society be increased, and the donors are prepared to devote £50 towards producing a reliable guide on the subject of flower uses. Last year these essays proved a distinct failure, the essayists as a whole failing to grasp the subject in its chief phases. Mr. P. Murray Thomson, S.S.C., 5, York Place, will be pleased to provide all applicants for information with full details.

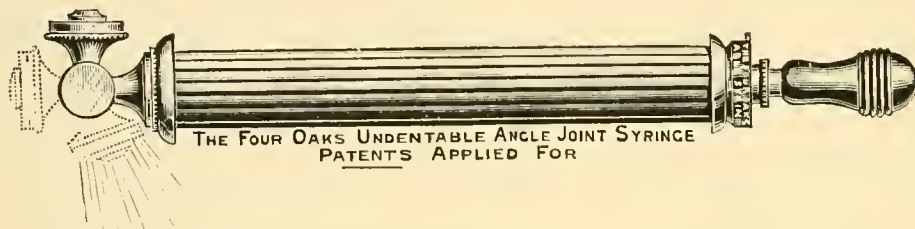
THE WEATHER.—SPRING FLOWERS.—If it were not for the high winds and the heavy rainfall flower lovers would have had nothing to complain of as regards the earliness of spring flowers. Besides the usual flowers that we expect in February, I have noted *Iris Krelagei* and *I. reticulata* already in flower. A remarkable feature of the winter is the number of Roses that still carry last year's foliage, and new growth has commenced in the case of the more excitable. Perhaps

more wonderful still is the fact that Rose buds are expanding in one or two instances. The most glorious flowers at present are undoubtedly the Hellebores. They are perfect in colouring and stand upon strong bold foot-stalks that fortunately have never been damaged by frost. During the only severe frost of the winter, though the buds were pushing they were protected by a thick coating of leaves as well as by their own foliage. The prospects of a good Daffodil year are encouraging, the growth being strong, though perhaps pushing forward too hastily. Some of the earlier have, indeed, buds well advanced. Home-grown forced bulbs are, however, not so strong as usual, but notwithstanding the untoward season of 1902 let us hope the Daffodils will have overcome any bad effects previous to flowering.

THE MARKET GARDEN.

WATERCRESS: ITS HISTORY AND CULTIVATION.

A "MAN in Berkshire" and "T. W." ask for a paper upon Watercress growing for market. As the subject will be probably generally interesting, we have decided to reproduce extracts from an excellent paper contributed a few years ago by Mr. Glenny to the Journal of the Royal Agricultural Society of England.



Watercress adds no decided flavour to a mixed salad, but is rather detrimental. In France it is sometimes served up as a dish instead of Spinach, it makes admirable soup, it is used as a decoration to roast fowl, and often instead of Parsley for garnishing. In this country it occupies a unique position, and stands nearly alone in public favour. It is on the table of rich and poor alike, and is appreciated as a relish as well as for its medicinal virtues. No condiment is needed with it but salt, and it loses its individuality when partaken of with any other herb. Watercress grows freely in wet, and especially in shallow, places. It is generally assumed to owe its pungent taste and medicinal value to the presence of an essential oil, containing, like that of Mustard, a considerable quantity of sulphur. But the chief constituent of the essential oil of Watercress, though rich in nitrogen, contains no sulphur. There is, however, much sulphur in one form or another in this plant.

The multitude appreciate highly Watercress, and eat it freely as a simple relish with bread and butter. It may be truly described as the most popular and most wholesome of salad plants. Growing wild in brooks and streams in the neighbourhood of London, it was carried in a basket on the back of the itinerant vendor, and we read of "the barefooted nymph, who at sunrise had dipped her feet into the bubbling runnel, and used to carry this luxury to the breakfast table of our citizens." The

AREA OF CULTIVATION

is spread over Europe, Asia, and America, in the temperate zone of those continents. Watercress has been reported as grown in Hindostan, under sheds. Wherever John Chinaman has settled as a gardener, in Australia or California, there is an abundance of vegetables and salads. On the continent of Europe, Watercress was cultivated to a trivial extent in France at the commencement

of the fourteenth century, in the departments of Oise, Nord, and Pas-de-Calais; but in Paris and the neighbourhood there is no record of its cultivation until the last century. It had been grown previously with marked success in the environs of Erfurt and Dresden, on a large scale, and by intelligent methods.

In England, the regular cultivation commenced rather earlier than in France, for whilst the Frenchman was thinking of his enterprise, an Englishman was already in the field. It was in 1808 that William Bradbery first started Watercress as a crop. Springhead, about a mile and a half from Northfleet, in Kent, close to the out-of-the-way village of Swanscombe, was the birthplace of this adventure, and Cress has been grown there, without intermission, until the present moment. Thus England, Germany, and France have cultivated this plant as a crop for well-nigh a century; and since its introduction as a vegetable it has received a very general and popular support. The primary step in establishing Cress beds is to choose a suitable locality. This must be in the neighbourhood of a populous town, or within a reasonable distance of railway accommodation. Cress needs as much caution in transport to market as Strawberries; consequently the choice of situation is a serious matter, and the disposal of the crop must play an important part in the deliberations. If the journey is prolonged, if delay occurs, the Watercress will suffer on the way, and on its arrival at market will be faded or yellow. Stale

goods are of no value, and unless the Cress has a brilliant dark colour when unpacked it might as well be left at home. Railway companies offer special facilities from certain stations during the Cress season, which afford opportunities for quick delivery. When the formation of Cress beds is under consideration it will be prudent to learn, before commencing operations, what is the train service and what is the rate per ton to an eligible market. The

CHOICE OF SOIL

is an important feature in the success of any crop, and Watercress is no exception to the general rule. Land with a sandy subsoil should be avoided, as much water will disappear by downward filtration, and difficulty will arise with the gangways and the sides of the Cress beds, which will slip in. Wharfing along the sides with short posts and rough boards is used to some extent, but when constructed by the tenant is a serious outlay of capital. Clay land is sticky and awkward to work, and peat requires much judgment in its manipulation, whilst both are apt to give grave inconvenience in wet seasons. Chalk in some places makes a capital foundation for the bed, covered with loam for the rootlets to strike into. Gravelly loam, with a clay basis, retains the water, makes a firm bottom, and furnishes nutriment for the plant. But all will be of no avail without an ample supply of suitable water. The source of the water may arise in natural springs. The prosperity of the Cress bed depends mainly on the continuity, force, and regularity of the current. An abundant and perpetual stream is an absolute necessity, as the health of the plant depends on this condition. Without it the Cress cannot be well nourished, the leaves will be stunted, and there will not be a bountiful growth throughout the season. The water affords protection from the heat of the summer and the cold of the winter, both of which extremes must be guarded against; the

former burns the foliage and makes it sticky (hard); the latter freezes the stems and irretrievably damages the crop. A strong stream, maintaining a fair volume of water during heat and cold, is invaluable. The temperature of the water follows the temperature of the earth whence it originates, and should not fall below 51° Fahrenheit. It does not answer to carry the Cress beds too far from the source, as the water naturally cools down as it travels away from the orifice. This factor limits the length of the Cress beds, for when the temperature of the air is lower than that of the water the latter soon loses heat. Exposed to the cold atmosphere it falls below the required temperature, and the Cress suffers in consequence. Were it not for this hindrance, Cress beds would only be limited by the strength of the stream. The depth of the beds must depend on the level of the stream; some are not above a foot deep, whilst others have been constructed at great expense, and are perhaps 3 feet or 4 feet below the level of the surrounding ground. There must needs be a slight inclination downwards from the spring, so that the water may flow gently through the Cress. The fall of the bed should be extremely gradual, for if the declivity be sharp the celerity of the current increases and washes away the soil, disturbing the plants. A gentle movement of the runlet from end to end of the Cress bed is what is required. The beds are made of no particular size, but mostly follow the configuration of the land; they may be 6 feet or 30 feet in breadth, but in the latter case longitudinal gangways will be required at suitable widths to carry off the crop when picked. These gangways are generally only banks of earth, but in some cases they are cemented on the surface, which makes the labour of gathering easier in a rainy season. Little bridges of rinde planks are constructed across the beds, whilst dams are erected in suitable places to hold back the water at ordinary times, and to give opportunity to flatten down and submerge the plants in severe weather. Different practices prevail in this respect, as the severity of the cold is most felt in exposed situations. In certain months of the year, when the demand for Cress is slack, the beds are cleaned out, and brook water may be utilised for irrigation, but facilities must be at hand to divert all subsidiary supplies at the approach of cold weather. Careful precautions should also be taken to keep out storm water, and special channels must be provided where Cress beds from their level and situation are liable to flood. It may be advisable to construct a tunnel or culvert of a considerable length when there is backwater that may inundate the Cress bed. The best authorities recommend annual cleansing and replanting.

(To be continued.)

TRADE NOTE.

THE FOUR OAKS UNDEXTABLE SYRINGES.

THESE syringes have already received the approval of many eminent practical gardeners. They are guaranteed against

indentation of the working barrel for three years. The illustration herewith given of a section will show how impossible almost it is for the barrel to become indented, on account of its corrugated protective covering.

It is a well-known fact that even the best syringe is irretrievably ruined by the slightest indentation of the barrel, and this is effectually prevented by the Four Oaks

Undeatable Syringe. Gardeners will give this syringe a hearty welcome; in fact, many have already done so, judging from the numerous testimonials received by the Four Oaks

Nursery and Garden Sundries Company, Sutton Coldfield, near Birmingham, and published in the Four Oaks Manual.

Full particulars of all other garden sundries are also given in the Manual.



THE GARDEN

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[MARCH 14, 1903

THE CAPE FOR PROFITABLE FRUIT GROWING AND FRUIT EXPORT.

THE following is a continuation of the articles that have appeared already in THE GARDEN upon "Fruit Culture at the Cape." Many young men are embarking for the Cape—some, unfortunately, in search of health, others to acquire knowledge as farmers and fruit growers with a view to remaining permanent settlers on the land. At the meeting of the Horticultural Club on Tuesday last, Mr. H. E. V. Pickstone gave an interesting address upon this subject, and it may be remembered that his name was mentioned in THE GARDEN of October 11, 1902, page 248, as the "skilled Californian orchardist" engaged by the Government department to give lectures at the Cape upon the methods of cultivation.

There are some countries which do not seem to have made a successful draw out of the lucky-bag. They have a share of blessings, and apparently excellent conditions for success in the neck-and-neck race after wealth and prosperity, but somehow the advantages fail to work, and are more or less negated by disadvantages which often are very difficult to define, and whose retarding power can no more be eliminated than can the inevitable constant of friction in a machine. It is thus with the Cape. There is no lovelier climate on earth. All the fruits and crops of the warmer temperate zone grow there to perfection. Health seems almost a matter of course. The laws sit easy on the shoulders of the subject. Yet with all these favourable conditions it has never appeared to the European agriculturist a desirable country of refuge when things went badly with his special industry at home. There are a good many reasons for this. Exploited originally by its former masters, the Dutch East India Company, not on its own merits, and not with a view to its individual prosperity, but solely as a tool required in the management of tropical Dutch colonies further east, the country was for a couple of centuries practically closed to the outer world. It exported little or nothing, and therefore had to stand aside while the roaring stream of traffic rushed on to other lands. Besides, even long after its transfer to England, its acquired habit of self-containedness and easy *laissez-aller* was very little interfered with, and the Colonial Office, while not preventing enterprise, did next to nothing to call it forth locally or introduce it from abroad. It was a land for the more adventurous class of tourist, the sportsman, and the missionary.

The notion which the average Englishman a generation ago had of the Cape was truly curious when considered in the light which gold and diamonds have cast upon it of late years. The inhabitants were supposed to be all Boers, dressed in fustian if they were fairly well off, in leather crackers and *batjes* if less well to do, shod with

veltschoons, and armed with a large waggon whip in one hand and a sjambok in the other. They all lived in the Karoo, which was everywhere outside Cape Town. The people who were not Boers were Hottentots, and this servile race spoke kitchen Dutch, wore nothing but a skin kaross, and rubbed themselves all over with sheep-tail fat and buchu. Nobody but the Hottentots did any work, nobody ever bothered to grow anything for sale, pay any taxes, make anything, do anything, be anything, save give orders to the *scheepsels*, sleep through the hot noon, smoke pipes, and drink Coffee. Every man had a *plaats* which grew as much grain as he wanted, as many Grapes as he cared to make into wine of a sort, as many fruit trees as he had sowed pips, and the rest of the place was in a state of nature, unenclosed bare veldt, not even fenced off from his neighbours', and given over to as many native sheep and goats as would keep him in milk and mutton, with perhaps a couple of dozen oxen. Did he desire to go on a journey, say to the Orange River, 600 miles away, he loaded up a sack of meal and some Coffee, a gridiron, a cooking-pot, and a kettle, spanned in his oxen, and started with a *trek-jou* and a crack of the huge whip. He crept along, road or no road, some twenty miles at most, day after day, stopping whenever and wherever he pleased, quite at home everywhere, and victualled by his marksman skill—for was not the veldt alive with springbucks, koodoos, and elands, to say nothing of elephants and zee-koes? There was no such thing as trespass, for the *woonhuizen* were about one to a dozen square miles, and when the country was so vast and the population so small, what was the good of keeping people off your great wilderness of desert veldt? So in three or four months he reached his destination, and when he chose went home again, just the same easy-going way, a bit at a time. But one never worked hard, never had any definite object in life, never tried to take a new line in anything, but simply lived, enjoying the bright sun and genial climate, and letting things manage themselves.

Something of this sort used to be the prevalent and ludicrous conception of the Cape fifty years ago in the average Englishman's mind when recalling what he had read in books of travel and sport. A land of pleasing drowsiness it was, a country where it was always afternoon. Even now, after the changes of the last half century, Johnny Newcomes are sometimes to be found landing with such Munchausen traditions, and very much surprised to find that the upper and nether millstones of necessity are set pretty close together here and grind exceeding small. And this long-prevailing impression of the easy-going life lived at the Cape, and the belief in the utter recklessness and lack of enterprise among its inhabitants, did the country incalculable injury. It never seemed to loom in the far distance as a land of promise or to beckon to the crowds of emigrants passing westward to the new world. Even the great Irish exodus lent few new-comers hither. What opening could there be in a land already parcelled out, and where it was supposed every man had his huge slice and got out of it all he wanted by the labour of native serfs? And under this idea the outgoing English and Irish labourers trooped away to the States, to Canada, to Australia, and to New Zealand, where a free grant of land awaited them, and

where they knew that each would get his slice on the sole condition of tilling it for his own profit. There certainly was a spasmodic effort in 1820 to fill up a part of the country by immigration from certain English manufacturing counties, just at the period when the inevitable struggle between the old-established hand labour and the new-fangled machine production was commencing, with its inevitable concomitants of falling wages and personal distress. True, also, that with the rank and file of weavers and pin-makers (a crowd exceptionally ill-suited for pioneering as agriculturists in a new land) there came out a contingent of better men, with traditions of the English country life in place of that of the factory, and also with some little capital. And, but for the unhappy series of wars on the frontier, brought about by a one-sided false philanthropy here, and the densest ignorance at home, the Cape East might then, that is, fifty years ago, have started to the front as a progressive colony. But things have moved very slowly, and it has been left to the long-hidden mineral treasures beneath the soil to do for South Africa what neither governments nor local enterprise nor happy climatic conditions have been able to achieve. First the discovery of diamonds on the northern frontier, then the totally unexpected gold production in the Transvaal, revived the memory of the great exodus to the sister colony in 1850-51. There is one thing to be borne in mind concerning these unexpected blessings. They have been earned by our exceptional luck, certainly not by our exceptional desert. We neither toiled nor spun for them. They have dropped into our lap, instead of being won by our industry and enterprise.

EUSTACE PILLANS.

Assistant Agricultural Department of Cape Colony.
(To be continued.)

EDITOR'S TABLE.

CLEMATIS INDIVISA LOBATA.

I am sending for your table flowers of *Clematis indivisa lobata*. All who have a greenhouse and love white flowers should grow this plant for training to the roof or rafters. Nothing can be more useful. Through the summer the plants are best grown outdoors, and should be taken into the greenhouse again in October.—T. B. FIELD, *Ashwellthorpe Hall Gardens, Norwich*.

ABNORMAL CALLA ÆTHIOPICA AND C. ELLIOTTIANA.

Mr. Thomas Winkworth sends from the gardens of Haughton Hall, Tarporley (the residence of Mr. Ralph Brocklebank), curious forms of these beautiful Callas. Those of *Calla æthiopica* were double-spathed, and one approaching to the green colouring of the natural leaf. We have seen similar departures from the normal before, but not of such a pronounced character.

FLOWERS FROM EXETER.

Messrs. R. Veitch and Son, the Royal Nursery, Exeter, send many interesting flowers. They comprise flowers of *Rhododendron nobleanum* and the beautiful variety album (white with reddish spots), *Erica lusitanica* (Codonodes), varieties of *Anemone St. Brigid*, the charming little *Fritillaria armena*, and *Laurustinus lucidum*, all from the open ground.

NOTES OF THE WEEK.

FORTHCOMING EVENTS.

March 24. — Royal Horticultural Society's Meeting (Tulip and Hyacinth Show).

March 25. — Liverpool Horticultural Association Spring Show.

April 1. — Royal Botanic Society's Spring Show.

April 4. — Meeting of the Société Française d'Horticulture de Londres.

Forced Asparagus at Syon.—The recent exhibit from the Duke of Northumberland's gardens at Syon House, staged at a recent meeting of the Royal Horticultural Society, illustrates what can be done by annual forcing of permanent beds, and to this method of forcing we would call attention, as grown thus results are obtained at a small cost both in labour and expense. The method of forcing adopted has been given in these pages and is very simple. The same beds are forced every year with excellent results, but only leaves are used, at least for the most part to create a slow heat. Manures are merely used as a top covering. Beds forced in this way last many years; indeed, given good culture they improve yearly. This is a great gain over the ordinary methods of forcing, where the plants are lifted and placed in heat, and are useless afterwards. Another important point is that the grass so forced is very succulent and most of it is edible. The grower does not require glass, but merely protection from cold winds when the growth is active. We note that Mr. Wythes has made this mode of growing early Asparagus a special one for many years, and in some gardens it would be a ready means of getting rid of surplus leaves in the late autumn. The old forcing material is valuable for many purposes, especially so on heavy soils for potting and plunging tender plants in the open.

Water-colour drawings at the Dowdeswell Galleries.—An exhibition of extreme interest to garden enthusiasts is now open at the Dowdeswell Galleries, New Bond Street, "Old World Gardens in England and Italy" being the descriptive title of the show of water-colour studies here exhibited, and to which Mr. E. Arthur Rowe adheres closely, being a collection of, for the most part delightfully quaint old formal gardens, many of them of well known beauty. The colour throughout the series is pure and brilliant. There is a regrettable lack of breadth of treatment, but here, again, in the wealth of detail a direct appeal is made to the flower lover, who recognises with pleasure old-fashioned favourites such as Delphiniums and Peonies. Passing from generalities to a few singled out as being specially noteworthy, we come to "A Grey Day, Castle Ashby" (No. 9), a restrained, sober, little drawing of great delicacy, which is altogether happily carried out. In direct contrast is "The Pergola Walk, Great Tangley Manor" (No. 31), here we have brilliant sunshine lighting up a vista of colour. The artist has evidently felt the enchantment of the grounds at Holme Lacy. Many of his most successful studies have been among the Yew walks there, noticeably No. 17, 18, 35, and 38. Another picture of distinct interest is "Dean Hole's Garden, the Long Border" (No. 54), the bright flower border being very happily rendered; Mr. Rowe has another study treating the same subject, but covering a rather wider range; of the two the smaller seems the more successful. The Italian gardens have not been touched on at all, but "Roses on the Guidecca, Venice" (No. 87), should not be overlooked.

Corylopsis pauciflora at Kew.—In the Himalayan house at Kew a plant of this pretty Japanese shrub is flowering well, the protection afforded by a perfectly cold house being just what it requires about London. Grown outdoors it certainly keeps alive, but does not flower so freely or grow so well as under glass, while the flowers seldom escape being frozen when outside. In the *Garden and Forest* for 1892 a very fine specimen is figured, the dimensions being 6 feet in height and 36 feet in circumference. This particular plant was brought from Japan by Dr. George

Hale in 1874, and was planted by him in his garden in Rhode Island. So far no plant has been recorded in this country with anything like those dimensions. The habit of the shrub is all that can be desired, the branches being borne rather loosely, and are semi-pendulous. The leaves are light green and dainty, and take on a pretty orange or yellow colour previous to falling in autumn. The flowers are borne profusely in short pendulous catkins; they are primrose-yellow in colour with reddish brown anthers. Although, except in favoured localities, it cannot be recommended for the open ground, it is valuable for walls or cold houses.—W. D.

Dwarf French Bean Early Wonder.—The dish of early French Beans staged by Mr. Crook at the recent meeting of the Royal Horticultural Society was meritorious, as the dwarf Bean forced in midwinter is poor and unprofitable, and the plants produce so sparingly that very few can stage a dish of this vegetable at this time of year. Another point often overlooked is that when this vegetable is forced the time taken in maturing the pods should be considered. Mr. Crook gave about seven weeks, if I remember rightly, as the time taken in growing the sample referred to. Now seven weeks at this season is very quick, which proves that the variety can be trusted, and that is a great point in growing this vegetable at the worst season of the year. We grow many dwarf Beans, and endeavour to get them as early as possible, but our worst season is from December to February. There is no great art in growing dwarf Beans, say, from March to June, but there is when the pods are produced from December to March. I know several growers, even in the most favoured localities, who have given up Bean culture at the early season named as being most unprofitable. The pods staged were very tender, a deep green, of medium size, good shape, and superior as far as size goes to some of the older kinds forced at this season.

Sutton's garden Swede in spring. In many gardens great difficulties are experienced in maintaining a good supply of Turnips at this season, as the roots grow out and the flavour is impaired. For some years both in the north and in the south we have relied upon the garden Swede for a spring supply. There are two kinds, the white and the yellow, both being of splendid table quality. Of the two I prefer the yellow, but that is a mere matter of taste, and I am aware some persons would object to the colour. Both kinds I regard as superior to poor Turnips, the Swede being so much sweeter, firmer, and keeping sound until the new Turnips are ready; I mean the first sowing in the open ground. Many would think the Swede a common vegetable. My advice is to try it at this season, and I do not hesitate to say that we have very few, if any, more wholesome vegetables. Though very similar in appearance as regards growth to the field roots, the garden Swede differs in quality. The latter is a dwarf root, having a smaller top. The roots are well shaped, very clean, of good colour, and if sown specially for spring supplies are most useful; they are also very hardy.—G. WYTHES.

Grahame Memorial Fund.—It has been very widely felt amongst rosarians and others that the remarkable services to Rose culture of the late Mr. C. J. Grahame ought to be commemorated by some adequate memorial. Mr. Grahame's services to horticulture in general, and to the National Rose Society in particular, were of no ordinary kind. He was an enthusiastic lover and grower of flowers; he was one of the best and most appreciative of judges, especially of Roses; he was always ready to help any flower show with his accustomed liberality; and his gifts include a beautiful challenge cup for the smaller growers at the National Rose Society. But his special service was the establishment, after much contest, in which at first he was almost single-handed, of the present system of classes at the National Rose Society's exhibitions, according to the number of varieties grown, which in 1892 for the first time gave the smaller growers an adequate chance in the competition. The great value of this reform is now undoubted,

and has been generously acknowledged by those who at first opposed it. If it were for this reason only, there ought to be some memorial of him; but Mr. Grahame's friends were so numerous and so warmly attached to him, that we cannot doubt that an opportunity of the present kind will be very widely welcomed. Subscriptions are earnestly requested as speedily as possible, much time having been already lost. They should be sent to Captain Ramsay, Yvery House, Fareham, Hants. Cheques should be crossed "Capital and Counties Bank." John Ramsay, Yvery House, Fareham, treasurer; G. E. Jeans, Shorwell Vicarage, Isle of Wight, secretary.

The Poison Ivy. — A dangerous plant.—Lord Annesley, in his interesting lecture recorded in the last volume of the Royal Horticultural Society's Journal upon the trees and shrubs at Castlewellan, writes thus of *Rhus Toxicodendron* or Poison Ivy: "A very beautiful climbing plant, somewhat like *Ampelopsis Veitchii*, but smaller and more delicate in the foliage, which turns a reddish yellow in the autumn. Professor Sargent says 'it is one of the common plants in all the central parts of Hondu and Yezo, where it grows to its largest size and climbs into the tops of the tallest trees.' It is so exceedingly dangerous and poisonous that I doubt whether it ought to be allowed in any garden, at least where ladies and children can have access to it. After touching the leaves in a short time the victim becomes aware of irritation in the eyelids, which rapidly increases till it is almost intolerable. They become so swollen that they are almost closed. The rest of the face becomes gradually involved, the eruption and swelling always moving from the forehead downwards. Blisters form upon the surface and weep copiously like those of eczema, the glands of the neck become enlarged, and there is much difficulty in eating or even speaking. Last autumn we had the usual harvest service in the church, and the ladies and children helped to decorate it. Unfortunately, they chose the Poison Ivy to adorn the pulpit, from the beauty of its colouring; one after another they all became ill, some more and some less. The German governess was confined to her bed for more than a week and suffered terribly. One lady consulted a specialist for skin disease, and she was told she had blood poisoning, and went to Harrogate for three weeks. The specialist wrote to me to say that blood poisoning often was caused by bad drains, and strongly advised that they should be tested. I did not quite know what to think about it, when one day three undergrounders were laid up with it, though very slightly. That settled the matter: it was *Rhus Toxicodendron*, and not blood poisoning at all! I heard a story of a lady living in the country who suffered from eczema and blood poisoning every autumn; so bad was it that her husband thought the house unhealthy and decided to leave it and take another, which he did. However, his wife was so fond of a fine plant of *Rhus Toxicodendron* which they had in the garden that she moved it to the new house, and it was not till some time after that she discovered that it was the cause of her illness. It is well to note that this *Rhus* has been sent out by some nurserymen as a variety of *Ampelopsis japonica* under the name of *A. Hoggi*; therefore anyone having a plant under that name should be very careful not to touch it. It is curious that some people are not affected by it, but it is so terribly painful that I do not advise anyone to experiment much with it. I have had the only plant that people could easily get access to in my garden burnt. Mrs. Tweedie in her travels in Mexico mentions that she was confined to her bed for fifteen days from Poison Ivy. She says: 'The parasite in hot climates grows rank, generally in damp shady barrancas, where it spreads prolifically. It is most poisonous when in bloom. Then the pollen flies, and you may be poisoned without touching the plant. The Indians live in constant dread of approaching the creeper. The poison raises large lumps, red and swollen like bites, pus forms, and a kind of blood poisoning attended by pain and danger sets in.'

Prunus tomentosa.—This is a charming shrub belonging to the Apricot section of the

genus *Prunus*, and it is by no means so well known as it ought to be in our gardens. It is among the earliest of the species to flower, and does not appear to be so easily damaged by frost as some early-flowering shrubs. At Kew it has been in cultivation since 1888, a plant having been sent to the Royal Gardens in that year from the Paris Botanical Garden, other plants being sent at a later date from the Arnold Arboretum. Seeds of it appear to have been sent to the Arnold Arboretum as long ago as 1882, Dr. E. Bretschneider having collected them on the mountains about Peking. Like many other shrubs from the East it inhabits both China and Japan, and it is described as being a beautiful shrub both in flower and fruit. So far fruits have not been matured at Kew, but on several occasions it has been recorded as fruiting freely in America, the fruits of some forms being pleasant to eat. Although when mature it attains a height of from 6 feet to 8 feet it flowers freely in quite a small state. The flowers are borne in profusion, are white in colour and half an inch across, the flowering period being February and March. In America the fruit is said to ripen during June and July. In form the fruit is Cherry-like, in colour red. As it makes a shapely bush and flowers freely in a small state, it should form an excellent subject for forcing for the greenhouse in January.—W. DALLIMORE.

Etherisation of plants.—Some interesting statements upon this subject were made by M. Lemoine in his lecture recently given before the Royal Horticultural Society. He said by experiments it had been proved that some plants were more quickly forced into flower by the use of ether. Previous to being placed in the forcing house the plants in sealed boxes were subjected to ether for two periods of forty-eight hours. This had the effect of bringing them into flower quite a fortnight earlier than plants not so treated.

The Carnation fly.—I do not think the larger grower of the Carnation will quite agree with your correspondent, M. Mitchell, when (see issue of THE GARDEN, January 10, page 32) the above pest is spoken of as not one of the very common pests that assail this favourite flower. It is so abundant in this district as to have ruined some thousands of plants last season alone. This, too, in a by no means large area and to my personal knowledge. Indeed, I think I may say I have lost a long way over a thousand plants that were layered in the open through this pest, and I am not alone. Two neighbours, each widely apart from the other and in opposite directions, have also fared badly. The same two lost a large number the year previous, and took care to burn all affected plants. The fly is present and active, too, for a much longer season than is usually supposed. Under these circumstances, I am ever a ready reader of anything concerning the pest, in the hope some day of securing a remedy, or, better still, a preventive measure. This fly is called the Carnation fly, but it is curious to note the difference of pot plants standing in the open as compared to layers layered in the soil. This leads me to ask whether, as the pot plants are set upon a bed of black ashes, these ashes in any way act as a deterrent to the fly, whether the colour is objectionable. Black gauze or muslin is to some extent supposed to act as a deterrent to swarms of bees in certain instances. If so, we had best put the plants into mourning as soon as they are layered. Be this as it may, it is an undeniable fact that while pot plants are not affected to barely 1 per cent., layers in the soil may be even to 50 per cent., and far worse if the grower permits the ground to become weedy at the time. Indeed, a weedy plot may be responsible for a very large increase of the maggot, which seems that the fly may be even more attracted by the weeds than by the Carnation plants. This is no fancy, but a fact, therefore keep the soil about the plants absolutely clean and free from weeds. The above may be proved by taking note of the layers in a bed on the lawn as against others in a large quarter with soil only around. Formerly, I had an idea that the fat-leaved kinds, such as Old Clove, Gloire de Nancy, &c., offered a greater attraction to the pest, but I have since found the narrow leaved sorts

equally badly attacked. Syringing the plants with Quassia and Tobacco water may possibly render them less liable to attack. Then on the other side one may ask, Why do Tree Carnations in pots escape the fly? They assuredly do so! Is it that the soil of the open garden is more the haunt of the pest and the dark colour usual of the standing ground in a sense opposed to their nature? If so, we have at least a clue to their likes and dislikes.—E. JENKINS, Hampton Hill.

Cacao in Trinidad.—On the authority of the *Agricultural News* we learn that the Cacao crop of Trinidad is expected to be a very large one this season, and that the *Port of Spain Gazette* estimated that during the month of December last close upon 20,000 bags (of 130lb. each) would have been brought down by the railway.

Melons.—Referring to a recent article upon Melons, I have never stated that Melons were not well grown; but I may have said, as I say now, that so uncertain are Melons that when grown as well as it is possible to produce them they cannot always be relied upon to display those high qualities of flavour which they sometimes show. That is the great weakness of Melons, and no new variety has overcome that defect. Still further, I assert fearlessly that in the matter of flavour we have not in the past twenty years advanced one atom. We have some varieties no doubt which produce better crops, or even handsomer fruit, or even maybe a little easier to cultivate; but even so much is questionable. Many of the fruits which come before the fruit committee of the Royal Horticultural Society are superb examples of culture, and grown, too, under varying conditions, yet so largely have they, perhaps, a nice soft flesh devoid of flavour, or are the product of crosses between scarlet and green varieties, the product fruits showing the inner flesh soft, pulpy, and scarlet, the outer flesh green, hard, uneatable. Really, Melons have been crossed and intercrossed so much that they rather retrograde than advance. If anyone could give us a variety that, well grown and not over-fruited, should in every fruit give high class flesh and flavour without variation to mediocrity, then the gain would be immense. Setting up high class Apples, Pears, Peaches, Plums, Grapes, Strawberries, Pine-apples, and Cherries are standards of excellence always reliable. We have nothing in Melons like them. The quality of Melons is as varied and mutable as is the weather. In cutting a fruit you never know what you may find.

Costly Potatoes.—The offering in commerce of some varieties of Potatoes that are new at the high figure of 10s. per lb., may be to many persons a form of investment that is hardly safe or desirable, yet there have been cases in which high figures have been repaid practically 100 per cent. That was so a good many years since, when Messrs. Hooper and Co. imported from America and sold here at very high prices two heavy cropping varieties of Potatoes. A competition for the greatest produce from 1lb. of seed tubers of each variety resulted in the production of some 13 bushels in one case and about 8 bushels in the other. Thus the original outlay was repaid fully one hundredfold. That so great a product may result from similar methods of propagation of English varieties as was seen then is not probable, because home-raised tubers have fewer eyes. But no doubt were a pound each of a couple of these 10s. per lb. varieties put into warmth, caused to push shoots, these being employed as cuttings and rooted, then in time planted out into good soil, each variety could be made to produce several bushels in return.

Two months' rainfall.—It is interesting to learn from the County Hall at Kingston-on-Thames that the registered rainfall up to the end of February exceeded by 2 inches that of the months of January and February of last year. That is indeed satisfactory, and yet we have not had any appreciable heavy downfall of rain in the time. Slow rains or drizzles, with much cloud and absence of sunshine, yet giving great mildness, have been the marked characteristics of the year so far. We find if the wind comes from the north or east that it is dry and exceedingly cold,

very trying to both animal and vegetable life, yet it has the merit of keeping vegetable life in check. But the reverse conditions most generally have prevailed, the wind being west, south, or intermediate, and often very boisterous. This has brought much cloud, great dullness, and drizzle, also soft atmospheric conditions that have been so far acceptable, yet encourage too much vegetable growth. This naturally creates great uneasiness so far as the fruit crop is concerned, and militates against hopeful prospects.

Fruit preserves.—If the examples of preserved fruit shown on the 24th ult. at the Drill Hall from New York are to be regarded as presenting the best of what the United States can show in the matter of fruit preserving in bottles, it is evident that here at home we can excel our Transatlantic friends a long way in that industry. Possibly, in relation to climate, they have advantages we do not possess, but the country over there is of such enormous extent that it almost includes the regions of the tropical and the Arctic circles. Our more humid climate has its variations, and for fruit culture far too many to be pleasant, but all the same, given that high-class culture which marks the good class British grower, we can produce fruit second to none anywhere. That is so much to our credit, because on the whole Nature favours us so little. Still, we cannot grow Peaches, Nectarines, and Apricots on ordinary standard trees as is done in America, and these fruits in a commercial sense cannot enter into our fruit preserving industry, except in a very limited way. But we do grow and preserve, whether in the form of jam or jelly, or in bottles, Apples, Pears, Plums, Cherries, Gooseberries, Currants, Raspberries, and Strawberries in the finest possible condition. Our fruits in their natural form are superb, and when preserved as our bottlers or preservers now do them cannot be excelled. The New York fruit preserves shown at the Drill Hall were all so highly charged with glucose saccharine as to be far too sweet—indeed were, when tasted, quite unpleasantly so. In them all natural flavours were killed. Whole Pears, apparently first soaked in alcohol or in vinegar, then put into syrup, were devoid of natural flavour entirely, though, perhaps, pandering to created palates. Some of the members of the committee spoke strongly against the granting of any award to the exhibit for the reasons named and undoubted inferiority to home products. I could not agree with a suggestion that it was not the duty of the committee to encourage the introduction of preserved fruit from America or elsewhere outside the United Kingdom. That was taking a very parochial view of the subject, which happily found few supporters. Horticulture, it is to be hoped, is far too cosmopolitan to be here influenced by such insular ideas. We must welcome all good products, come whence they may, and try, if in our power, to excel them if possible. Certainly we have done that in relation to fruit culture, and most materially so in respect of fruit preservation as a commercial industry. Apart from the exceeding excellence of our home preserving, whether in the form of jams, or jellies, or whole, our bottling methods are so much superior. The hydrostatic capsule, as now so largely employed here, is a long way ahead of anything seen on the New York bottles. All the same, the enterprise of the lady exhibitor of those merits praise.—A. DEAN.

A West Indian Nettle.—The *Agricultural News* of Barbados draws attention to a formidable stinging plant under the name of West Indian Nettle which is met with in some of those islands. The plant in question is not a Nettle as we understand that term, but a member of the order Loasee—*Mentzelia aspera*. The genus consists of hardy annual, biennial, or perennial herbaceous plants, for the most part coming from Mexico, California, and the Southern United States. Our colonial contemporary says wherever it is found it is carefully shunned by all classes of the community. It is a large green annual weed about 3 feet to 5 feet high. It is rather common in Nevis by the roadside beyond the Bath. It is also found in Grenada, and, according to Grisebach, it occurs in dry savannahs near

Kingston in Jamaica. It may readily be recognised by its rather large, rough, green leaves, somewhat resembling those of the Castor Oil plant. The flowers are small, white or yellow, star-shaped, and produced at the ends of the branches. Every part is covered with stinging hairs, and if incautiously handled the plant may cause considerable pain, and not infrequently fever. Some well-known garden plants belonging to the genus *Loasa* will be familiar as close allies to *Mentzelia*, and as possessing the same stinging properties. — JOHN R. JACKSON, *Claremont, Lympstone, South Devon.*

Arctic Garden at Kew.—An extract from the *Times* was sent by the editor of the *Cold Storage and Ice Trades Review*, in which it was suggested that an Arctic house should be formed at Kew, "wherein dwarf Willows and other curious vegetation of the Polar regions might be seen associated with some pretty effects of snow and ice, which might be produced in summer." It was observed by the committee that Arctic plants grow better in temperate climates than in the Arctic regions, as *Papaver nudicaule*, which is found in Spitzbergen, and that many of them are now growing in Kew Gardens, so that the addition of a cold house would be superfluous. — *From Report of last Scientific Committee, Royal Horticultural Society.*

Flower gardening in the grass at Kew.—Flowers are appearing in abundance now in the grass at Kew. Our illustration shows a sea of Daffodils in the lower part of the gardens. We have frequently described the grass gardening at Kew, and the illustration will remind those who wish to create such pictures in their own gardens of the wealth of available kinds, and of the best ways to use them.

ROUND ABOUT A GARDEN.

AN ILL-OMENED LETTER.

MOST of the worst things in a garden seem to begin with W. There are Worms and Wire-worms, White Butterflies and Winter Moths, and many kinds of Whats-its-names that reduce the leaves of foliage plants to a sort of fine lacework—Weevils, Wandering Cats, and Wild Animals; the Willow Wren when the Peas are ripening, and the Weather at all seasons; but about the Worst of the W.'s for

the garden is the Wind. The "big W" might almost take the place in horticultural expletive of the "big D" familiar to annoyed persons who are otherwise employed.

THE WINDS OF FEBRUARY.

We certainly want some soothing phrase to help us to express all that we have felt respecting the wind during the last month. The essential thing about a garden, to my mind, is that you should know, when you get up in the morning, on which side of the house to look for it. Owners of sheltered inland gardens may never be in doubt under this head, but when you have tried to anchor a garden on a seaward slope and hear the earth from your front flower-beds pattering against the dining-room window, you have little confidence of finding things "as they were" next day. When, moreover, you have two conspicuous flower-beds shaped like Maltese crosses and filled with growing bulbs, what are you to say when a large bough of a Poplar tree comes bang into the middle of one of them?

THE COMMON PRIMROSE.

These are aggravating thoughts, however, so let us get away from them—and the wind—into the shubbery, where the Primroses and Violets are a delight. Perhaps the soil has something to do with it; but my experience is that no flower repays you literally a hundred-fold for any little care bestowed upon it, except the Primrose. There are Primroses of many colours, and Polyanthus Primulas of many more; but if you eschew all these, and, having a wild shrubbery that is almost a coppice, stuff it with the common wild Primrose you will find that you have done the best day's gardening of your life, because it will be a growing joy for years to come.

A FIGHTING PLANT.

For the Primrose, given suitable soil, is a gladiator among plants. You would not suspect this from its appearance. Its beauty is that of tenderness and modesty, but you would soon discover the truth if you had to struggle against it for growing space. That neat rosette of crinkly, deep green leaves looks

simple and humble; but it must have killed scores of rival plants in order to occupy so much space. What was a seedling Primrose last year is a rich-flowering clump to-day. Next year it will be a large patch of Primroses, and the year after a Primrose-bed. The Primrose achieves this end by strict attention to business.

PATIENCE AND PERSEVERANCE.

The seedling Primrose seems a feeble thing. It has, perhaps, half a dozen small flat leaves, none of which rise 2 inches above the ground, and it is smothered out of sight by the woodland weeds around it. But the Primrose can stand a great deal of smothering in summer and autumn when it has done its work; and when the rain and snow and wind of winter have reduced the rampant weeds to their original constituents as leaf-mould, the Primrose comes uppermost again with twice as many leaves as before. Every leaf is larger, too; but it still spreads itself out humbly as a tufted rosette upon the soil. Yet it occupies 16 square inches of ground, instead of the eight which it held when you saw it last. The Primrose is not idle when it is out of sight in summer.

A STURDY COLONIST.

And the ground which the Primrose occupies it holds. It is no use for weeds to scatter their seeds over it. The leaves of the Primrose smother the seedlings, and unless shrubs or trees, with their deep roots, drain the soil under the Primrose it remains in undisputed ownership of so much soil as its close-packed leaves can cover. And at this season it flowers profusely. Later, the flower-stalks will bend outwards on every side with their heavy heads of ripened seed. These will lie flat upon the ground, and over them the Primrose will spread out a wide circle of flat leaves which will cover them entirely. Over these again the woodland weeds may flourish luxuriantly as they did before, but it will not matter.

THE WAR OF PLANTS.

When the weeds have died in winter, what shall we see? Why, that from the seed-pods, sheltered by the spreading rosette of leaves, a score of strong seedlings have sprung; and, since these cannot spread inwards—where the parent plant still occupies the ground—they all spread outwards. Each occupies and holds its own little patch of ground; and, though buried out of sight in summer and autumn, each reappears, after winter's storms, as the settled owner of its own square inches of soil. It is no use whatever for other herbaceous plants—except a few like the creeping *Ranunculus* or the *Periwinkle*, which can creep along the ground like snakes, and so get under the Primrose's defence—to jostle the Primrose. Its trick of sending its leaves straight up in the first instance and then letting them fall outwards, layer upon layer, ensures them the upper hand of rivals; and, in the struggle of small plants for daylight, whoever goes under dies. Thus year by year the Primrose spreads in a wider circle, smothering out even the grass, and since there is no flowering plant which more graciously arranges itself in starry constellations of early bloom in spring, you will never regret converting your shrubbery path into a milky way of Primroses.



DAFFODILS IN THE GRASS AT KEW. (From a photograph taken last spring.)

THE INDOOR GARDEN.

PRUNUS SUBHIRTELLA.

COMPOSED largely of species and varieties which flower in spring is the *Cerasus* section of the genus *Prunus*. The species under notice is probably the rarest in the section in British gardens, for it has not been sufficiently long in cultivation to become well known. It was first sent to Kew about eight years ago by Professor Sargent, director of the Arnold Arboretum, and it flowered and was figured in the *Botanical Magazine*, t. 7508, in April, 1896. Its native country is Japan, and it is said to be found in quantity on the mountains of Nippon. Although a native of Japan it is popular in that country, being known under the name of Higansakura, and grown for the sake of its flowers. In habit it forms a small tree with a bushy head. The leaves are 2 inches to 3 inches long, ovate and acuminate, with serrated margins. The flowers, which appear about the end of March or beginning of April, in advance of the leaves, are borne in small fascicles of from three to five blooms each. Individually the flowers are three-quarters of an inch across, and white with a tinge of pink. In addition to being a useful outdoor tree, the accompanying illustration gives a good idea of its value for forcing, the specimen shown in the photograph having been in flower in the greenhouse at Kew for over a fortnight. It is not difficult to grow. The subject of the illustration is one of a number rooted four years ago from cuttings and grown in nursery quarters until January of the present year, when it was lifted for forcing. It is 3½ feet high and 2 feet through. W. DALLIMORE.

out by the end of May, care being taken to harden them off very gradually. Ample space should be allowed them as they grow very rapidly, forming plants 1 foot to 1½ feet across in a season in the open ground. Some prefer to put out old plants into beds, but they are not generally so successful, unless they have been cut right down so as to form a stool from which strong upright shoots will grow, or trained with a foot at least of clear stem, otherwise they are apt to grow too compactly and form a dense mass of foliage which hides the bloom, instead of bold upward-growing sprays. As different Fuchsias grow such varying heights, some slowly and some quickly, the most successful bed is that of one sort only, and any of the stronger growing single Fuchsias will do for the purpose, the single being the better as a rule, as they are of such free growth, though of course there are exceptions. If mixed varieties are put in a bed some judgment is necessary in arranging them or the bed may have a very lop-sided appearance. A bed of good Fuchsias, unless a stock already exists, is a somewhat expensive one. One or two varieties, which, though by no means among the best as specimen plants, make very good bedding plants, are *Beauty of Trowbridge*, white sepals with pink corolla; *Mme. Corneillioen*, similar to the preceding; *Wave of Life*, golden foliage, scarlet sepals and violet corolla; *Sunray*, variegated foliage; and *Fuchsia macrostemma globosa*, dark handsome foliage and a free bloomer, but not a showy one, as the sepals are not at all reflexed.



THE RARE PRUNUS SUBHIRTELLA IN FLOWER IN THE GREENHOUSE AT KEW IN LATE FEBRUARY.

FUCHSIAS FOR GREENHOUSE AND BORDER.

(Continued from page 140.)
GREENHOUSE CLIMBERS.

ANYONE who knows Kew at all well will remember the climbing Fuchsias in the houses there, running riot across the roof and forming a canopy of hanging blossoms. For this style of growth the young plants should be confined to a single stem by pinching in all the side shoots, secondary as well as primary, not removing them at first, but leaving a pair of leaves to each, as they will help to thicken the stem and add to the vigour of the plant. When the plant gets 5 feet or 6 feet high, and the stem is getting thick and woody, these lower side shoots may be removed one or two at a time, beginning at the bottom, and the plant either put into a large pot or into the soil, so that the plant can be trained up against a rafter. If kept growing in a gentle heat and never allowed to get stunted for want of room, or to use its strength in producing bloom, the plant should reach this height some time during the second season. Amongst the sorts suitable for this purpose may be mentioned the old-fashioned *Rose of Castile*, the equally old-fashioned *Venus de Medici*, *Royal Standard*, *General Roberts* (the corolla and sepals of which form a fine contrast), and *Charming*. These will all become climbers fairly rapidly, and there are many others that will answer the purpose, though some will take a longer time. *Fuchsia corallina* and *F. gracilis* are two beautiful species for this purpose, but as they are very hardy room in a greenhouse is not often spared for them.

BEDDING PLANTS.

These may be all of one sort, like the bed of *Fuchsia macrostemma globosa* at Kew last summer, or they may be of mixed varieties. If the cuttings are taken in February or early March in heat, or rooted cuttings are bought in March or early April, they will make nice little bushy plants for bedding

ALGER PETTS.

(To be continued.)

NOTES ON HARDY PLANTS

IRIS SINDJARENSIS.

SINCE February 16 this early bulbous *Iris* from Mesopotamia has been in flower in my unheated greenhouse. It is not often mentioned amongst the newer race of winter-flowering Irises, and is of somewhat different type from most of them, but has many good points which make it worthy of notice. It grows to a height of 9 inches to 12 inches, and has long stem-clasping leaves, which are deeply channelled and tapering in growth. The flowers are produced in a spike thrown well above the arched and drooping foliage, and are of a soft slate blue, shading off at the ends of the broad, crested falls to cream colour. In character they suggest a small form of *I. xiphoides*, and grow alternately on the stem to which they are so closely adpressed that they lose a little in effectiveness, which seems to be the only drawback to this desirable species. The topmost flower opens first, lasting about a week, and the rest follow in succession, but more quickly, so that several are open at

once, and last well. This staying power, which is beyond most, and is possessed by *I. sindjarensis* in common with several of the more recent introductions from Asia Minor, like *I. Heldreichii*, is much in its favour, and it seems admirably adapted for winter-flowering in an alpine or unheated greenhouse. Like *I. reticulata* it is very sweet-scented. Though I have several strong bulbs, only one has flowered, and that by no means the strongest plant, but the foliage is ornamental in itself. I received them in the autumn from M. Tubergen, jun., of Haarlem, but am not sure whether they were collected or cultivated bulbs, and it will be interesting to see how they will fare with such summer treatment as can be given them. K. L. D.

HARDY FLOWER NOTES.

ENCRUSTED SAXIFRAGES.—It is in the winter, when there is so little to charm in the outdoor garden, that the beauty of these little alpine gems can be fully appreciated. Varieties of *Aizoon*, such as *altissima* and *intermedia*, in the form of good-sized clumps, are charming, and the big rosettes of *pyramidalis*, arranging themselves among stones at an angle which guarantees the crown against excess of moisture, are finer in colour than I have ever seen them. Such little gems as *crustata*, *cochlearis major*, and *rosularis* have this year with me made an exceptionally fine growth. Although these little alpine dislike stagnant moisture round the crowns or roots, they in common with the rest of the family dearly love an abundant supply of moisture in summer and early autumn. The frequent rains in the autumn of the past season did this class of hardy flowers an immense amount of good, the crowns



GALANTHUS IMPERATI ATKINSII.

(The natural size is: Height, 12½ inches; sepals, 1¼ inches in length.)

being larger and the encrustations much brighter than usual.

HARDY CYCLAMEN.—*C. Coum* and its near relative *Atkinsoni* are now throwing up their earliest blooms. All through the winter they have delighted with their handsome more or less variegated foliage, which, although it droops and looks withered in a time of hard frosts and very cold winds, revives and recovers its primitive freshness and beauty as soon as mild weather again sets in. If you have a score or so of these Cyclamens, do not fritter them away by dotting them about, but plant them in colonies, where they may cover the ground with their handsome foliage, and where they may get any special attention such as an annual top-dressing of some very light material, and where the soil around them is never touched by fork or hoe.

CROCUS IMPERATI.—One may go through a score of gardens, large and small, without seeing one of the winter-blooming species of *Crocus*. To most hardy flower lovers they seem, indeed, to be unknown. There are about a score of them in cultivation, and by their use the outdoor garden may be made enjoyable from mid-January till April, just the time of year when there is so little floral beauty in the open air. The above-mentioned species is one of the best, and as it can now be bought at about 4s. per 100, there is no reason why it should not be largely used, not only in the garden, but also in the woodland; and seeing that it is almost as vigorous as the common spring-flowering ones, there should be no difficulty

in naturalising it in the grass. It is surprising how bravely the apparently fragile flowers withstand inclement weather. I have known them pass safely through 20° of frost and then expand their delicately-tinted blooms as freely as if nothing in the way of bad weather had been experienced.

IRIS STYLOSA.—It is a pity that this is not a bit hardier so that it could be extensively used as an occupant of the herbaceous border. In the warmest portions of the British Isles, where not more than 15° of frost are ever experienced, this *Iris* may certainly be so used, as even if a few flowers are cut off others follow ready to expand on change of weather. A clump of this *Iris* established some five or six years will bear a large number of flowers, which are of great use for cutting, and which come at a time when anything in the way of flowers is so welcome. In the colder portions of the British Isles I should advise that this *Iris* be either grown in pots or planted out in a cool house. It is a capital subject for unheated structures. I have several clumps of the white variety planted out against the back wall of a vinery where no heat is used in winter, and for the last two months they have given a succession of good blooms. In the warmer counties this *Iris* will do very well in the open ground if sheltered from east and north wind. The foot of a south wall is the best place, as there the growths get fully ripened.

J. CORNHILL.

A RARE SNOWDROP.

"It is impossible," to quote the words of Henry Phillips in his delightful "*Flora Historica*," "to observe the Snowdrop without acknowledging with what infinite wisdom Nature has formed her lowest works. The delicacy with which the corolla is attached to the flower-stalk enables it to move with the winds in every direction, without fear of snapping or suffering the air to defraud the stigma of its necessary part of the farina, whilst its modest and pendent position is calculated to throw off all superfluous moisture in order that the parts of fructification may be so secured as to replenish the earth with its seed. The pure white that is given to the petals of this flower contributes, in a no less happy degree, to the perfecting of the pollen, as it causes them to act as reflectors to throw all the light and warmth on the anthers, which at the chilling season of the year, when the Snowdrop flowers, are particularly necessary."

Of course everyone grows the common Snowdrop (*Galanthus nivalis*), but there are few who have interested themselves in the rarer *Galanthi*, and the writer can only claim to be a novice in the matter. Amongst those who have made a special study of these charming flowers several names

will at once occur to readers of *THE GARDEN*, notably those of the late Mr. James Atkins, Mr. James Allen, Mr. S. Arnott, and Mr. Whittall, who has enriched our gardens with several beautiful varieties.

Galanthus Imperati Atkinsii came to my garden through the kindness of Mr. Arnott, and I believe I am right in saying that it came originally from the late Mr. James Atkins of Painswick. It was the first Snowdrop to come into bloom in this garden, and its noble appearance and beautiful flowers attracted considerable attention. One thing seems rather difficult of explanation, and that is the reason why one bulb should produce two flowers—one of perfect form and the other mis-shapen. I send a photograph in which this defect—to a certain extent caused by an additional perianth segment—will be clearly seen. The height of this beautiful Snowdrop was 12½ inches—10½ inches without including the spathe—and its lovely snow-white sepals, which are of singular beauty, were 1¼ inches in length. These are further set off by the petals, which are irregularly marked with light green on the interior, as well as slightly on the exterior, and also by the orange-tinted stamens. The leaves are sturdy, and attract immediate notice on account of their large size, and, as they spear their way through the ground, at first sight one would almost take them for those of a Daffodil.

Kidderminster.

A. R. GOODWIN.

PLANTS FOR CUT FLOWERS.

ESTABLISHED clumps of hardy perennials that are specially in request for cut flowers should have been overhauled in the autumn, but if this was not done they ought to be taken in hand at once. It is strange how the opinion "that any sort of soil and treatment will do for hardy flowers, and that once planted they may be left alone for many years," still holds good with many. It is doubtless true, in a certain sense, for the hardy flowers of the border are long-suffering, but it is also true that they respond quite as much as fruit and vegetables to good treatment. There is no comparison as to the quality of flowers obtained from a clump that is well cared for and that which is left to shift for itself. I have said that any replanting should be taken in hand at once, and this is especially true of the earlier flowering things, such as *Doronicum excelsum*, *Aquilegia Stuarti*, *A. glandulosa*, and *Pyrethrums*, also the tall *Campanulas*, *Linum narbonneuse*, *Pentstemon barbatus*, with other things that require some time to get a firm grip of the ground. Lift and replant, carefully selecting the strongest pieces, work in a bit of fresh soil and well-decomposed cow manure if the border is poor, and mulch rather heavily (the last is imperative after spring planting on light soils). I may note that in the arrangement of borders planters will have to be guided in a great measure by the taste of employers. Big heavy masses and few species may be required in one place, and in another the order may be small clumps and plenty of variety. Where the latter is the case it is always advisable to sow a few packets of really good things annually so that plenty of stock is available when established things on borders are deteriorating. Pay special attention to plants that are inclined to ramble, as *Hemerocallis*, some of the *Asters*, *Pyrethrum nigrinosum*, and the like, and keep them well within bounds.

E. BURRELL.

GERMINATION OF SEEDS UNDER SNOW.

IN my book on the cultivation and acclimatation of mountain plants, I have already treated of this subject, and especially of seeds of alpine plants which are of slow and difficult germination, for instance those of the *Gentian* and *Primula*. Yet I should like to make known some new and curious facts, which appear to me to be likely to interest your readers. Last autumn (about the middle of November) a snowstorm, accompanied with severely cold weather, took place in the neighbourhood of Paris. I profited by it, as I do

every year, to sow not only seeds of alpine plants, but also of perennial and annual plants which I cultivate. Now in my mountain excursion last year (I chose the Engadine) I gathered some specimens, in the Col de l'Albula, of *Primula integrifolia*, that charming alpine Primrose with large flowers of lilac-pink, and of *Doronicum glaciale*, bearing Marguerite-like flowers of golden-yellow, similar to the flowers of *Arnica montana*, but yellow not orange, which I found side by side, close to a field of snow. These plants, pulled up while in full blossom at the beginning of July, 1902, were kept for a month in my bag, and accompanied me in my excursions until the commencement of September.

During their peregrinations seeds had begun to form and ripened in October, after the plants had been planted in my rockery. I had scarcely any hope that these seeds—taken as they were from plants uprooted while still in leaf, and which had undergone a month's sojourn in my trunk, and which had been transplanted from their mountain heights to Paris—would germinate. To my great astonishment, however, these seeds, placed in earthenware pans containing soil and exposed to the direct action of the snow, sprang up within a month, and the young plants have already been repotted and are in perfect health. I am convinced that these seeds sown only in the spring would never have germinated without the help of the snow; and, as I said before, it is not a question of bringing the snow to facilitate and hasten the germination of the seeds of alpine plants alone. All horticulturists, in order to obtain a more rapid and more abundant germination, as well as more vigorous seedlings, should sow all kinds of seeds under the snow. I will give two examples.

All the world knows and appreciates the hybrid plant called *Mimulus cupreus*, which is in much request for garden borders. Gardeners generally sow this plant in autumn, preserve the seedlings in pans and pots during the winter, and do not plant out till after May 15. Instead of this they ought to sow it in winter under the snow, and then they would be able by March 15, two months after sowing, to have the plants in the open ground ready to blossom. I tried the experiment at Boulogne in 1902. Let us now take the example of a perennial plant, viz., that of *Primula verticillata*, that pretty yellow-flowered Primrose which came originally from Abyssinia, and whose seeds germinate very freely under snow, though the plant itself must be kept through the winter, either under a glass frame or in a slightly heated greenhouse. Horticulturists think it is not possible to get flowers on the young plants before the second year. They sow in the spring, prick out into pans in the summer, and again into pots for the autumn, and get no flowers until the following year. I ask why do they thus lose a year? My experience in this respect also refers to the year 1902. In January I sowed under the snow some seeds of this Primrose, and since October I have had a quantity of these plants in blossom.

But why multiply examples? The fact is indisputable; and I ask, why do horticulturists still refuse to adopt this method of sowing? I will not speak again here of the different methods employed, for I have already given the details, that is to say, as to sowing in pans with the soil covering the seed, in pans exposed to the snow, sowing in pans already covered with snow, and finally sowing upon soil placed in the bottom of pans and directly exposed to the snow. I always practise the third method, for I consider that it gives more rapid results. When the snow has melted the pans must be taken into a greenhouse or placed under glass frames slightly heated, and the seeds be slightly covered with soil suitable to the particular plants. They should be watered just sufficiently to maintain humidity, and in a few days germination will result.

This action of the snow upon the germination, though hardly at present explicable, is undeniable. Moreover, agriculturists have noticed that in the fields cereals shoot much more vigorously if their seeds germinate when snow covers the soil. Have they not already tried in France, as in other countries, to double the cereal crops by means of metallic plates placed in the soil and connected with poles for conducting the electricity to them? This year, if the weather permits, I am going to try the result of submitting seeds of alpine plants, before sowing them, to the action of the snow, without any soil above or below them; then after a few days I will sow the seeds thus "electrified" in pans in the ordinary way. I have spoken of the seeds as "electrified," for it really seems as if by the action of the snow a more or less intense electric phenomenon was produced, accompanied by a development of vitality in the seeds.

G. MAGNE, in *Le Jardin*.

THE FLOWER GARDEN.

CALCEOLARIA INTEGRIFOLIA.

SELDOM seen in gardens is this *Calceolaria*, and I have never met with it in quantity except in one spot in South Devon, namely, Kingswear, at the mouth of the Dart. It is also to be found in gardens a few miles distant from this place, and I have noticed it in a Cornish garden, whose proprietor also owns a seat on the banks of the Dart, in close proximity to Kingswear. The inference in these cases is that the plants in question are descended from the original Kingswear stock. I have endeavoured to ascertain the source from which these plants, with whose race I have been familiar for over twenty years, were first obtained, but without success. Apparently, from the uncertain date of its introduction to the present time, it has been grown merely as a showy subject of easy culture, rather hardier than the majority of shrubby *Veronicas* so much in evidence along the south-western coast line. As seen at Kingswear it is not a

herbaceous plant, but a flowering shrub that is a sheet of bright yellow in July, and carries a fair amount of flowers well into October. It is very common, and is to be found in cottage and farmhouse gardens as well as in the grounds surrounding the larger residences, and is invaluable for its masses of glowing colour. As far as I know it is never killed by frost, which is rarely severe in this spot, as it is entirely sheltered from the north and east, and whose steep slope immediately overlooks the salt water; but old bushes have a way of becoming bare in their lower branches, when they are usually destroyed and their places filled by young plants. For this reason it is hard to say to what size this *Calceolaria* will attain, but during the past summer I measured a single bush standing in an isolated position, which proved to be 5 feet 6 inches in height and 7 feet in diameter. The plants in the border shown in the accompanying illustration average over 4 feet in height, and, as will be seen, are well clothed with foliage to the ground. As these occupy a sheltered site they will in all probability retain their lower leaves for a longer time than specimens standing in a more exposed position.

This *Calceolaria* has the merit of being indifferent to soil. In deep and rich compost it makes exceptionally strong shoots and flowers profusely, while in shallow, stony ground, though making but little growth, it blooms with equal freedom. In one instance a line of plants is growing in very shallow, shaly soil immediately at the top of a dry wall, over which *Mesembryanthemums* hang, backed at a distance of 18 inches by a *Laurustinus* hedge. This site, facing due south and entirely unshaded, is dust-dry during the summer owing to the combined action of the burning sun and the roots of the *Laurustinus*; but the plants, though stunted, never fail to blossom abundantly. I had for many years been under the impression that the correct name of the plant was *C. integrifolia*, but in order to assure myself during last summer I sent flowers and foliage to the Royal Gardens, Kew, whence I



CALCEOLARIA INTEGRIFOLIA (4 FEET HIGH).

received the information that my presumption was correct. I was at the same time told that the plant was not included in the Kew collection, and was glad to be able, later on, to forward cuttings. Mr. F. W. Burbidge, to whom I sent flowers and cuttings, very kindly forwarded in exchange cuttings of *C. Burbidgei*, which will be tried in the open at Kingswear, though I am very doubtful of its surviving the winter in the open, even in this exceptionally mild spot. S. W. FITZHERBERT.

Kingswear, South Devon.

A FEW NOTES ON ANNUALS.

PERHAPS a few notes as to the annuals we have grown during the last few years may be timely. As our space is not large we try to have a few different ones each year. I shall not say much about the ones that are universally grown, such as Sweet Peas, Stocks, Asters, &c., but wish to draw attention to some that are less known.

Sutton's rosy Stock-flowered Larkspur is one of the best, and it always attracts so much attention that it cannot yet be very well known. It is perfectly easy to grow, but should be got on early, and it will continue blooming till cut off by the early frost. Last year a friend gave me some seeds of *Cosmos bipinnatus*, which had been sent home from Ladysmith. As our summers are so short here and the *Cosmos* come into bloom late we raised them very early in heat, and potted them on till it was safe to put them out. They were very good, especially a beautiful large white one, but they make rank growth. Still, we had quantities of flowers till a few weeks before Christmas.

We intend to try and prevent their growing so strongly by planting them in poor soil and perhaps in their pots. A dwarf early white sort is advertised this year which ought to be an acquisition.

One year *Argemone grandiflora* succeeded particularly well. Its large white flowers are very like those of *Romneya Coulteri*, only smaller, and the reddish stems, spiny buds, and handsome leaves are very striking. The foliage of *A. mexicana* is handsomely variegated, but the yellow flower is small and disappointing. *Commelina celestis* is well worth growing as an annual for the lovely blue of its three-petalled flowers.

Lathyrus azureus, the small blue Pea, is also a lovely colour, but its blossoms are not produced very freely.

Another blue annual, *Sedum ceruleum*, sown in small pots and turned out when established, is very pretty among rockwork.

Salvia coccinea we find does well in very poor soil, where we are glad to get anything to grow.

Antirrhinum semi-nanum, Queen of the North, is an excellent white one; Yellow Gem and Ruby King are also very good.

Two annuals that I saw in friends' gardens last summer were very beautiful, *Diascia barbera*,

with curious two-spurred flowers of a very uncommon crushed strawberry colour, and *Collomia coccinea*.

At Kew, in October, I saw two annuals which I should like to grow, but I do not see them in the seed lists, viz., *Hysterionica pinifolia*, a pretty starry yellow Daisy, and *Anagallis linifolia*, a large blue Pimpernel.

Lavatera trimestris splendens, both rose-coloured and white, is among the most satisfactory of annuals for the border and for cutting. One year there were some lovely Sweet Sultans, mauve and yellow, called *Centaurea Margaritæ*, in a garden near. I have often tried them, but they will not grow properly. I should be glad if any one would tell me how to treat them.

For their sweetness we grow *Mignonette*, *Matthiola bicornis*, the night-scented Stock, and *Nicotiana affinis*, which is almost perennial in our light soil.

Datura meteloides is a very striking plant with white flowers, veined with purple as large as saucers, and curious Fig-like fruits. I believe it would climb if it had the chance.

There is a Stock called Mauve Beauty, which I read of in "The English Flower Garden," and

Exeter will give an idea of the free flowering habit of the plant. It has already been briefly mentioned in THE GARDEN of the 14th ult., page 120, where it is described among the new plants exhibited before the Royal Horticultural Society as resembling both *S. longifolia* and *S. calyciflora*, bearing purple flowers on hirsute peduncles 4 inches to 5 inches long. I may here state that the plant is perfectly hardy, and that those grown entirely out of doors bloomed here in January without showing the least injury from a rather severe frost. The flowers, too, are much brighter during their early stage of flowering. The stout wiry peduncles as well as the bract-like leaves which clothe them are of a clear bright rosy-pink, while the flowers at the end are almost blood-red and bear yellow stamens. The flowers last a considerable time, but with age the bright pink of the flower-stem and leaves changes to mauve, the bright green at the apex of these leaves becomes more diffused and the flowers assume a purplish red tint. The imbricated silvery rosettes of encrusted leaves are a great ornament all the year round. At Exeter the plants had no protection whatever, and were fully exposed to the sun, planted in gritty soil with an admixture of limestone chippings.

ERANTHIS HYEMALIS (the Winter Aconite) with its bright yellow flowers is one of the earliest of flowering bulbs, and does not mind a shady place, though it will flourish equally well fully exposed; to look effective it should be planted in masses.

ADONIS AMURENSIS, whose home is Manchuria and Japan, is a robust and handsome perennial growing about 9 inches high, bearing bright yellow flowers, which are now fully expanded.

OF IRISES quite a number are already in bloom. *I. reticulata* is one of the first; it is a native of the Caucasus, and its bright violet-purple falls form

a pleasing contrast to the yellow stripe which runs through the centre of the keel. *I. r. histrioides* is also now blooming; it is of more recent introduction, with white flowers diffused with lilac. *I. alata* is bright purple with a yellow throat, a native of Spain and Northern Africa; it is now flowering in several gardens. *I. Danfordiæ* is also in bloom; it has handsome yellow flowers spotted with brown.

Among early spring-flowering bulbs now in flower there are, of course, Snowdrops, Crocuses, Scillas, and *Chionodoxas*, which always brighten the rock garden when most other flowers are still dormant. Here and there in warm positions Arabis and several Saxifrages are beginning to open, but their proper flowering time is not until March.

Elmside, Exeter.

F. W. MEYER.



SAXIFRAGA GRIESEBACHII IN FLOWER AT EXETER (FEBRUARY).

was delighted with last year. This year I shall try some fresh annuals, and will tell you the results if any are satisfactory.

North Wales.

E. J. LI. E.

THE ROCK GARDEN.

SAXIFRAGA GRIESEBACHII.

IT is still too early (February 24) for a large display of flowers in the rock garden.

Winter has not yet vanished, although we have had a spell of mild weather. The earliest harbingers of spring are always welcome, and when a new plant of real sterling value swells the list of the earliest bloomers it is doubly welcome. Such a plant is the new Macedonian Saxifrage (*Saxifraga Griesebachii*), which began blooming during the last week of January in the nurseries of Messrs. R. Veitch and Son at Exeter, where it is still in flower. This plant recently obtained the first-class certificate of the Royal Horticultural Society as a new plant. The accompanying illustration from a photograph taken at

BEAUTIFUL WALL PLANTS.

THE subjoined list comprises a few good wall plants that are growing here, and although few in number includes some of the best for general purposes. I have made no attempt to arrange them alphabetically, evergreen, deciduous, or other-

wise, they are simply taken as they are growing on different walls.

Chimonanthus fragrans var. *grandiflorus* has been in commerce a long time, but is not common. It is a great improvement on the type, being more vigorous in growth, with flowers nearly double the size, of greater substance, and more pronounced in colour. Our plant covers some 300 square feet of wall. Like the type it will adapt itself to almost any soil, and may also be increased by layers, which should remain two years before lifting.

Choisya ternata.—Another plant not at all particular in the matter of soil, and should be included in every collection for its flower, foliage, and scent. One point in its culture is of interest, i.e., that considerably increased vigour of growth is obtained on good soil; but this is more tender than that of plants where the soil is poor with sand or gravel beneath. Good bushy plants can be obtained easily and quickly from layers.

Rhamnus Alaternus variegatus.—From a purely foliage standpoint this is undoubtedly one of our brightest wall plants, the silver bands being deep and clear, and on light sandy soils well retained throughout the length of the long slender shoots. It shows to the best advantage if planted between things possessing dark green foliage such as *Magnolia grandiflora*, *Choisya*, or *Escallonia macrantha*. It can be increased by layers or cuttings as may be deemed advisable.

Cydonias.—Between the common scarlet and its less known white form are a considerable number of shades obtained from seed, and all make beautiful wall plants possessing the merit, if on a warm aspect, of flowering very early when there is little in the way of colour in the garden. The flesh-coloured variety fruits and seeds more freely with me than the others, and it is from this that most of the seedlings have been obtained. A rather heavy loam is the best compost for this family, short sturdy growth and large flowers being obtained in this way. The latter remarks apply to

Eriobotrya (the Loquat), which is worth a place on a warm aspect if there are long stretches of wall.

Ceanothuses are useful semi-evergreens, supplying a shade of colour not often found among wall plants. *Azureus* is the best known, and of this there are several fine varieties, larger in flower, and equally vigorous in habit.

Spiraea prunifolia fl.-pl. covers a large pier, and is very beautiful in late spring and autumn. It requires a fair amount of room, so that the long slender branches can hang over and show themselves to advantage. Where this is not practicable I should hardly advise its inclusion among wall plants.

Deutzia crenata fl.-pl. fills a large recess with some of the back branches fastened to the wall. There are few more beautiful shrubs. A few *Kerrias*, and the old *Weigela*, with *Magnolia grandiflora*, *Cercis canadensis*, and *Wistaria sinensis*, both very old, still remain as examples of some of the things used for walls by a bygone generation of planters.

Claremont, Esher. E. BURELL.

Where a suitable position can be found and sufficient space is at command a most interesting feature of the garden may be formed by growing a

collection of choice and rare creepers. An ideal place is a terrace wall. Nearly all the creepers mentioned below are practically small growing, and do not require large spaces to develop their full beauty as with the large majority of so-called climbing plants. There are many of our most beautiful shrubs which

may be thus treated that are not sufficiently hardy to withstand the severity of our winters in many parts of the country, and where a southern or western aspect can be chosen these will thrive and be of great beauty during spring, summer, and autumn, and the



GARRYA ELLIPTICA (NATURAL SIZE).

(From a drawing by H. G. Moon.)

lightest protection during winter will ensure their safety.

Actinidia Kolomikta.—A plant rarely seen in cultivation, yet most desirable for this purpose. It has conspicuous pure white, cup-shaped flowers half an inch or more in diameter.

Vitis (Ampelopsis) sempervirens.—A beautiful hardy evergreen, small in growth compared with the imposing varieties generally seen.

Berberidopsis corallina.—A very handsome evergreen climber, with coral-red flowers in drooping racemes, and requiring the protection of a wall facing south.

A. E. THATCHER.
Aldenham House Gardens, Elstree, Herts.
(To be continued.)

AN ARTIST'S NOTE-BOOK.

GARRYA ELLIPTICA.

As a hardy evergreen that is especially ornamental during the winter season, this Californian shrub might with advantage be grown much more frequently than it is at present. Specimens at this time of year that are large enough to flower have a singularly graceful appearance by reason of the long pendent catkins they bear. The leaves, which have a close resemblance to those of some varieties of the Holm Oak, are opposite, 2 inches long and elliptical, shining green on the upper surface and hoary beneath. It is from the axils that the catkins are

borne, these being of a greyish green colour, and from 4 inches to 8 inches long, with the flowers almost enclosed by cup-like bracts. Although comparatively rare in gardens, this shrub has long been introduced, Douglas, the Horticultural Society's collector, having sent it home in 1828. It was named in compliment to Mr. Garry, at that time secretary to the Hudson's Bay Company. The plant bearing the catkins as here described is the male; the female is very rare and not so ornamental. As a rule this *Garrya* is planted against walls, but it is quite hardy in the open or in shrubberies, where groups of it might very well replace the banks of Laurel so often seen.—T.

[It was described by Mr. Bean in his article upon catkin-bearing trees last week.—ED.]

NOTES FROM SWANSWICK.

ON visiting Messrs. Cooling's nursery the other day I was struck by something very gay in gold and green at a little distance. On approach it proved to be a group of *Elaeagnus variegatus*, and for winter colour this shrub is indeed a gem. It should make a lovely effect planted behind *Rhododendron præcox*, which is not at all such a bad pink as some people tell us, but is apt to have a pinched and only half-happy look, due possibly to its want of foliage when in bloom. This is the first season I remember *R. præcox* being able to flower here to perfection. Last time it was cruelly and effectually frosted exactly at the critical moment, and the year before a blizzard took its beauty. This year it has been exceedingly pretty, and being the only pink thing in the garden aided its popularity.

That woeful volume that records garden expenditure is just now full of entries after this manner: "Loam, one sack; peat, one cwt.; sand, one cwt." All these things are daily needed for rockery planting, and the only shadow of a shade of natural peat is a mile away in a supposititious bog-hole. Leaf-mould

of Nettles, "Crazy," and Comfrey, all of which flourished gallantly among the crockery and under the partial shade of a Yew, a huge Tree Ivy, and a backing of *Philadelphus*. The mound is about 30 feet long, 6 feet high in the middle, and the cultivatable portion about 10 feet wide, this embracing the long slope to the north. The southern and larger aspect is occupied by the trees and shrubs aforesaid, with the inevitable Periwinkle below. All the same, the golden-variegated *Vinca* is not at all a bad plant, and would be immensely admired if it wouldn't grow without coaxing and cost 10s. a root. After "cleaning" the heap, it was quickly landscaped into a very desirable rockery, and I have devoted it to the smaller *Campanulas*. Up to the present, *C. garganica* and *C. g. alba*, *C. muralis*, *C. abietina*, *C. barbata*, *C. carpatica* and *C. c. alba*, *C. Erinus*, *C. Hostii* and *C. H. pallida*, *C. portenschlagiana*, *C. pulla*, *C. pusilla* and *C. p. alba*, *C. Raineri*, *C. turbinata*, and *C. waldsteiniana* comprise the collection; but it is hardly needful to say that *C. tommasiniana* is to be added—in hope! The soil, of course, has been specially made at the site of planting for each. Besides these, a part of the rockery takes a few alpine

Phloxes, which in this garden seem to dislike the full sun, and promise to do better in a shadier place. The low end, close up to the *Philadelphus* bushes, we have planted with the nine varieties of *Epimeediums* from Mr. Perry.

The sunny rockery here is by no means so satisfactory or promising. A bank about 50 feet long and 3 feet high was grassed over, with a bed on the top, backed by thick shrubs. This bed, in the fullest south aspect, and completely sheltered from every breeze of roughness, we found occupied by some *Michaelmas*

Daisies, which were shockingly deteriorated, as might be expected under the circumstances, the soil being very fibrous, and containing a good deal of leaf-mould. We planted tender shrubs—*Cistus laurifolius*, *Ceanothus Ibis* (the pretty pink form from Newry), *C. dentatus* (the little evergreen form, with its very bright *Lithospermum* blue flowers), *Clethra alnifolia*, *Deutzia gracilis*, *Polygonum baldschuanicum* on poles as a centrepiece, *Choisya ternata*, and a variegated form of *Daphne Cneorum*, which came from an auction, and is, I believe, a bit of a "find." Among these are tiger and longiflorum *Lilies*, and the upper end tails off into a planting of *Iris germanica*. These things all do well so far, but the grass bank—very weedy—was an eyesore, and, having been stripped, is in process of formation into a rockery. It is of a yellow clay-loam, with many small stones in it, and will, I imagine, bake famously if we ever get a hot summer again. Consequently, much barrow work is required, and in spite of unnumbered loads thereby conveyed I hesitate to venture on any but confirmed *Parsees* in the way of plants. Some of the *Linarias*, *Sedums*, *Veronica saxatilis*, *Lewisia rediviva*, *Lychnis Lagascea* (in rock chinks), *Malvastrum Gilliesii*, *Cyananthus lobatus*, also chinked, and of

course provided with peat, sand, and leaf-mould to taste, and *Geranium argenteum* as the forerunner of more of its elegant relations, are all that are in position so far, and any suggestions as to other suitabilities would be gratefully received. We are having a lovely planting season, and the only fear is that it is altogether too good to last. Meanwhile, showers of much more than vernal softness, with airs somewhat boisterous, but little felt in this very sheltered garden, from west and south, have ushered out a February to be held in ever affectionate remembrance as gracious and clement. M. L. W.

CORRESPONDENCE.

(The Editor is not responsible for the opinions expressed by correspondents.)

A CABBAGE CURIOSITY.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I send you a photograph of a remarkable Cabbage grown on the farm here. It has not been eaten by insects, and the reason of its strange growth is at present a mystery. It appears in the photograph exactly as it was when cut. I enclose it thinking that it may be of interest to readers of your valuable paper. B. BLACKBOURN.
Royal Agricultural College, Cirencester.

CHRYSANTHEMUM MR. G. RUNDLE, &c.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I read with much pleasure Mr. D. B. Crane's note regarding the merits of the above in a recent issue, as only a few days previous I had been speaking to a friend about these varieties for decoration. Mr. Crane is perfectly right as to their being easily grown, and one has little to fear in the matter of buds coming blind. The late Mr. R. W. Nicholson, who was for many years gardener to Alexander Mackenzie Smith, Esq., Bolton Hey, Roby, Liverpool, was the finest grower of these that I ever remember. How he used to pride himself on his front row in the conservatory, which were composed alone of these varieties, whilst behind he had standard-trained plants, grafted specimens with the three varieties on the one plant, a feature that met with very hearty approval from visitors. It was not with the yearling plants that he excelled, but with those of two years' growth, carrying over fifty perfect blooms each, and it was on these that he constantly relied. After blooming they were cut down, placed in a frame and kept somewhat dry until a good break was secured, then potted in a good compost and returned to the frame. I am taking these up again this season for their incomparable beauty alone, and in the matter of staging may I make a suggestion, viz., that instead of showing two blooms of each make them trebles, then, as in the Rose exhibits, the effect will be greatly enhanced. A. B.

THE ROSE GARDEN.

PRUNING ROSES FOR EXHIBITION.

WITH the advent of March I thought perhaps some notes on the method I have adopted during the past three years when pruning my Roses might be of interest to some of your readers. For the purpose of making these notes explicit I have placed the varieties I succeed best with in three classes—Hybrid Perpetuals, Hybrid Teas, and Teas. Dealing first with the



A CABBAGE MONSTROSITY.

exists on the premises, but although there is the *débris* of twenty years under some Beeches, the practicable layer is only about half an inch thick, and entails a disproportionate amount of scraping and stooping to disinter it from under superincumbent undecayed leaves. The haulage up a long hill is so expensive that it pays better to fetch small quantities of soils than to buy them in bulk. Sharp sand is about worth its weight in copper in these parts.

Can there be a more fascinating garden operation than choice rockery making? It is neither hard nor dirty work, and one finishes up as one goes, which is always satisfactory. What I mean is not the actual piling of Pelion, but the planting and the arranging of the smaller stones. A legacy—a blessing disguised under several tons of broken bottles and like *débris*—of a vast mound of burnt rubbish mixed with very decent soil was left to us by the former inhabitant of this garden, and with rare discrimination they chose for it exactly the sheltered and shaded spot where a half-shade rockery should succeed. Like the very interesting mine refuse heaps lately illustrated, this mound seems to possess a considerable amount of fertility, and had done the best it could for itself by putting on a thick cloak

HYBRID PERPETUALS,

Mrs. John Laing, Prince Arthur, Victor Hugo, François Michelin, Alfred Colomb, Duke of Wellington, Marie Beaumann, A. K. Williams, Ulster, and Earl of Dufferin, these I prune down hard to two eyes, the upper one pointing outwards, and leave only three shoots. Disbud *gradually*, and allow three of the new growths to carry flowers. To Fisher Holmes, Mrs. Cocker, Mme. Gabriel Luizet, Marchioness of Londonderry, Mrs. Sharman Crawford, Charles Lefebvre, Etienne Levet, Hienrich Schultheis, S. M. Rodocanachi, Captain Hayward, Margaret Dickson, and Helen Keller I allow three eyes and disbud to four new growths. Her Majesty and Ulrich Brunner I allow five eyes and disbud to the new growths. I always thin out the weak and old wood the previous autumn and never allow a plant to carry more than three ripe growths. With the

HYBRID TEAS

there seems to be a diversity of opinion as to how these should be pruned. I find it best to cut down hard to two eyes, *gradually disbud*, and only allow at the most three new growths to carry flowers, with the exception of Caroline Testout and La France. Apparently this latter Rose only requires just thinning. One of the finest specimens I know of is growing in a cottage garden here. Every year it just gets the tops cut off and a pail of road sweepings put around its roots. During the summer it carries some magnificent blooms, quite up to exhibition standard. The varieties I grow are Killarney, Kaiserin Augusta Victoria, La France, Caroline Testout, Mrs. W. J. Grant, Bessie Brown (best on half standard), Marquise Litta, White Lady, Papa Lambert (best on Manetti), and Mme. Eugenie Boulet. Coming to the

TEAS,

I usually find on removing the protection that there is not a great deal of sound wood left to cut at. This season will, I think, be an exception. If possible I like to leave a good shoot—provided it is quite ripe—a little long and cut the others down to the best plump eye. Disbud *gradually*, and only allow the plant to carry two or three flowers. I always remove the protection and prune about April 7. The varieties I grow are White Maman Cochet, Maman Cochet, Mrs. Mawley, Marie van Houtte, The Bride, Medea, Catherine Mermet, Bridesmaid, Mme. de Watteville, Elise Vardon, S. A. Prince, Ernest Metz, Hon. E. Gifford, and Muriel Graham.

I am afraid owing to the forward state of the present season the Roses will bleed a good deal when cut, but I do not think it will matter, as the plants never seem to suffer through it. In conclusion, I may say all my Roses are given a dressing of cow manure in November, lightly turned in in the spring. I give them a dressing of Tonks' manure in February. From the middle of April onwards I give each plant once a fortnight, if the weather is wet, two gallons of liquid cow manure. About May 27 I give each plant two gallons of liquid chemical manure composed of nitrate of potash and phosphate of potash equal parts, half an ounce

to one gallon of water, repeating the watering ten days or so later. The liquid must on no account touch the foliage. Hoe the ground after each watering.

Enfield.

C. PAGE.

THE BEECH FERN IN AN IRISH GARDEN.

THE Fern shown in the photograph covers a space about 6 feet by 6 feet, and rambles among some rocky steps as well. It grows very luxuriantly.

ROGER HALL.

Narrow Water, Warrenpoint, County Down.

INSECT PESTS.

LEAF CURL IN PEACHES.

CONSIDERING how often questions are asked as to the cause of the malady commonly known as leaf curl, which so frequently attacks the foliage of Peaches and Nectarines, it is obvious that the real nature of the disease is not generally recognised, and it may be useful therefore before there is any chance of trees being affected by it to relate what is known at present about it, and what means should be used to prevent trees from being attacked. This disease is unquestionably caused by a fungus known as *Exoascus deformans*, and in spite of what some gardeners assert (that it is cold winds that are responsible for the complaint) it is certain that if this fungus did not exist there would be no leaf curl. It is easy to understand, as I will show presently, why this theory takes such hold on persons. The leaves are liable to be infected in two ways, either from the mycelium or spawn, which at times infests the young shoots, and from them spreads into the leaves, or more frequently from spores which have passed the winter on the buds. When these spores germinate a germ tube issues from them which pushes itself over the surface of the young leaf until it reaches one of the stoma or pores into which it enters. As soon as it is inside the leaf it

begins to branch and force its way among the cells of the leaf. If the condition of the leaf favours the growth of the fungus it grows very rapidly, ramifying in all directions among the cells of the leaves, causing an increase in their number and size, particularly of those of the upper surface, as the cells of the midrib are not affected to the same extent as those of the softer parts. The former does not lengthen at the same rate as the other parts, consequently they are obliged to assume the well-known puckered and crumpled up condition which is so characteristic of this disease, and from which it derives the name of the curl. In due time the fungus forms a number of cells full of spores, which force their way between the outer cells of the upper surface of the leaf, giving it the peculiar velvety grey appearance which is so well known. When these cells are quite ripe they burst and the spores are liberated into the air, to be carried about by the slightest breeze or wind. Some of these spores are sure to fall or be wafted on to the buds at the base of the leaves and to other parts of the trees, where they remain until the next spring.

The welfare of this fungus, like that of all living organisms, is greatly dependent on its environments. When the weather in the spring is cold and wet, and particularly if a cold wind follows a spell of warm weather, the leaves become saturated with moisture, and are soft and flabby, their powers of transpiration are considerably lessened, and the general vitality of the tree is lowered. Under these conditions, which are very favourable to the growth of the fungus, the disease makes rapid strides, and the tree is soon in a pitiable condition; but if the weather be favourable to the growth of the young leaves, and consequently unfavourable to the fungus, the latter, though present in the leaves, is unable to do them much injury.

It is easy therefore to understand that trees grown under glass are seldom attacked by this pest, for the conditions then are not those suitable to the fungus. It is evident that when the leaves are infected from the shoots there is nothing to be done but to cut back the shoots beyond the infested part. This may usually be known by the swollen appearance of that portion, but it is tolerably certain that this is not often the case, because if certain precautions are taken



THE BEECH FERN AT NARROW WATER, COUNTY DOWN.

to prevent the spores from germinating in the leaves the disease can be kept under control.

The large Peach orchards in America often suffer very much from leaf curl, but there it is found that the disease can be kept away by spraying the trees just before the buds begin to open with Bordeaux mixture. The spores are then just beginning to germinate, a condition in which the fungicide has the most effect on them. It is far better to perform the operation at this time than later, when the leaves are opening, as they are then more liable to be injured by the fungicide, and it is quite possible that the leaves may have been already infested. The spraying would then be useless. I am not aware that this method of dealing with this pest has been tried in England, but it has met with such success in America, where it seems to be very generally used, that anyone whose trees are liable to be attacked should certainly give it a trial. Bordeaux mixture leaves a deposit of lime on the trees; but though somewhat of an eyesore, it has this great advantage, that it is easy to see if the mixture has been properly applied to every portion of the tree. In the American orchards the trees are all standards, so that it is much easier to spray the trees properly than it is with us, where the trees are mostly fastened against walls. Still, if the spraying be carefully done there is no reason why every part of the tree should not be reached. Spraying has not the slightest effect on the fungus when shoots are infested by it, so that if it be found that the ends of the shoots for some inches are swollen or distorted, such parts should be cut off and burnt before the spray is applied. G. S. SAUNDERS.

ORCHIDS.

ODONTOGLOSSUM BRADSHAWÆ.

VERY handsome and striking is this flower, the result of crossing *O. harryanum* and *O. andersonianum*. It was exhibited by J. Bradshaw, Esq., The Grange, Southgate, N. (gardener, Mr. G. G. Whitelegge), at a recent Drill Hall meeting of the Royal Horticultural Society, and was awarded a first-class certificate by the Orchid committee. The sepals and petals are long and symmetrical, the ground colour pale yellow; upon the lower portion of the sepals are blotches of red. The base of the petals is white, and the flat, rather large white lip is prettily marked with dull red in its upper half.

CYPRIPEDIUM FAIRRIEANUM HYBRIDS.

WITH reference to the fact that hybrids of this plant refuse to cross with each other, Mr. James Douglas sent the following communication on the subject to a recent meeting of the scientific committee of the Royal Horticultural Society: "Some remarks were made at a recent meeting of the committee on crossing *Cypripediums*, and a misunderstanding arose thereupon. It was stated as a fact, and so far as I am aware the statement is correct, that hybrids of *C. fairrieanum* will not cross with each other. *C. fairrieanum* is a very scarce plant in Britain; except a small plant in the collection of the president of the Royal Horticultural Society I am not aware of any other. Consequently, hybridists are anxious to obtain seedlings with as much of the character of this scarce variety as possible. They have made many attempts by recrossing the *F. C. fairrieanum* hybrids in existence, but have always failed, although other hybrid *Cypripediums* will cross with *C. fairrieanum*. For instance, *C. oenanthum superbum* crossed with *C. fairrieanum* produced a very scarce and beautiful variety, Baron Schröder; *C. vexillarium* was obtained by crossing *C. barbatum* with *C. fairrieanum*, and this hybrid on being crossed with *C. bellatulum* produced *C. bellatulo-*

vexillarium, but *C. vexillarium* was the pollen parent. The object of bringing this matter before the scientific committee at all would be to ascertain why, if other hybrid *Cypripediums* will cross with each other, it is that *C. vexillarium* will not cross with *C. Niobe*, or why *C. Juno* will not cross with *C. arthurianum*, or any other of the numerous ways in which the *C. fairrieanum* hybrids may be crossed with each other? The pollen is potent enough if used on other species of *Cypripediums*."

NURSERY GARDENS.

MESSRS. CARTER & CO.'S PRIMULAS.

IT is our custom annually to pay a visit to the Forest Hill Nursery of Messrs. James Carter and Co., the seed merchants of High Holborn, for there the seeds of Primulas, Cyclamen, Cinerarias, and other indoor flowers for which they are so famous are grown. Just now the chief attraction at the Forest Hill Nursery is made by the Primulas. Several houses are full of them in various and shades of colour innumerable. Each variety is represented by a large number of plants, and these are kept distinct, so that one sees masses of flowers all of the same colour. Looking down the span-roofed houses the effect is striking, with large groups of one variety the colours are much better appreciated. To see just two or three plants of two varieties somewhat similar in colour one might think them to be insufficiently distinct to warrant Messrs. Carter (or anyone else) calling them by different names, but see a mass of them, say several hundreds of plants in flower, and the difference in colour is at once recognised, and one wonders how they could have been confused before, or that one could have been sceptical as to their distinctness. The reason is probably that the eye of the average person is not sufficiently trained to distinguish the true colour values of flowers, a few plants are not enough to enable one to judge of the true colour, a large number of them is necessary, and the two varieties must be side by side. Then is it quite simple to decide whether and how much they differ.

Thanks to the forethought of Messrs. Carter's representative at Forest Hill we were able first to see small selections of each of the varieties grown, and in order to appreciate fully their colour values we made the round of the houses afterwards. We always look forward with interest to a visit to Messrs. Carter's Primulas, for it is good to see how well these plants are grown at Forest Hill, surrounded as they are by bricks and mortar, and it also serves to convince us that the Chinese Primula is not only a plant for the country, but for town gardens too, and even for those most unfavourably situated, or it could never grow and blossom as it does at Forest Hill. Of course we know that skill and careful cultivation, taught by long experience, have much to do with Messrs. Carter's successful flowering of these plants; but allowing even for this, we are convinced that the town, as well as the

country, gardener need not be afraid to attempt the culture of this most valuable of early greenhouse flowers.

So much for The Primula, now for Primulas, and first the semi-double ones. Prince of Wales, a Palm-leaved variety, has rosy salmon flowers; while those of the one named Princess of Wales are almost white; Lilac Queen, with rich rose lilac blooms; Double Scarlet, which is self descriptive; Aurora, with pink and white flowers borne on strong stems; Vivid, carmine; Snowflake white, very slightly tinged with pink; Carmine Empress, which is more than carmine, it is rich carmine. All have semi-double flowers and Palm-shaped leaves. Among the single Primulas Holborn Queen forces itself into notice, its well-formed blossoms being white with a yellow centre; while Ruby is a flower of beautiful colouring, of which rosy carmine is perhaps the nearest pen description; Elaine, the edges of the pure white, green-centred flowers being prettily frilled; Rose, which defines itself; Venus, the blooms flaked and spotted with crimson upon a white ground; Salmon, well named as regards the colour of the flowers, which are borne well above the foliage; Rose Queen, which blooms more freely than the variety Princess May, which it resembles; and Vermilion, a splendid colour, the term crimson-red (which, perhaps, is the best word description one can give to it) does nothing like justice to the blooms; these are possibly the best of the doubles. With the exception of Salmon, Princess May, Rose Queen, and Vermilion they are all Fern-leaved varieties.

We have said possibly the above are the best, but we would add the following also, they may be even more highly thought of by Messrs. Carter than those mentioned: Carmine, Elaine Improved, Holborn Scarlet, Holborn Magenta (not nearly so unlovely as its colour would lead one to suppose), Holborn Pink (a beautiful flower), Edward VII. (bearing large white blooms with beautifully fringed edges), Crimson King (a splendid dark crimson), and Holborn Blue—as blue Primulas go one of the best in colour. Of Star Primulas (forms of *P. stellata*) we noticed lilac, white, and pink-flowered varieties, and doubtless before long we shall be able to chronicle the advent of a true blue.



FLOWER OF ODONTOGLOSSUM BRADSHAWÆ.

(First-class certificate, Royal Horticultural Society, February 24.)

THE FRUIT GARDEN.

PEAR PASSE CRASSANE.

KNOWING well how few varieties there are of really good late Pears, and also how very much a good flavoured one is appreciated, leads me to wonder why Pear Passe Crassane is not more generally cultivated. I have had the pleasure of exhibiting fruits of this variety before the fruit committee, and they have received a first-class certificate of the Royal Horticultural Society. This year I again showed it, and many were astonished by its size and, what is more important, its splendid flavour. The fruits exhibited recently were grown on a west wall and given very liberal treatment. The accompanying illustration shows one of them. I think it is generally admitted that last season was the worst experienced for many years for the proper development of fruit, and especially of late Pears, but with me Passe Crassane was as good as ever. My object in writing this note is to encourage those who have hitherto not been successful with it to give it liberal treatment, using well both manure and water in the late autumn. Plant it in very rich soil, such as that from an old Cucumber bed.

G. WOODWARD.

Barham Court Gardens, Maidstone.

HOW TO PACK GRAPES.

THIS is always an interesting subject, and the article on page 149 gives a good account of how to do it. From my own experience, and also from what I see very often in the markets, 12lb. is quite heavy enough for the majority of the buyers, unless at a very cheap rate. It is also interesting to note your good illustration, which at once practically demonstrates the advantage of the local and suburban growers over those who have to send a longer railway journey.

Were I to advise, and I am now speaking from my own experience, it would be a large "handle" to hold more than 8lb. or 9lb., a 6lb. size being more in request, especially when Grapes are more than 1s. per lb. Then I never advise standing the bunches upright. My favourite handles, not the deep Channel Islands ordinary basket, are more shallow, and the bunches actually rest full length, the shoulder only being upright. I am also pleased to note that this style of handle, specially made at a low rate in Wiltshire on the borders of Hampshire, is much in use still, quantities coming to market from Fordingbridge and Wimborne. These who remember the Inventions Exhibition of 1885 may recollect my premier packing exhibit. This was a very shallow cross-handled basket to hold 12lb. Not only with the Grapes in this particular handle, but in all, I venture to assert every bunch is practically perfect, except for the side resting on the basket. I have also tested this way of packing for a 500 miles railway journey.

What we as growers have to do is not to fill the handles, as per the Channel Islands, but, on the contrary, to so pack every bunch that each presents a perfect face, and yet they are firmly packed so that unless actually turned over would travel well. Did space permit there are several little details that I could touch on, even though the actual packing to the experienced is so simple.

THE ALICANTE GRAPE.

THE note of "R. D.," page 138, does not go far enough *re* the cause of the Alicante shrivelling.



FRUIT OF PEAR PASSE CRASSANE (ALMOST NATURAL SIZE).
(Shown by Mr. Woodward at a recent meeting of the Royal Horticultural Society.)

Only recently a leading grower informed me that he had cut out a large quantity of berries, but admitted he was not likely to repeat the error, which was caused through want of fire all through the growing season.

Quite possible, had the season been a normal one, Grapes would have kept as well as usual, even though the fuel had been pinched or stinted, but a bad season following no Grape suffered more than Alicante. The true cause of this is that not only were the skins of berries unripe, but berries also were fuller than usual of watery not saccharine matter, which as it wasted away caused the skins to collapse. Because of the hardy nature of the Alicante liberties were taken with it all through the season, both with regard to fire-heat and also reduced ventilation.

Many never gave fire-heat until the berries began to colour. Fire-heat was then applied, and it was useful in so far that it assisted the ripening, but it never could promote the necessary quality in the berries for keeping. I have this week (the last days of February) seen bunches of Alicante both under canvas and also a few in the open. In each case they are being marketed quickly before they get more shrivelled.

I know it is the season, combined with want of fire, which is the reason why bunches of Black Alicante do not keep. This variety, when well grown, is a good keeper. I have not only had it good in April, but also sent the fruit 400 miles during the first week of April, and being second only to Lady Downe's; this, too, where the latter Grape is grown to perfection—in Edinburgh and its neighbourhood.

Lastly, a word as to flavour. With some growers it is very deficient, but when well done it is good, the chief drawback being the tough skins. Also good flavour is possible when the Vines are well cropped.

STEPHEN CASTLE.

RECENT PLANT PORTRAITS.

THE *Botanical Magazine* for March has portraits of *Aloe rubroriolacea*.—Native of Southern Arabia, and an exceedingly handsome Aloe, which bloomed in Sir Thomas Hanbury's garden near Mentone. It is admirably represented on a fine double plate. *Sophora vicifolia*.—Native of China. It is also known under the name of *S. mecroftiana*. This is an extremely pretty small shrub with bunches

of white flowers, which have conspicuous purple calyxes, forming a charming contrast.

Hamamelis mollis.—Native of China. This is a very handsome form of Wych Hazel, with brightly conspicuous golden-yellow flowers, much larger and of a brighter shade of colour than those of *H. zaccariniana*.

Phalenopsis Kunstleri.—Native of the Malayan Peninsula. This is a rather small and thin-flowered variety, but very bright in colour; the centre of the flower is crimson, and the tips of the petals golden.

Chrysanthemum grande.—Native of Algeria. This plant is also known under the synonyms of *C. grandiflorum*, *Plagiis grandiflorus*, *Balsamita grandiflora*, *Matricaria grandis*, *Tanacetum grandiflorum*, and *Cetula grandis*. This is a large, coarse-growing plant, with conspicuous yellow flowers with no ray florets and but little beauty.

The first part of the *Revue Horticole* for March figures

Brachychiton acerifolium.—A native of Australia. Its native name is the Flame Tree, from its conspicuous bunches of most curiously formed red flowers. It is hardy in the south of France, but an exceedingly shy bloomer. Those planted twenty years ago at Monte Carlo have only bloomed on one or two occasions.

The *Revue de l'Horticulture Belge* for March figures

Hymenocallis or *Ismene calathina*, a well-known stove bulb, with large and pure white flowers.

Dianella Tasmanica variegata.—A very handsome gold variegated foliage plant, resembling in appearance one of the variegated forms of *Phormium tenax*.

The seventh and eighth parts of volume xvii. of *Lindley*, appearing as a double number, give portraits of the following Orchids:—

Odontoglossum crispum var. *Griselidis*.—An exceedingly distinctly marked and beautiful variety.

Cypripedium lawrenceanum var. *Ardens*.—A very handsome variety, somewhat inappropriately named.

Cypripedium Miss Louisa Fowler.—A most distinct and delicately beautiful variety.

Cattleya Triana var. *triumphans*.—A most bright and beautiful variety.

Cypripedium lecanium var. *olivaceum*.—A very distinct and beautiful variety.

Cattleya Loddigesii var. *Harrisoniae* sub. var.

porisiana.—An exceedingly bright and beautiful variety.

Tanda tricolor var. tenebrosa.—This is quite an acquisition, and an immense improvement on the well-known type. Its flowers are in every respect larger, handsomer, and of brighter colouring, which will doubtless cause it to be much sought after by all Orchid lovers.

W. E. GUMBLETON.

GARDENING OF THE WEEK.

FLOWER GARDEN.

ORNAMENTAL HEDGES.

PLANTS of an ornamental character suitable for growing close to or round a garden, for the purpose of forming divisions between different parts of the enclosure, should possess some special qualifications. They should be evergreen, and not subject to lose their lower foliage or fall out of form in parts, but should be fairly quick-growing and submit to be shorn or clipped at frequent intervals without suffering a check to growth. They should, in fact, grow all the quicker for constant pruning if it be desirable to have them in any way; but, where there is space to admit of the plants developing their natural form, no clipping, pruning, or training will compensate for loss of gracefulness of outline as obtained in a shrub or tree naturally grown. A strange custom existed in many gardens years ago—and, I am afraid, still exists in a few up to the present time—of adopting a system known as “topiary work”; that is, the plants are grown in all conceivable shapes in imitation of various fantastic things instead of that graceful, careless habit usually resulting from natural growth. We should do much better in matters of this kind by closely following the example set by Nature than by introducing into our gardens such devices as these.

THE FOXGLOVE.

Where the soil is good and a little shelter can be given, I know of no hardy flower that will give a better return for any little trouble that may be taken with it than our old-fashioned Foxglove. When grown as a garden flower the Foxglove should never be planted in a dry, breezy, starving situation. It is a moisture-loving plant. The fernery or any snug wild nook suits it well. These conditions will promote a good growth, and at the same time set off the peculiar beauties of the plant. In common with Lilies, Foxgloves associate well with Rhododendrons. They also do well in mixed borders, appearing to be well placed no matter where they are. In any case a good clump is better than a few single plants, and it matters not how the sorts are mixed; in fact, the more mixing the better. Seed should be sown in April or May. The plants should have a little nursing in a frame and be planted out the following spring.

GENERAL WORK.

Hyacinths and Tulips planted in October and November will now be pushing through the soil. They will be rather tender, owing to the warm weather in February. Spread over the beds a mulch of stable litter or cocoanut fibre refuse to protect them from frost. Crocuses will need protection from sparrows; so will the double Primrose. I find in many gardens these birds are now playing sad havoc with both leaf and bud. The best way to stop the little depreducers is by stretching black cotton fairly tight over the blossoms.

HERBACEOUS PEONIES.

The proper time to lift and plant large roots is from August to October, but pot plants from nurseries should be planted out now and have abundance of water the first season.

T. B. FIELD.

Ashwellthorpe Hall Gardens, Norwich.

KITCHEN GARDEN.

CHINESE ARTICHOKE (*Stachys tuberifera*).—This is a delicate vegetable, and requires more care in

planting and tending than the Jerusalem Artichoke. The tubers of this Artichoke are quite distinct, and if they are not grown to a good size it is a tedious process to prepare them for the table. Plant in deeply dug ground that has recently been well manured, placing the sets 12 inches or 15 inches apart in the row; the rows may be 2 feet apart. A good sprinkling of charred garden refuse thrown upon the tubers before filling the drill with soil is beneficial.

VEGETABLE MARROWS.

Plants already raised for growing in pits and frames for early supplies should be encouraged to grow freely without a check. When planted in their fruiting quarters apply top-dressings of warm rich soil. Attend to training the leading growths. Admit air freely when the weather is mild; cold draughts will encourage mildew. Should this appear dust the foliage with flowers of sulphur without delay. Those who have not convenience for growing this vegetable so early may sow some seed at this date. Sow sound seeds of such good varieties as Pen-y-Byd, Moore's Cream, or Long White singly in 3-inch pots. Press the seed edgewise 1 inch under the surface of the soil, then give the pot a smart tap on the potting bench, but do not make the soil firm. Plunge the pots in the propagating house, and when the seedlings appear place on a warm shelf near the light. As the first rough leaves develop place in a somewhat cooler structure to harden and plant out where they are to be grown. A frame placed on a hot-bed that has, perhaps, produced a crop of forced Asparagus will answer well for these early Marrows, as the remaining warmth will be just sufficient to encourage the formation of healthy roots without unduly forcing the plants. Add soil as required and peg down the growths, removing any that are unfruitful.

CAULIFLOWER.

Some of the strongest plants raised from seed sown last autumn, if the weather is favourable, may be planted out on rich ground that has not recently carried a crop of Brassicas. Lift the plants with plenty of soil and insert them with a trowel. Some protection must be given, such as inverted flower-pots with the drainage hole stopped up, placing them over the plants at night, to be removed during fine days. Evergreen branches placed about them will also answer, and these could remain until danger of sharp frosts is past. Some seed may be sown on a warm border for providing plants as a succession to those raised under glass in February.

OTHER SEEDS TO SOW

comprise Broccoli (Snow's Winter White and Self-protecting), Savoy of the Early Elm variety, Leeks for main crop, and successional Peas, Beans, Spinach, Radish, Lettuce, and other salads. The Brassica tribe, other than those enumerated above, should not be sown until the end of the month; if sown earlier the plants become drawn in the seed-beds and receive a severe check when transplanted to their permanent quarters. It is better to have smaller and sturdier plants that will grow strongly at once.

Stoneleigh Abbey Gardens. H. T. MARTIN.

INDOOR GARDEN.

GLORIOSA SUPERBA.

SUCH tubers of this plant as were advised to be started some weeks ago should now be making growth. Where this is the case keep them in the warmest part of the house near the glass. Sometimes these tubers refuse to start early, and where this difficulty has been experienced fresh tubers must now be plunged in a sharp bottom heat of 70° to 75°, and if watered with tepid water should start freely.

CROTONS.

The Croton is quite indispensable where choice decorative plants are in demand. Young plants rooted from cuttings put in last autumn will now be ready for a shift into 5-inch and 6-inch pots. Such plants as were propagated from strong leading shoots will require the larger size. Before

repotting see that the plants are free from the small brown scale which frequently infests them. A good wash for this purpose may be made by dissolving 4oz. of soft soap in one gallon of water and adding one ordinary wine glassful of paraffin. Keep it frequently moved while being used, and thoroughly wash the stems and foliage. Avoid damage in the foliage while cleaning or the plants will never look well. A compost of two-thirds good fibrous loam and one-third peat with an addition of rough hard charcoal and an 8½-inch potful of Clay's fertilizer to a barrowload of soil and sufficient coarse sand to render it porous will be suitable. If the young plants are well rooted on being turned out of their pots disentangle the roots a little before repotting and pot them quite firmly. Place the plants in a hot moist house and syringe them lightly two or three times a day, and see that they do not become very wet at the root.

BOUVDIARIS.

Old plants that were shortened back immediately after blooming will have made shoots large enough for cuttings. Insert these in sandy soil and plunge in a sharp bottom heat; they will then root freely. Some varieties propagate freely from root cuttings. When this method is adopted the plants should first be started into active growth, and portions of the stronger roots may be taken, retaining a few fibrous rootlets if possible with each root cutting; these, inserted in sandy peat in a good bottom heat, make plants quickly.

COLEUS.

Where specimen plants for summer decoration are required cuttings should at once be taken; these easily root in a hot house, and if grown on will make plants of a pyramidal form 4 feet to 5 feet high by July or August. A few of these trained as standards are often useful. Such plants as *Centropogon lucyanus*, *Reinwardtia*, *Sericographis*, *Libonia*, and *Eranthemum* now passing out of flower should be cut back, well cleaned, and placed in a warm house with a view to providing abundance of cuttings in a few weeks' time. Look over cold frames and remove Lilliums and other plants from the material in which they were plunged before the young growth becomes blanched or weakly plants will result. Remove any damped or decayed foliage from *Cinerarias* or *Calceolarias*, and where the flower-stems of the former are advanced see that the necessary support is given them in the way of small neat stakes. Keep the plants clean by frequent fumigation.

Wendover.

J. JACQUES.

THE FRUIT GARDEN.

HARDY FRUIT.

ALTHOUGH hardy fruit trees are forward, yet, owing to the absence of sun, they are not so much advanced as at one time we expected to find them. The abundant blossom buds justify the expectation of an excellent crop of fruit, provided we can protect from the troublesome spring frosts which generally follow mild winters. In all cases where movable screens can be adopted no time should be lost in getting them fixed, as much may often be done by shading from bright sunshine and so-retarding the blossoms of Apricots and Peaches, but, as we have before stated, coddling must be regarded as one of the greatest evils. On the other hand, it will be well to avoid being lulled into carelessness by the favourable appearance of the early night. The first important item in wall covering is protection of the blossoms from wet, either by use of glass or boards. The weather having been favourable for outdoor work, it is hardly possible that any part of the winter routine can be in arrears, but where this is the case no time must be lost in setting matters straight, as a busy time is at hand, and doing things at the right time is quite as important as doing them well.

CUCUMBERS.

Since our last notes were written we have experienced a change to rather colder and squally weather, which will necessitate extra firing. Few plants are so easily and injuriously affected by

sudden changes. The cultivator must be ever on the watch for the appearance of red spider and thrips, which invariably spring into existence when old plants are placed under the influence of overheated hot-water pipes. If taken in time the most effectual remedy is sponging with warm soapy water; but prevention being better than cure, frequent syringing with a weak solution of Gishurst Compound on mild evenings or dull days will keep these troublesome enemies in check. If mildew, the outcome of insufficient bottom heat, hard cropping, and a low stagnant atmosphere puts in an appearance, syringe well with clear sulphur water, renovate the beds, and stimulate the plants with copious supplies of clear tepid liquid or guano water. As young growths break away under generous treatment, gradually remove old leaves, crop lightly, fertilise the most promising flowers, and cut the fruits before they are full grown.

VENTILATION AND CLEANLINESS.

These two important items in successful culture must not be overlooked; but draughts being harmful the air should be conducted through ventilators placed in front of the pipes and on a level with the surface of the fermenting material from which moisture and ammonia will be carried to the foliage and fruit. Cleanliness may be secured by the removal of all decaying matter and the frequent washing of the floors, shelves, and glass. Give every attention to spring-sown plants intended for pits or houses, and pinch or train to suit the position they are to occupy. If not already sown, a few seeds of some good prickly varieties may now be sown for fruiting in ordinary pits and frames. Although we have tried a great number of good novelties, we have not yet met with anything to surpass a variety sent out by a Worcester firm under the name of Smith's Frame. Many people think the prickly sorts superior to the smooth Syon House section. As consumers we do not feel competent to venture an opinion: as growers we prefer the first for frames in summer and the last for house work all the year round.

Madresfield Court.

WILLIAM CRUMP.

KEW NOTES.

INTERESTING PLANTS IN FLOWER.

Temperate House.

ACACIA (various species), Arundinaria Simoni, Begonia dichotoma, Camellia reticulata, Chorizema ilicifolium, Clianthus puniceus, Coriaria nepalensis, Echium callithyrsum, Geijera parviflora, Grevillea linearis, G. punicea, G. thelemanniana, Loropectalum chinense, Polygala myrtifolia var. grandiflora, Psychotria capensis, Pultenaea flava, Rhododendron arboreum, R. ciliatum, R. grande, R. hybridum, Rondeletia cordata, Rubus incisus, and Vaccinium Myrsinites.

Palm House.

Acokanthera venenata, Brownea Crawfordii, and B. grandiceps.

Orchid Houses.

Bletia striata, Cymbidium eburneum, Cynorchis lowiana, C. villosa, Dendrobium aggregatum, D. crassinode, D. chrysoideus, D. Juno, D. kingianum, D. nobile var. virginale, Epidendrum o'brienianum, Epiphronitis Veitchii, Eria confusa, Hexadesmia fasciculata, Liparis nervosa, Masdevallia triangularis, Odontoglossum Cervantesii, O. cirrhosum, O. Hallii, O. triumphans, Oncidium altissimum, O. lucasium, Ornithidium densum, Phaius Cooksoni, P. Norman var., and P. Wallichii.

Range.

Amphicome Emodi, Anoiganthus breviflorus, Brunfelsia calycina, Clerodendron Thomsoniae, Erica persoluta var. alba, Hypoxis stellata var. elegans, Kalanchoe Kirkii, Lacheralia Nelsoni, L. triflora, Plumbago rosea, Scilla peruviana, Sinningia concinna, and Tetranema mexicana.

Greenhouse.

Among other things the following are conspicuous: Acacia (various species), Coleus thyr-

soideus, Cytisus fragrans, Darwinia hookeriana, Ericostemon (several species), Eupatorium (several species), Hippeastrum (garden varieties), Primula kewensis, Tree Paeonies, and forced shrubs and bulbs.

Aroid House.

Chamaedorea lindeniana.

Alpine House.

Anemone intermedia, Corydalis bulbosa, Cyclamen libanoticum, Draba Gilliesii, D. grandiflora, D. hispanica, Dodacatheon ellipticum, Erythronium Hartwegi, Fritillaria pudica, Gagea arvensis, G. lutea, Hyacinthus azureus var. robustus, Ionopodium acanle, Iris pumila var. cerulea, I warleyensis, Muscari (several species), Narcissus cyclamineus, N. triandrus var. concolor, Primula denticulata, P. d. var. alba, P. frondosa, P. Palinuri, Romulea Columnae, R. Requienii, Soldanella montana, and Trillium nivale.

Rock Garden.

Anemone angulosa, A. blanda, Cardamine polyphylla, Daphne blagayana, Draba aizoides, D. stellata, Hocquetia epipactis, Lathyrus cyaneus, Leucocjum Hernandezii, Omphalodes verna, Primula marginata, Saxifraga apiculata, S. Kotschyi, S. oppositifolia, S. rocheliaana var. coriophylla, S. Salomoni, [S. sancta, and Scopolia carniolica var. concolor.

Bulb Borders.

Brodiaea uniflora, Chionodoxa cretica, C. Luciliae and varieties, Fritillaria aurea, F. astrabadensis, F. Lowerzowii, Hyacinthus orientalis, Muscari hotryoides and varieties, M. commutatum, M. racemosum, Scilla bifolia and varieties, S. meseniaca, S. sibirica and varieties, Tulipa kaufmanniana and T. violacea.

Arboretum.

Acer opulifolium var. obtusatum, A. rubrum, Berberis Darwinii, Clematis alpina, Cydonia japonica, C. Maulei, Erica lusitanica, E. mediterranea and varieties, Forsythia intermedia, F. suspensa, Parrotia jacquemontiana, Prunus triloba and others, Rhododendron campanulatum, R. fulgens, Spiraea Thunbergii, and Stachyurus praecox.

RIVIERA NOTES.

THE new hybrid Tacsonia militaris is flowering well, and is a fine large flower, blood-red in colour, and quite distinct from Van Volxemii, but yet showing little of the T. ignea blood save in the suppression of the tube. As the long, pendent flower-stalk is there, one misses the usual tube! If only the leaves did not turn yellow in the sun it would be a real acquisition, as it is—one hesitates to say it—superior to its parents, though it is of undoubted beauty on account of its rich colour. The other day at Cannes I was much pleased to see

Rose Anemone in flower already; if it proves a constant winter bloomer it will be indeed a treasure with its shining foliage and vigorous growth. Tea Rose Dr. Rouges is another admirable addition to winter-blooming Roses for verandahs; so far this winter it has contrived always to keep in flower, and the spring crop is now far advanced towards flowering.

Primula verticillata is very gay just now; it will be interesting to see if the new P. kewensis is superior to it in the open. Pot work and open borders demand different habits, and the pretty little P. floribunda is useless here unless quite under cover; its flowers and flower-stems are so soft.

A magnificent Oncocyclus Iris in a friend's garden is a great puzzle to me; now in flower it is handsomer than I. Gatesii or I. Lortetii, and I think so great a beauty must be well known somewhere. Its earliness shows its distinctness, as neither I. susiana, I. Gatesii, or I. Lortetii are nearly out in other gardens. I.

tingitana is well out, and when the falls become white—just before they fade—the contrast of colour with the yellow eye and the blue standards is very charming, but until the falls lose the grey shade they have at the first its beauty is a little overrated in my judgment. The wealth of flower now is so very great that perhaps one becomes over critical.

What a charming shrub Coronilla Valentina is for the wild garden; earlier and hardier than Coronilla glauca it has naturalised itself in some places and makes a lemon-yellow background to the wild Anemones and grey Rosemary. In a fine season like this, perhaps the end of February is the best moment for the gardener here. In such places as La Mortola, where huge masses of flowering Aloes such as A. supralveis and A. dyckiana are crowned with their branching heads of Tritoma-like bloom, the effect against the blue sky or sea is well worth the journey out, and it is pleasant to hear the note of wondering admiration struck by those newly arrived, whose eyes are as yet unaccustomed to such brilliance!

A small plant of Exochorda Alberti macrantha has surprised me by flowering. If it is always as early and as free as it seems to be it will be quite an addition, but to ordinary eyes it is marvellously like the older and well-known forms.

E. H. WOODALL.

MISCELLANEOUS.

THE IMPROVEMENT OF TOWNS AND CITIES.

OLDER European cities have been built too compactly, with most of the streets so narrow that there was no room for ornamental trees for beauty and shade. Many cities were surrounded by fortification walls and trenches. In the warlike times of the past the growing population was huddled closer and closer together, and the only beauty spots within the city limits were mostly the residence grounds of a few noblemen or princes. Many citizens cultivated vegetable and fruit gardens of small size near the outside of the fortifications, and here they could enjoy, behind closely-clipped hedges, the advantages of an invigorating country life. Here the children received their highly-valued lessons of floriculture and horticulture, and the family raised on very limited ground their fruits and vegetables. On Sundays and holidays the family, with its neighbours and friends, would stroll among the near-by farms and enjoy the meadow scenery and woodlands, or would go to the city forest, generally situated on the nearest hills. In times of peace this was an enjoyable and civilised condition.

But the times have changed and cities have grown to enormous size. The walls and ditches of the former fortifications have been converted into circles of beauty in many cities where the citizens can promenade on spacious, clean walks, bordered by well-kept lawns, with beautiful trees, shrubs, and flowers, and with spaces for monuments.

In our United States certain conditions have led to the much more rapid growth of small cities and towns into large cities, with the great disadvantage, except in rare cases, of having secured no land holdings of any extent for the rural enjoyment of those of its citizens who have to depend on such for their families, and who should thus be provided for. Park lands are bought apparently cheap, but they often consume enormous sums for development as a pleasure park, whereas a forest park might be equally desirable. Enough acreage for a number of pleasure parks is often bought in one plot, affording great advantages to the section of a city contiguous to it, but to the disadvantage of other parts, although the neglected section

may lie just as near to as desirable a piece of property for park purposes. Boulevards and walks, connecting links between the different pleasure parks, of moderate size, are not provided for until the land to be obtained for it has a value out of all proportion. When the pleasure parks are included in one large area, instead of a number of smaller ones on different sides of the city, connected by a boulevard, they generally assemble a jumble of many different incongruous features, and no unity of purpose prevails.

What has a music stand to do in a landscape park? Only to disturb the quietness of Nature. A sufficiently large enough space set apart on the boulevard would be all that is needed for this purpose. What has a museum to do in a landscape park for all the people? It belongs with the library more to the centre of a city, built on a beautiful square, easily accessible for research and study. What have monuments to do in a park, when the right place is on a boulevard or on the corners or in the centre of a city square? Aviaries, aquaria, and deer parks should be in a zoological garden. Conservatories, greenhouses, nurseries, geometric, or formal gardens, should be in a botanic garden. The botanic garden should show the floras of different continents in geographical distribution. The park for landscape effect only should show the possibility of this art in its highest perfection by the simplicity of its material, the great variety of expressive pictures, and the infinity of natural form of the local or country's flora. City squares as well as children's playgrounds should be bought in time before property rises to exorbitant prices. All school yards should be large, with plenty of playground.

A forest park would be the greatest blessing to the population of a city. I choose this term in preference to that of forest or reservation, because it should have much artistic natural park-like scenery instead of scientific forest plantings alone. A forest park well managed would be no expense to a city after a certain number of years; it might even be profitable in some cases. It could contain wild berry patches, such as Gooseberries, Blackberries, Dewberries, Huckleberries, &c., and wild Strawberries; also wild tree fruits like Cherries and Plums, and all for children to pasture on at their own will. The many wild flowers could be picked, but no plants unnecessarily destroyed. Birds and harmless small animals should here find a home without fear of molestation. Drives and walks should be very few and only the most necessary, but plenty of paths must be provided. All pleasure vehicles should be left on the outside, but should be cared for in appropriate buildings, free of charge. Laws and rules should be very few, but such as are necessary should be strictly enforced. The city should have its own street car lines to such a park, and many a town or city might afford a forest park when it would be, for the time being, out of the question to create and develop one of the other parks of a park system.

W. VORTRIEDE, in *Park and Cemetery*.

SOCIETIES.

REDHILL, REIGATE, AND DISTRICT GARDENERS' ASSOCIATION.

THE fortnightly meeting of this society was held at the Mutton Hotel on the 17th ult., Mr. Bound in the chair. Mr. Mould was awarded the society's certificate for Parsnips. Ten new members were elected. The chairman introduced the lecturer, Mr. Duncan, of South Park, Reigate, to give his lecture on "Insect Pests of the Garden." Mr. Duncan gave a most interesting lecture on the life history and structure of these pests, and also the best means of eradicating them from our gardens. He gave the members some very useful recipes for the destruction of insect pests and the best time to apply them. The lecture was well illustrated with lantern slides. A hearty vote of thanks was accorded the lecturer, who had given his services free of charge to the society.

CARDIFF GARDENERS' ASSOCIATION.

THE usual fortnightly meeting took place at the Grand Hotel on Tuesday, the 24th ult., Mr. C. E. Collier in the chair. Mr. Waller, Cucumber grower, Eastbrook Nurseries, Dinas Powis, Glamorganshire, delivered an exceedingly exhaustive lecture entitled "The Culture of Cucumbers." He dealt first with the best methods of sowing seeds

watering, and transplanting; then the best soils, manures, training the plants, &c. Mr. Farmer opened the debate, which occasioned a good discussion, more particularly as to the best ways and means of fighting against the ravages of the dreaded mildew and insect pests, without injury to the foliage. The best thanks of the meeting were accorded Mr. Waller for his excellent lecture. A first-class certificate was unanimously awarded to Mr. Waller for a collection of well-grown fruits of Cardiff Castle Cucumbers.

CHISLEHURST GARDENERS' ASSOCIATION.

MR. H. CANNELL, the well-known florist, &c., of Swanley, gave a very instructive lecture on Tuesday, the 24th ult., before the Chislehurst Gardeners' Society, on "How to Grow Onions." In the course of his remarks Mr. Cannell said when the properties and value of the Onion were known, so sure would growers be able to produce fine ones, from the very fact of their knowing how necessary they were to keep us in health and strength. He was convinced that a capable grower could get a good living from Onion growing alone on light rich soil. The first thing necessary to know was their several diseases—blight, maggots, &c., and how to prevent these pests alighting and injuring the crops. A good, deep, rich soil should be selected, facing the sun as much as possible, in as warm and sheltered a spot as could be obtained. The ground should be covered with a quarter of an inch of soot, with a good strong coating of guano, followed with 4 inches or 5 inches in depth of good fresh horse or farmyard manure. This should be incorporated regularly amongst the soil as it is turned over and trenched 3 feet deep. Care should be taken that the top spit comes on the top again, and the second spit immediately below it. When watering in the dry weather in summer the moisture should go down at least a foot. When the plants are about 1 foot high they should be sulphured at the top and bottom to prevent moths settling and laying their eggs. This also would prevent mildew. This dusting should be applied every fortnight, and is easily applied by the "Ideal" bellows. The lecture was listened to with attention, and the meeting concluded with the usual votes of thanks.

WYLAM AND DISTRICT HORTICULTURAL SOCIETY.

THERE has lately been formed at Wylam a society whose object is to arrange discussions on horticultural and educational subjects, and to promote the welfare of horticulturists in the district. Meetings are held twice every month in the hall of the Wylam Reading Institute. The president is Mr. N. C. Cookson, F.R.H.S., Oakwood, Wylam, whose interest in horticulture (more especially in the growing of Orchids) is well known. The chairman is Mr. Chapman, F.R.H.S., head gardener to Mr. Cookson at Oakwood. The secretary, Mr. Waugh, is a well-known technical education enthusiast. The society opened the session a few weeks ago with a lecture by Messrs. Clive and Kenneth Cookson on "Bird Life," with lantern slides. The lecture was largely attended and very much appreciated. Since then Mr. E. M. Bidgood, M.A., of Gateshead, has given a lecture on "Botany," also with lantern illustrations, and he has promised to give another lecture later in the session. At the next meeting Mr. Chapman will lecture on "Cypripediums," with illustrations.

BRISTOL AND DISTRICT GARDENERS' ASSOCIATION.

THIS association met at St. John's Rooms, Redland, on Thursday, the 26th ult., to hear Mr. W. Staddon of Weston-super-Mare read a paper on "Annals." Mr. Staddon's visit was the means of bringing together a good attendance, as he was an active member of the society prior to his removal to Weston. Mr. Staddon remarked on the usefulness and beauty of our annual flowers, and by careful cultivation a good display could be obtained throughout the summer months. The most essential point was to obtain the best seed from a good seed merchant, and not buying the cheap trash so prevalent on the market, the results from which only caused the greatest disappointment. The finest strains could only be obtained by paying a fair price. Sweet Peas, the lecturer remarked, were undoubtedly the favourite, their perfume and variety of colours making them indispensable. Among others Asters, Stocks, Salpiglossis, and Nasturtiums were useful. Deep digging and manuring were points not to be overlooked. Sowing thinly was also an important factor to be considered; many annuals were spoiled by overcrowding. The time of sowing must depend on the state of the weather, the end of March being generally considered the most suitable. Mr. Staddon's lecture was much appreciated, and he was unanimously accorded the best thanks of the meeting. Mr. E. Soole, F.R.H.S., occupied the chair, and remarked how pleased they were to have Mr. Staddon among them, and it was hoped he would again pay a visit to his old association, in which he had made so many friends. Prizes for three pots of Freesias went to Mr. W. A. F. Powell (gardener, Mr. Raikes) and Mrs. Hall (gardener, Mr. Ware), being first and second respectively. Certificates of merit were awarded to Mr. Jennings for two Cypripediums, Mr. Gilbert Howes (gardener, Mr. White) for Platyclines glunacea, Mr. Wakefield for a seedling Begonia of Gloire de Lorraine, and to Mr. Hunt for *Veltheimia vividiflora*.

NATIONAL CHRYSANTHEMUM SOCIETY.

ON Monday evening, the 2nd inst., the executive committee of the above society met at the Albert Hotel, Victoria Street, Westminster, S.W., Mr. Thomas Bevan presiding. A letter was read from Mr. C. E. Shea acknowledging his election as president, and expressing the hope that he would be able to discharge the duties to the satisfaction of the committee. He also intimated his desire to offer a special prize of £5 5s., which was heartily accepted and allocated as first prize in the class for twenty-four Japanese cut blooms. Referring to the annual outing in July, a letter was read from Mr. George Stanton, of Park Place Gardens, Henley-on-Thames, offering suggestions on the contemplated visit.

The secretary was then called upon for an estimate of the receipts and expenditure prior to the consideration of the new schedule. This was regarded as very satisfactory, and the consideration of the schedule, based upon the information thus supplied, various alterations owing to altered circumstances were made, particulars of which had been gleaned from the schedule when published. We may, however, mention that the special prize recently announced to be offered by Messrs. Mackenzie and Moncur of £10 value in plate will form the first prize in the class for six vases of incurred Chrysanthemums at the November show. A slight alteration in the definition of an amateur (Section B) was made by no longer allowing him to sell either sports or seedlings. On the election of judges by ballot Messrs. Ingamells and Foster were appointed scrutineers, who announced the results as follows: October show—Messrs. Gleeson and R. Parker. November show—*Plants and groups*—Messrs. J. F. McLeod and H. Turner; *Incurved*—Messrs. C. J. Salter and Fullard; *Japanese*—Messrs. Inglefield and W. Robinson; *Decorations*—Messrs. J. Jennings and O. Thomas; *Fruit and vegetables*—Messrs. J. Smith and W. Allan. December show—Messrs. C. Orchard and King, suitable reserves being named in each case. New members were elected, and the meeting, which was a very busy one, broke up at a somewhat later hour than usual.

MANCHESTER AND NORTH OF ENGLAND ORCHID SOCIETY.

THE usual meeting was held in the Conl Exchange, Market Street, Manchester, on Thursday, the 5th inst., and some very good exhibits were staged.

O. O. Wrigley, Esq., Bridge Hall, Bury, gained a silver medal for fine forms of *Dendrobium wardianum*, *D. xanthocentrum*, *D. Rolfei*, *Cypripedium villosum*, *C. Eurayades* Low's variety, *C. Swinburnei magnificum*, &c.

W. Duckworth, Esq., Flinton, showed very fine *Dendrobium nobile murhianum*, *D. schneiderianum*, *D. splendissimum*, and others. Silver medal.

W. Thompson, Esq., Stone, was given a bronze medal for choice *Odontoglossums*, *Cypripediums*, and *Dendrobium kingianum*, splendidly flowered.

S. Gratrix, Esq., Whalley Range, showed a specially fine form of *Dendrobium Cybele*.

T. Statter, Esq., Stand Hall, exhibited *Dendrobium nobile* album with about twenty flowers, *Cypripedium macrochilum* giganteum, &c.

Mr. Cypher, Cheltenham, gained a silver medal for *Laelio-Cattleya* Mrs. Gratrix and some very fine forms of *Dendrobiums*, &c.

Messrs. F. Sander and Co., St. Albans, had a bronze medal for *Cypripedium elmirianum superbum*, *Laelio-Cattleya Lucia magnifica*, *Trichopilia suavis*, *Miltonia blenana*, &c.

Messrs. S. Allen and Sons, Sale, gained a bronze medal for *Dendrobium wardianum*, *Lycaste Skinneri*, *Cypripedium villosum*, &c.

Messrs. Cowan and Co., Gateacre, showed *Dendrobium wardianum*, &c.

Messrs. Hugh Low and Co., Bush Hill Park, showed very fine forms of *Dendrobium nobile* *virginale* Low's variety, &c.

Messrs. Keeling and Sons, Bradford, exhibited *Bulbophyllum picturatum*, &c.

AWARDS.

To W. Duckworth, Esq.: First-class certificate for *Dendrobium d'Alvry Salomon*: awards of merit for *D. Cybele* Oakwood variety and *D. nobile burfordense*.

Samuel Gratrix, Esq.: Awards of merit for *Odontoglossum hybrid Amelia*, *Cypripedium beechense*, and *C. cardosianum*.

Lady Brunner, Liverpool: Award of merit for *Cattleya Trianae* Lady Brunner.

Mr. Cypher: Award of merit for *Dendrobium splendissima albeni*.

W. Thompson, Esq.: Award of merit and cultural certificate for *Dendrobium kingianum*, a remarkable display of lovely purple flowers; and awards of merit to *Cypripedium* Miss Fowler and *Odontoglossum harrayo-Crispi* alba.

Messrs. Keeling and Son: Award of merit to *Bulbophyllum picturatum*.

CROYDON CHRYSANTHEMUM SOCIETY.

THE fifteenth annual meeting of the Croydon Chrysanthemum Society was held at the Royal County House Hotel, West Croydon, on Thursday, the 26th ult., the Mayor (Alderman Sir Frederick Edridge) in the chair. There was a large attendance.

Mr. W. B. Beckett (secretary) presented the report and accounts. The report recorded the thanks of the committee to the subscribers, and stated that the subscriptions for the year were £3 less than in 1901, and the "gate" proceeds were £2 less. The prizes awarded at the show amounted to £116, out of a schedule total of £125. At the last annual meeting the president suggested that 1902 being Coronation year a special effort should be made to create a commemorative prize. The suggestion was freely endorsed, and subscriptions amounting to upwards of £7 were received, a solid silver cup, with £3 in cash, being offered as first prize for ten blooms in vases. This was won by Mr. Pantia Ralli (gardener, Mr. G. J. Hunt). The challenge cup presented by Mr. Frank Lloyd in 1900 was, for the second time in succession, won by Mr. Pantia Ralli. The entries for flowers for competition were 87; not for competition, four; fruit for competition, 123; not for competition, two; total, 216. The exhibits included six groups, 760 cut blooms, 12 collections of vegetables, and 48 pot plants. The entries of fruit and Grapes were above the average in number and excellence. The allotment holders were again very successful. The judges were unanimous as to the high standard of all the exhibits. It had been decided that trade exhibits should not be allowed unless a payment were made towards the expenses. Donors of special prizes and others who helped were thanked, and the committee asked for increased support. The net balance was £7 10s.



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PLANT NAMES.

AS many gardeners and others are becoming interested in plant nomenclature, the following letter from Mr. W. Pettigrew is timely, as showing that the nomenclature adopted by Kew is creating some confusion in the minds of those who cannot be accounted botanists.

We wish nurserymen throughout the country would adopt the Kew standard. It is followed in *THE GARDEN* and in all the books issued in connexion with this journal and its contemporary, *Country Life*, but with few exceptions nurserymen's catalogues do not recognise in any way the great change towards simplification and uniformity as revealed in the "Index Kewensis." This work is not, of course, for the office table or the gardener's library, but the hand lists cost little, and are intended for constant use. They are sold at Kew without profit to that establishment, and we are surprised that the demand for them is not greater.

We have drawn attention to this subject before, but the letters we have received from time to time show that gardeners (professional and others) are in a dilemma, which will continue until all nurserymen adopt the Kew standard. It is quite a simple matter to give the synonyms from the Kew hand lists until the present classification has become familiar. As Mr. Wolley Dod mentioned in *THE GARDEN* of February 8, 1902: "Uniformity in naming will never be attained amongst gardeners unless we agree to follow one authority, and that authority should be the hand lists of the Royal Gardens, Kew. . . . Of course 'Index Kewensis' is a work not within reach of everyone, but the hand lists of the different botanical classes cultivated at Kew may be bought on the spot at trifling cost, and are most carefully compiled and revised, and are intended to supersede all other authorities, even the 'Index Kewensis.'" A list was given, with prices, in *THE GARDEN* of February 21, page 134. The letter we have referred to is as follows:—

"Few things are more puzzling or give rise to more annoyance to the average gardener than does the nomenclature of the plants with which he daily comes in contact. For many years past the botanical authorities as well as the leading horticulturists of this country have done their best to reduce plant names to something like a standard, and in this direction Kew has recently done excellent service to the

whole gardening community by the publication of the various hand lists of plants cultivated in the Royal Gardens. Notwithstanding all that has been done, the fact remains, however, that plant nomenclature is still in a very chaotic condition, and it is not at all an uncommon thing to find plants with several generic and specific synonyms.

"Of course botanists were the original cause of this muddled condition of things, but the continuance of it is now in a very great measure due to the gardening press and nurserymen, and before ever anything like a standard nomenclature becomes a realised fact, these are the two forces which must bring it about. At the present time one can hardly read a gardening paper without finding some plant or other called by two or more different names in different parts of the issue, a fact which gives rise to much confusion and indignation among garden workers, and naturally leads to the disuse of botanical names.

"Again, many gardeners depend almost solely upon nurserymen's catalogues as a guide in naming their plants, and although there are many exceedingly trustworthy ones for this purpose the majority are most unreliable where the correct botanical name is required. What is still more annoying than this, however, is that many catalogues contain the names of plants which are not recognised botanically at all, and in this way collectors are liable to be misled into buying a simple variety of a plant instead of a distinct species, examples of which I shall speak about later on.

"The first requirement needed to put an end to the present state of confusion in plant names is to decide what is to be the recognised standard to follow, and I think it will readily be granted that that standard should be the one set up by Kew—admittedly the one authority on systematic botany throughout the whole world. Hence the 'Index Kewensis' naturally becomes the standard, and should be regarded as such by the gardening press and the trade, and if this were once done, order would soon take the place of what is now confusion and tangle.

"Needless to say it is obvious in such a vast subject as this that it would be quite impossible to have a perfect standard, and I am quite aware that even the one now set up as such does not always maintain its own standard. This, of course, I take it is not because there was a lack of system in adopting plant names—rather the reverse—but is simply as a result of the fact that during the many years this vast work was in progress fresh light was thrown upon the nomenclature of plants recorded in its earlier parts, which necessitated their alteration. This slight contradiction, however, is of so little importance in comparison to the great good it has accomplished that it is hardly worth noting.

"As illustrating the chaotic condition of plant nomenclature I have culled the following

names of a few hardy herbaceous plants from the catalogues of several leading nursery firms.

"Most catalogues contain the names of several species of *Armeria*, and among them one named *cephalotes*. Now, according to Kew, there are four distinct species of *Armeria* known by this name, yet it is not the recognised name of any one of them. *A. lauchiana* is the name of another plant offered in most catalogues, but does not appear in the 'Kew Hand List,' whereas another known in the trade as *A. setacea* is correctly (by the Kew standard) called *A. juncea*.

"The genus *Aubrietia* is a good example of a case where varieties are often offered for sale as distinct species. The greater number of garden *Aubrietias* are merely varieties of *A. deltoidea*, but are invariably given specific value and catalogued as *A. Campbellii*, *A. græca*, *A. Leichtlinii*, &c. This naturally raises the whole question of what constitutes a species and what a mere variety, a subject which can only be dealt with by botanists, and when any standard nomenclature is accepted these fine distinctions must also be accepted with it. *Bocconia cordata* appears in many lists as *B. japonica*, and under this name was once purchased by myself and added to my collection, already containing it under its correct name.

"*Saxifragas* again are very badly named, for recently, when trying to get the correct names for a collection, I found that such plants as are known in gardens as *S. apiculata*, *S. Bucklandii*, *S. capillaris*, *S. Churchilli*, &c., are not even recorded, while others, such as *S. cochlearis*, *S. lautoscana*, *S. nepalensis*, and *S. sturmiana* are given as being only varieties of other species. On the other hand, the name *S. palmata* stands for three distinct species, but is not accepted as the official name of any.

"*Sedums* are quite as confusing. The Kew list does not record *S. Brownii* nor *S. Michauxii*, both of which find a place in the majority of catalogues. *Sedum glaucum* has at one time and another been the appellation given to four different plants but is not regarded as the correct name of one. The genus *Sempervivum* is quite as bad as any of the foregoing. *Oenothera missouriensis* is constantly offered by the trade as *O. macrocarpa*; *O. biennis* var. *grandiflora* as *O. lamarciana*. Very many more examples similar to the foregoing could easily be given if time and space would permit.

"Catalogues perpetuate many generic names which have become obsolete, and should no longer be used on account of the confusion they cause. Among other such names so used are *Pyrethrum*, *Hepatica*, *Leptenella*, *Orobus*, *Ligularia*, &c. The only method of doing away with all this confusion among plant names is, as I have already stated, to accept the Kew standard as the one and only authority."

NOTES OF THE WEEK.

FORTHCOMING EVENTS.

March 24. — Royal Horticultural Society's Meeting (Tulip and Hyacinth Show).

March 25. — Liverpool Horticultural Association Spring Show.

April 1. — Royal Botanic Society's Spring Show.

April 4. — Meeting of the Société Française d'Horticulture de Londres.

The Horticultural Hall.—Amy Lady Tate has given £500 and J. Wernher, Esq., £100 towards the building fund.

Rose Show Fixtures in 1903. — Wednesday, June 24, York (three days); Thursday, June 25, Holland House (Royal Horticultural Society, two days); Saturday, June 27, Windsor; Wednesday, July 1, Temple Gardens (National Rose Society), and Richmond (Surrey); Thursday, July 2, Canterbury, Colchester, Norwich, and Reading; Saturday, July 4, Sutton and Walton-on-Thames; Tuesday, July 7, Gloucester and Wolverhampton (three days); Wednesday, July 8, Croydon and Southampton (two days); Thursday, July 9, Bath and Woodbridge; Wednesday, July 15, Glasgow (National Rose Society), Formby, Ipswich, and Thornton Heath; Tuesday, July 21, Tibshelf; Wednesday, July 22, Cardiff (two days); Thursday, July 23, Salterhebble; Monday, August 3, Sheffield. The above are the only dates of Rose shows, or of other horticultural exhibitions where Roses form a leading feature, that have yet reached me. I shall be glad to receive notice of any other Rose show fixtures for publication in a future list.—EDWARD MAWLEY, *Rosebank, Berkhamsted, Herts.*

Royal Horticultural Society.—The next fruit and flower show of the above society will be held on Tuesday next in the Drill Hall, Buckingham Gate, Westminster, 1—5 p.m. Special prizes will be offered for Hyacinths and Tulips by the Royal Bulb-growing Society of Haarlem as follows: 120 Hyacinths in pots (one bulb in each pot) in not less than forty varieties and not more than three pots of any one variety; open; first prize, £7; second prize, £5; third prize, £3. 100 pots of Tulips (three bulbs of one variety in each pot), to include fifty varieties at least and not more than two pots of any one variety; open; first prize, £4; second prize, £3; third prize, £2. A lecture on "Photo-micrography as an Aid to the Study of Plant Life" (illustrated by lantern slides) will be given by F. Martin Duncan, Esq., F.R.H.S., at three o'clock. At a general meeting held on Tuesday, the 10th inst., eighty-two new Fellows were elected, amongst them being the Countess of Stamford, Lady Caroline Gordon-Lennox, Lady Harriet Cavendish, and the Hon. Mrs. Alfred Egerton, making a total of 405 elected since the beginning of the present year.

The president and council have requested the following gentlemen to be so kind as to act as representatives of the society at the Ghent quinquennial show, viz.: The Right Hon. the Lord Redesdale, Frederick G. Lloyd, Esq., High Sheriff of Buckinghamshire; Mr. James Hudson, V.M.H., all members of the council of the society. Mr. Charles E. Pearson is attached to the deputation as their secretary.

Examination in horticulture.—The society's annual examination in the principles and practice of horticulture will be held on Wednesday, April 22. Full particulars may be obtained by sending a stamped and directed envelope to the society's offices, 117, Victoria Street, London, S.W. Intending candidates are requested to send in their entries by the 31st inst., if possible. The questions set at all the previous examinations are now published; price 1s. complete.

Pinguicula caudata superba.—The Pinguicula or Butterworts are almost unknown to the majority of gardeners with the exception of those who practise bog gardening. The best known species is, of course, our native Butterwort (*P. vulgaris*), a dwarf herb with purplish flowers and radical, succulent leaves, the juice of which is commonly supposed to be poisonous to insect life. At the last Drill Hall meeting considerable interest was manifested in a plant which Mr. J. T. Bennett-

Poë exhibited under the name of *Pinguicula caudata superba*, and which gained an award of merit. This proved to be an exceedingly fine form of *P. caudata*, which was raised from seed in Mr. Poë's garden. The colouring reminded the writer very much of some of the newer varieties of herbaceous Phloxes described as being of a rich carmine, which invariably means magenta in some form or other. However, although one would describe the flower of the plant under notice as being vivid magenta, there is no suspicion of the crude colouring so often associated with that term, and there can be no hesitation in recommending it as a beautiful plant for the cool greenhouse. The typical *Pinguicula caudata* is a native of the mountainous regions of Central America, and Nicholson gives it as introduced from Mexico in 1881. The blossoms are solitary, five-parted, and borne on the end of hairy scapes 5 inches to 10 inches in height. In Mr. Poë's plant the leaves bore considerable resemblance to those of an *Auricula*, and were closely pressed to the surface of the pot.—A. G.

Montbretia Germania.—In more ways than one this is quite the finest of the Montbretias, and was well worthy of the award of merit bestowed upon it by the Royal Horticultural Society. I obtained a few corms soon after distribution, and these have now increased to substantial clumps, which proved most fertile last year. Most of the spikes were 3 feet or more in height, and the flowers were 2½ inches across. They are of a brilliant orange-red colouring, with a deep red throat, and remain on the plants a long time in good condition. The habit of growth, while being compact, is very vigorous. A fine plant to group in the border, and one that is especially useful for decorating a greenhouse during summer if some of its corms are potted up.—A. R. GOODWIN.

The Spring Cabbage crop in 1903. For the past few seasons the Spring Cabbage failed to turn in as early as expected, and this loss is much felt during the early part of April, as at that time the other Brassicas are getting past their best. Other choice vegetables are very scarce. For many years I have kept a record of the season, and find that only in a very few years have we cut Cabbage in March and in some quite late in April, and not at all in quantity until May. This year we have been able to cut a few stray heads the third week in March, and the crop will be quite plentiful by the middle of April. This is not entirely owing to the culture or season, as during the past few years there has been a splendid advance in variety. A quarter of a century ago we had very few, if any, varieties equal to Ellam's Dwarf Early or Sutton's April, and others well worth special notice. These compact, distinct Cabbages are a great advance in size on the large-leaved older and coarser kinds when grown for a first or early spring supply in a private garden. Much depends upon the soil and situation as regards earliness. I have noted how free certain kinds grow if sown and planted so that the plants obtain a firm root-hold before the cold weather arrests growth. I place much importance upon this point, and feel sure that as regards earliness the sooner the plants are taken from the seed-bed and are in their permanent quarters the better. As regards sowing dates or culture, I have never had any very early supplies from seed sown after July 25, but there must be no crowding in the seed-bed. Of course I should not advise anyone to sow all their spring crop at the earlier sowing. The aim is to get a succession, and this is readily secured by, say, a three weeks' interval between the first and second sowings. Another point is the position of the seed-beds. These require full exposure and moisture, as want of the latter will cause later growth, so that the second sowing may be superior to the first if the weather is hot and dry at the date noted.—G. WYTHES.

Poisons for trade purposes.—At a meeting of the council of the Royal Horticultural Society held on Tuesday last, a deputation consisting of myself, as secretary of the Traders in Poisonous Compounds for Trade Purposes Protection Society, Mr. G. H. Richards, and Mr. T. Peed, of Messrs. T. Peed and Sons, waited upon the council. After bringing to the knowledge of the

council the report of the Departmental Poisons Committee appointed by the Privy Council to consider Schedule A of the Pharmacy Act, 1868, and explaining that such poisonous substances as insecticides, weed killers, sheep dips, &c., could not be lawfully sold by nurserymen, seedsmen, and others, although required for agricultural and horticultural purposes, the council passed a resolution asking the Government to bring in a Bill adopting the recommendations of the Poisons Committee, and a petition in favour of the recommendations for allowing duly licensed persons to sell poisonous compounds, where they are required for agricultural or horticultural purposes, was signed by the chairman of the council, Sir Trevor Lawrence, Bart., on behalf of the council.—T. G. DOBBS.

The Horticultural Directory.—This useful year-book has now reached its forty-fourth year of publication; it is indispensable to horticulturists throughout the kingdom. Full and revised lists of gardeners and their addresses are given, as well as of nurserymen and botanical and horticultural societies. In addition to these valuable lists the book contains many useful garden recipes, and certificates and awards of merit granted by the Royal Horticultural and other societies from October, 1901, to September, 1902. Published from the *Journal of Horticulture* office.

Daffodils in pots.—At the Royal Horticultural Society's meeting on the 10th inst., a remarkably fine group of forced Daffodils was contributed by Messrs. W. Cutbush and Sons, Highgate, for which they were awarded a Silver Floral Medal by the Narcissus and Tulip Committee. The plants bore evidence of careful forcing, and the flowers were fine and well developed. Amongst the numerous varieties staged, I particularly noted the following:—*Maximus*, Mr. J. Berkeley (very fine), *Golden Spur*, *Emperor*, and *Empress*. The incomparabilis group was also well represented by *Sir Watkin*, *Beauty*, *Frank Miles*, and *Queen Bess*. Mention should also be made of that exquisite variety, *Poeticus Almira*, of which several beautiful examples were exhibited.—ARTHUR GOODWIN.

Antigonum leptopus.—This, which is referred to in THE GARDEN (page 155) under the name of the Pink Coralita, though such a charming object in many of the West Indian gardens, is not easily grown in this country, for even where it grows freely its flowering can by no means be depended upon. It is a member of the Polygonum family, and, as in the case of *Polygonum baldschanicum*, its attractiveness is owing not so much to the individual flowers as to the profusion in which they are borne, hence a few scattered flowers convey no idea of the effect produced in the tropics by its large cloud-like masses of bloom, which are admired by all, and especially by those who see it for the first time. The conditions most favourable to its culture in this country are planted out in a well-drained border in an intermediate temperature and in a structure fully exposed to the sun, as if shaded not only is the growth developed at the expense of flowers, but these last are paler in colour and much less effective than if exposed to the sun. Of the white form referred to in the above-named article I recently saw seeds offered in the catalogue of one of our leading nurserymen.—H. P.

Giant Sequoias.—I notice in a contemporary that a splendid section has been taken from one of the giant trees of California, to be shown at a forestry exhibition, and in an account of the tree itself we read that it was over 300 feet high and 90 feet at the base (the latter, of course, being the circumference measurement). Can any reader of THE GARDEN say if in America the bulk and height of these trees increase proportionately, or is the bulk considerably developed after the maximum height is attained? I ask, because we have in the grounds here a *Sequoia sempervirens* that is close on 100 feet high, but the bulk circumference is barely 12 feet. The trunk under such conditions seems very slender compared with the height. It is a fine specimen, well clothed with branches from base to summit.—E. BURRELL, *Claremont, Esher.*

Pyrus (Cydonia) japonica cardinalis.—This is an intensely brilliant form of a good flowering shrub, and apparently the best yet raised. I saw it last June flowering in Kew Gardens, and the blossom was produced on a growth somewhat shaded, hence its late appearance. Compared with the brilliant single Rose Royal Scarlet the colours seemed almost identical. I do not think we overvalue these beautiful early-flowering shrubs. They are usually found upon walls, whereas they are far more elegant treated as bushes if planted sufficiently thinly to display their individuality.

Rose Captain Hayward.—This beautiful Hybrid Perpetual is valued by all who force Roses in spring. The somewhat thin flowers enable it to expand freely even when there is an absence of sunshine, and English growers are not favoured with too much of this during the early year. The brilliant scarlet-crimson colour of its deep petalled flowers, the bold massive foliage, and good stiff growths make it an ideal forcing Hybrid Perpetual for our climate. Then, too, it is deliciously fragrant, no small attribute in the opinion of some. I well remember Mr. Bennett first showing this Rose. He evidently had a high opinion of it, for he had the Rose jealously guarded the whole time the show was open. It is a capital seeder, so therefore it should give some good seedlings, for we can well multiply such Roses.—P.

Cleansing fruit trees.—I have not anywhere seen fruit trees so remarkably clean as are the Apples, Pears, and Plums growing either in dwarf or standard form in the gardens at Woodhatch, Reigate. When I saw them on the 27th ult. every tree, almost to the tips of the shoots, was coated in a dull white solution of lime, root clay, and including some paraffin. This mixture is laid on the trees in November, an ordinary long-handled tar brush being used for the purpose. Generally frost causes the coating to peel earlier, but this winter it was longer in evidence than usual. Still, when presently the sap causes the wood to swell, the whole of this coating will peel off readily. Not a score of dressings of any other description or of even sprayings with the caustic soda solution could produce cleaner wood than these trees here exhibit in the summer, and insects give very little trouble. When to this cleansing is added manure mulchings and waterings in dry weather, also summer as well as winter pruning, it is no matter for surprise that the fruit is of the finest quality.

Vase flowers v. specimen plants.—Ever since its formation, twenty-seven years ago, the Kingston Chrysanthemum Society has included one or more classes for specimen plants of Chrysanthemums. But interest in these had of late become so small, few persons caring for them evidently, although quite large and good, and in consequence the Kingston committee have now withdrawn the class altogether, ignoring trained or other Chrysanthemum plants entirely except in groups, and in place thereof have included one of twelve Japanese blooms, any varieties, on long stems, set up in pairs of vases, any decorative or draping foliage being added to give pleasing effect. The judges will be left absolutely free as to what points they may hold as important. It is believed that if a class of this kind shall include a dozen fine vases of flowers the result will be a great attraction, and far outweigh a few specimen plants. Quality of bloom will show culture, and effect will evidence decorative art.

Cucumber growing at Farnham. The capital illustration of the interior of one of Mr. S. Mortimer's Cucumber houses at Rowledge, Farnham, Surrey, given on page 169, is to many readers valuable as showing not only the rude health of the plants and the abundance of the fruits, but also it evidences the very limited root area allotted to the plants. How different now is the practice in relation to root area for both Melons and Cucumbers, as compared with the old practice in which great masses of soil were placed for the roots to ramble in! No wonder if then shoots and leaves greatly prevailed over fruits. In Mr. Mortimer's Melon and Cucumber houses the beds are really wood troughs, 20 inches

wide, having open trellis bottoms. To each side of this trellis stout 7-inch boards are fixed. The troughs are placed along on each side of the span houses, just over the side pipes, so that the warmth from them permeates the soil. Rough pieces of turf are first put in, then the soil, which is slightly ridged in the centre. Plants are put out from 15 inches to 18 inches apart. When fruits are set the roots get stimulants from the surface. All fruits are grown for seed production, hence the strain on the plants is very great.—A. D.

The Sweet Potato.—Concerning Mr. G. Wythes' interesting note on the Sweet Potato in your issue of February 14, he is right in saying that it takes some time to grow accustomed to the flavour (in most cases at least), but when the taste is once acquired it is preferred to most other vegetables. Here the New York market prefers a dry and mealy Sweet Potato, such as the growers about Vineland, New Jersey, produce in the highest possible quality; but our southern friends prefer one that is moist and sugary, with a tendency to exude syrup while cooking. As for methods of serving, they are legion. Baked, as suggested by Mr. Wythes, they are excellent; better still when cooked in the drippings under roasting meat, like Yorkshire pudding. Roast 'possum, with Sweet Potatoes cooked in the gravy, forms the acme of culinary delight to the Southern negro. Plainly boiled, the Sweet Potato is satisfying and nutritious; the skin should be left on until cooked, then removed before sending to the table. Boiled and cut into slices, then fried brown, the Sweet Potato forms a nice breakfast dish, and is also admirable as an accompaniment for roast poultry, especially duck. A rich baked pudding is made from Sweet Potatoes, and the same vegetable, in the Southern States, takes the place of Pumpkin in making pies. They are also made into biscuits (I mean buns, according to the speech of the home country), and are slowly baked with butter and sugar until glazed with a rich caramel sauce. I am sure that English people who once acquire a taste for Sweet Potatoes would welcome this addition to their tables, though, unlike green Corn, which every foreigner loves upon first introduction, a taste for them must be cultivated.—EMILY TAPLIN ROYLE, *Maywood, N.J.*

National Fruit Growers' Federation.—We have received a copy of the rules of this recently-formed association, of which Colonel C. W. Long, M.P., is president, and its objects are set forth as follow: The objects of the federation are to create a permanent central organisation representative of the fruit growers and market gardeners of the United Kingdom, for the promotion of their common interests as a whole, while reserving perfect local liberty of action to the constituent members. (a) To prevent by every possible means the granting by railway companies of preferential rates and facilities for the carriage of foreign fruit and market garden produce. (b) To secure quicker means of transit and fair rates from railway companies, and consider complaints which are likely to be ignored by companies when made by individual members of the federation. (c) To prevent jams made of foreign fruit being sold by misdescription, misrepresentation, or implication, as being made of home-grown fruit, and to urge the distinct labelling of British fruit jams; and also to prevent the sale of fresh fruit, either wholesale or retail, by misdescription or misrepresentation. (d) To affiliate with any other kindred society or societies. (e) To promote, support, or oppose legislative or other measures affecting the aforesaid trade. (f) The doing of all such things as may be conducive to the prosperity of fruit growers and market gardeners, or incidental to the attainment of the above objects. (g) The collection and dissemination of statistical and other information relating to the fruit-growing industry. The association's offices are at 28, Eaton Rise, Ealing, W.

Birds and fruit.—The news in various papers as to the great damage done to crops by starlings recalls an experience of last year, when a crop of Cornish Gilliflower Apples was utterly ruined by these birds. I suppose no one will

question the fact that the above-named variety, with Cox's Orange and Ribston, are the three best flavoured Apples. Of this trio I should put the Gilliflower a shade the best (from a purely flavour standpoint), just as Doyenné du Comice is a shade the best Pear, and the starlings evidently think the same, for it is the first Apple they attack in this particular season. Together with jays they attack, amongst others earlier in the season, Quarenden, Gravenstein, and Duchess of Oldenberg, but later the Gilliflower is the first victim. Why is this? There is absolutely nothing in the appearance of the Apple to attract them. Are they attracted by the aroma, or is the knowledge that here is something worth eating transmitted by bird lore? I said above that the crop of 1902 was lost—a sharp attack of illness about August kept me both from getting about and concentrating my thoughts on the hundred and one things that want attention in the garden at that time, or we generally save the crop (the trees being large bushes) with the aid of long poles and close meshed fish netting, the close mesh being necessary to keep the tits out as well as the starlings. I have several times saved occasional fruit only slightly tapped right up to the ripening stage by the aid of plaster of Paris, but it was too far gone for this last year, the majority of the Apples being half eaten.—E. BURRELL.

Williams Memorial Trustees.—At a meeting of the Williams Memorial Trustees held recently, Dr. Masters in the chair, it was decided to offer two medals for competition at the British fruit and vegetable show at Chiswick to be held in September next. It was also resolved to subscribe the sum of £10 to the funds of the new Horticultural Hall.

Tulipa violacea.—This handsome species is, I believe, the earliest of all the Tulips to flower. The specific name is perhaps peculiar, for one would naturally look for some reason for it in the colouring of the flowers, but there is more of rosy carmine than ought else, and externally the buds are almost wholly of this colour. Quite apart from the name, however, the species is a very beautiful one, and especially where the corns have been collected wild, which improves very much under cultivation. A little patch with several flowers has represented this North Persian kind these past few days in the Kew collection, where in the open border it is quite the only thing of its kind, and its flowers are yet in evidence. It is quite a choice bit of colour for late February and early March.

Muscari azureum.—Strictly speaking I suppose this should be *Hyacinthus azureus*. It is a beautiful plant, hardy, sturdy, vigorous, and free, the pure porcelain-blue spikes of flowers being singularly charming in the open garden. A cluster of a dozen or two spikes is pretty in the early days of the year, and the plant when grown in sandy soil increases freely. The variety *robustum* is larger, but precisely the same colour. These are worthy subjects for border, rockwork, or pots in a cold house.

Pulmonaria rubra.—We have so few truly winter-flowering alpine or dwarf perennials that it is well to record any that may be regarded as even ordinarily good—that is to say, a flowering plant rightly regarded as of second-rate importance when coming into bloom in May could well be given a first place if it flowered naturally in the open in January. This, then, is the position of the above species, a plant by no means generally known or cultivated, at least under the above name. I believe a short time ago Mr. Upton, of the Guildford Hardy Plant Nursery, exhibited a plant quite early in the present year in flower under the name of *P. rosea*. I am not quite clear, however, that this latter and the above are identical. The species now referred to is a native of Transylvania, the plain, that is, not mottled or figured leaves as in some kinds, forming a low tuft of about 6 inches high, the reddish-coloured bells appearing in considerable profusion for weeks together. Indeed, there is now a plant in the Kew collection that without protection and without a break has flowered away from January to the present time. It is one of

those plants that everyone may succeed with. So good a winter flower deserves to be better known.—E. JENKINS.

Deutzia Lemoinei.—When this beautiful hybrid *Deutzia* was first distributed by its raiser, M. Lemoine of Nancy, in the autumn of 1895, one of the claims put forward on its behalf in the catalogue of that firm was that it stood in the front rank as a shrub for forcing, a claim which time has fully justified. It is now largely grown for this purpose, and for flowering under glass it is certainly second to none, the only one to contest its place being the old and popular *Deutzia gracilis*. As an outdoor shrub, at least in many parts of this country, *Deutzia Lemoinei* is not seen at its best, but, as above stated, for flowering under glass it is unsurpassed. It is not winter but late spring frosts that seem to do the damage. This *Deutzia* is largely grown in Holland in the establishments where shrubs for forcing are made a speciality. Its early history is generally well known; therefore it will suffice to briefly say that it is the result of fertilising *D. parviflora* with the pollen of *D. gracilis*. The plants so obtained first flowered in 1894, and *D. Lemoinei* was, as above stated, sent out in 1895. Since then two forms—*D. Lemoinei* *Boule de Neige* and *D. Lemoinei compacta*—have been put into commerce.

How Brambles climb.—In *Knowledge* for March Mr. R. Lloyd Praeger, writing on "British Wild Flowers," remarks that Brambles are great climbers. "Their stems are furnished with very strong hooked prickles—remarkable structures, arising, like hairs, from the skin, not from the wood, as do, for instance, the thorns of the Hawthorn. By aid of these prickles, the Brambles support themselves amid tangled thickets, and may be often seen bursting into blossom 10 feet or 15 feet up in the air. It is interesting to note that the long arching stems in autumn, when their growth is nearly over, frequently again seek the ground, and their tips root themselves firmly in the soil. Next year the shoot produces flower and fruit and dies. But from the rooted tip proceeds a fresh plant, which in turn loops away and produces new offspring far from the parent. The plant may in this manner travel forward at the rate of 20 feet or more per year, and may cross obstacles such as a 10-foot wall in a single season."

Thysanacanthus rutilans.—Had any new plant afforded a display equal to that yielded by this old-fashioned subject at the Drill Hall meeting of the Royal Horticultural Society, on February 24, I would have been the praises bestowed on it, and deservedly so, yet somehow or other its great merits are only too often overlooked. Even when represented in gardens it is frequently disfigured by red spider upon the foliage. This is the result of growing the plants in too warm and dry a temperature, for once these insect pests effect a lodgment on the leaves they cause them to turn yellow and drop. This *Thysanacanthus* was first introduced from Colombia in 1851. Cuttings of the young growing shoots strike root very readily in the spring, and owing to the excessive length of its drooping flower racemes the plants must be fairly tall to show them at their best. According to the "Dictionary of Gardening" there are about twenty species of *Thysanacanthus*, but the above appears to be the only one in cultivation. It belongs to the natural order Acanthaceae, thus having for its immediate relatives the *Eranthemums*, *Justicias*, *Jacobineas*, *Aphelandras*, and many other beautiful flowering plants.

Primula kewensis.—Numerous as are the many beautiful garden plants obtained by a regular system of hybridising and cross-breeding, some equally desirable are the result of Nature's unassisted efforts, at least as far as can be determined. Such an one is *Primula kewensis*, which made its appearance quite accidentally at Kew, but as some plants of *Primula floribunda* and *P. verticillata* had been in flower in close proximity to one another, there is no doubt that this *Primula* is a hybrid between the two, and what renders it of greater importance is the fact that as a garden plant it is better than either of its parents. It is now three years since this *Primula* received a first-class certificate from the Royal Horticultural

Society, since which period the stock has passed into the hands of Messrs. Veitch, who have been exhibiting it this year in such grand condition that its admirers have greatly increased. It will take longer to become generally distributed than many new *Primulas* have done, for I believe the only course available for its increase is by division, as good seeds (at least, as far as I know) have yet to be obtained. It is, however, such a meritorious plant that its propagation will doubtless be pushed on as rapidly as possible.—H. P.

Loropetalum chinense.—Some well-flowered plants of this uncommon and pretty Chinese shrub were very noticeable among the things shown by Messrs. Veitch at the Drill Hall on February 24. It is a near ally of the *Witch Hazels* (*Hamamelis*), and, like them, the most conspicuous portion of the flower consists of four strap-shaped petals, which are, however, in the case of the *Loropetalum* much longer than those of the *Hamamelis*, and pure white. They are abundantly produced, being disposed six or eight together at the tips of the branches and in the axils of the uppermost leaves. It is excellent for flowering under glass, one great point in its favour, apart from the beauty of the flowers, being the uncommon appearance presented by a well-flowered specimen, for at a little distance it seems to be veiled with clusters of white ribbon. This *Loropetalum* is, as its specific name implies, a native of China, but it also occurs on the Khasia Hills. It was introduced in 1880, and was awarded a first-class certificate by the Royal Horticultural Society on March 13, 1894, during which year no less than thirty-two different trees and shrubs were given either certificates or awards of merit, a number which has not been approached since. It is much less effective as a shrub in the open ground than it is under glass.—T.

Pear Passe Crassane.—The fruits staged by Mr. G. Woodward, of Barham Court, Maidstone, on the 24th ult. before the fruit committee of the Royal Horticultural Society were much admired, and were well worthy of the cultural commendation awarded. We have so very few really good Pears for use at this season that any sort that is of good quality will find favour. This variety received a first-class certificate some time ago when shown by Mr. Woodward, and it shows how well this excellent gardener can grow hardy fruits, as I consider the above variety anything but a good grower—that is, on our very light soil. *Passe Crassane* will not stand severe pruning. I have found it useless as a cordon, and it requires plenty of food. In the Thames Valley the flavour does not compare with Mr. Woodward's fruits. Ours are much firmer, and at times gritty. This shows how necessary it is to grow fruits under different conditions before condemning any variety, old or new. Doubtless such fruits as those staged will prove that, given good culture and suitable soil, some of our oldest varieties are worth more attention than they receive. To keep the fruits so long they must be left on the trees as late as possible. If gathered too soon they shrivel badly.—G. WYTHES.

THE ROCK GARDEN.

ROCK GARDEN-MAKING.

VIII.—PRACTICAL HINTS ON THE CONSTRUCTION OF STRATIFIED ROCKS.

IN the last chapter I dealt with stratified rocks and their disposition, giving an illustration of natural rocks, which, though stratified, were so broken up as to almost resemble the rugged character of igneous rocks were it not for the fact that each block or each group shows the parallel layers distinctly, although at an angle quite different from that of any adjacent group. I have tried to upset the theory that stratified rocks artificially constructed should show parallel "strata" at the same angle throughout the work, and I suggested that stratified

rocks to be picturesque should have the appearance as if an earthquake had been at work among the regular strata. As a model I must refer to the picture of Nature's own work in the last chapter on page 163 of *THE GARDEN*.

My last essay was more or less theoretical, describing the work of Nature and pointing out the lessons to be gleaned therefrom. I will now turn to the practical side of the question, and will consider how these lessons may be applied to the construction of rock gardens. As practice is better than theory, I cannot do better than give an example from my own practice in the shape of the accompanying illustration. I do not for one moment wish to point to this as a model (for models we must look to Nature), but I give it because it explains in a practical way what would otherwise require several pages of explanation.

The present illustration represents a small rock garden at Liskeard, and is the property of L. C. Foster, Esq. Facing the front door of the house a deep slope presented itself, and as the ground adjoining this had been kept in the irregular style the site was a very suitable one for a rock garden; in fact, no other treatment would have fitted in quite so well. For grass the slope would have been too steep, and a wall would have been too formal under the circumstances. The geological formation of the neighbourhood, like that of the natural rocks illustrated in the last chapter, belongs to the "Devonian" order, and stone in sufficient quantity was easily obtained close by in the shape of fairly regular blocks of "schist" and "shale."

The site, of course, required preparation. Near the centre a cave was contemplated, which required deep excavation. A bog garden, too, was to be included, and last but not least special places for choice alpine had to be prepared. The decomposed soft shale or shelly which formed the subsoil was not entirely carted away, but a portion of it was mixed with leaf-mould, loam, and stone chippings, and thus mixed it was used for the planting of many alpine. Peat was added for such plants as required it. In beginning to arrange the stones I make it a practice to begin at the lowest level furthest away from the point from which the principal view is to be obtained. When building rocks on that principle it is far easier to judge the effect of this recess or that projection, &c. When space is limited it sometimes seems difficult to get sufficient boldness into work of this kind, but this is facilitated by letting recesses and projections adjoin and emphasise each other by way of contrast. It is surprising how bold even a small projection will appear if contrasted against a dark recess of which some portions are partly hidden from view. The fact of some parts of a rock garden being hidden from view will make it appear larger than it really is, because the observer will invariably give an imaginary extent to the hidden parts. For this reason the little cave seen in the picture was so constructed that its depth cannot be ascertained from a distance. The exterior blocks forming the mouth or roof of the cave were fixed in such a position as to appear as if they had naturally tumbled together, and it will be observed that the "strata" on each side are in direct juxtaposition.

When imitating natural strata calculated for distant effect, it will, as a rule, be found most practical to place flat stones together in successive layers, taking care to spread a thin coat of soil on each flat stone before the next one is bedded. But unless the stones are

tilted with a downward slant, the narrow crevices thus left between the stones will be suitable only for plants that would be content with but little moisture.

For choice alpine plants that require almost vertical deep and narrow fissures it would be best not to bed the stones on their flat sides at all, but insert them into the ground on their edges in such a way as to be not only perfectly firm, but also to furnish precisely the conditions best suited to the choicest alpine. Sometimes this can be done in a way suggestive of almost horizontal or but slightly inclined strata, although (for the sake of the plants) the stones may be really vertical. As a case in point I would refer again to the illustration. The stones in the foreground on the right have the angular edges more or less parallel with the "strata" of the higher portions in the background, and might appear as having the same angle of stratification, but as a matter of fact they are fixed vertically, and the picture shows how well the plants are thriving in consequence.

I will now briefly deal with a few other points in the illustration. Near the centre, it will be observed, is a rough kind of pathway partly formed with flat stones. This is a bog-bed, and the stones are stepping-stones facilitating access. Only a portion of this bog-bed is visible from the point from which I took the photograph; the other part recedes behind the more prominent rocks, which latter form shady nooks for hardy *Cypripediums*, *Polygala chamaebuxus*, and other good things. Various *Gentians* are flourishing, including, until recently, *Gentiana bavarica*. The latter did well for a year or two, but has now succumbed. Special corners were reserved for such gems as *Campanula Zoysii*, *Edraianthus serpyllifolius*, and various choice *Androsaces* and *Dianthus*. Of other small rock plants used I may mention *Campanula turbiuata*, *Saxifraga longifolia*, *S. Rhei*, *S. lantoscana superba*, *Sedum spathulifolium*, *Edelweiss*, &c. The dry ledges just outside the little cave were chiefly

devoted to *Sempervivum* and similar plants, while *Ramondias* and other shade-loving plants clothe the fissures to which more moisture can have access.

The expanded star-shaped flower almost in the centre of the picture is *Carlina acaulis*. Immediately above is a rocky ledge devoted to a group of alpine *Rhododendrons*, viz., *R. ferrugineum* and *R. hirsutum* in various forms. To the right of this will be seen a mass of *Helianthemum*, and below the latter a fine group of the bold *Megasea*. The top ledge on the right shows a batch of *Genista præcox*, and on the left a mass of *Zauschnerina californica*, &c. Between the cave and the ledge of *Rhododendrons* above referred to are some rocky steps leading from the bog-bed to a path on a higher level, but in the illustration this is not visible. The steps were clothed with *Thymus lanuginosus*, *Acæna microphylla*, *Veronica repens*, *Arenaria balearica*, &c.

The construction of the rock garden took scarcely two weeks, and the photograph was taken about twelve months after completion. In subsequent chapters I hope to give illustrations of various other styles of rock gardens.

Elmside, Exeter.

F. W. MEYER.

(To be continued.)

WALL GARDENING.

WALL GARDEN - MAKING.

V.—THE CONSTRUCTION OF WALLS OF MASONRY FOR WALL GARDENING.

HAVING dealt with the most practical way of adorning "dry walls," both during building and after their completion, I will now consider walls of masonry, or, in other words, walls of stone or brick which have their joints filled with mortar or cement. These may be either retaining, terrace, or boundary walls. A

retaining wall of masonry would most probably be not perpendicular, but slightly reclining against a bank or terrace. A boundary wall, on the other hand, will in most cases be quite upright. All such walls are, as a rule, intended as architectural rather than horticultural features, and their surfaces are, therefore, smoother and more even than those of dry walls. Especially are such masonry walls necessary when walls are required to be of such a height that a dry wall would have been unsafe. Sometimes, too, the immediate proximity of architectural or geometrical features, such as a house, steps, balustrading, a terrace, &c., would make it imperative that such a wall should present a more highly finished surface than would be possible in the case of dry walling. This would, for the sake of harmony, apply particularly to a terrace wall adjacent to and built of the same material as the dwelling-house. Or, in another case, this terrace wall might be of such a height as to require being built on arches with the additional support of projecting buttresses.

In all such cases dry walling would be out of place, but it does not follow that we cannot use masonry walls for wall gardening. On the contrary, though the difficulties in adorning such walls are greater, we may, nevertheless, attain excellent results by planting them. Since it may not infrequently happen that wall gardening is being contemplated at a time when the house or adjacent terrace walls are being built, it would in such a case be possible to build a wall of masonry specially constructed to facilitate wall gardening without encroaching on the susceptibilities of the architect or the builder. I will, therefore, consider two kinds of masonry walls—viz., (a) those built with a view to wall gardening; (b) walls of masonry not built for wall gardens, but which might be adapted to that purpose.

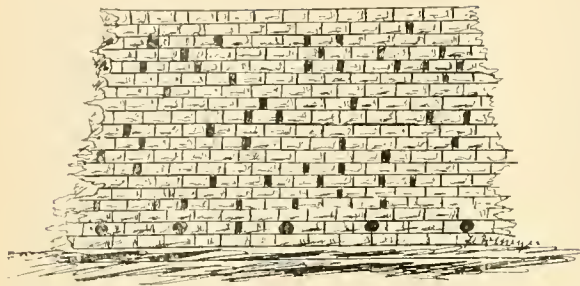
MASONRY WALLS BUILT FOR WALL GARDENING.

There are naturally two kinds of masonry walls, viz., retaining walls, *i.e.*, which show one face only, and walls standing free and showing both sides. I will deal with the former first. Retaining walls are usually intended to keep up high banks of soil or terraces, and have therefore to be of great strength. Their original purpose is use rather than ornament, but that is no reason why they should not be adapted for the latter as well, without interfering with their stability.

The plants which are to adorn such walls must have something besides bricks and mortar to grow in, and if we can manage to cater for their requirements at the time when the wall is in course of construction this will be an enormous advantage, especially if we can make up our minds beforehand as to what kinds of plants we would use, and consider what soil would be best for them. As a guide I would strongly recommend a rough sort of sketch similar to the one illustrated in the last chapter. Whether such walls are to be of brick or of stone, or whether cement or mortar is to be used in the construction, generally depends on the strength required, and is therefore more a matter for the architect or for the builder to decide. But if a choice can be made, stones would be preferable to bricks, as most plants are greatly benefited by stones, and derive also a small



THE ROCK GARDEN AT TREVILLIS CORNWALL, CONSTRUCTED WITH STONES OF THE STRATIFIED KIND.



ELEVATION OF A REGULAR WALL OF MASONRY, WITH HOLES FOR PLANTS AT IRREGULAR INTERVALS (THE ROUND HOLES SHOW THE POSITION OF DRAIN-PIPES). (2.)

amount of nourishment from this material, which in the burnt bricks would be absent, and if stability can be ensured by the use of mortar instead of cement this would be an additional advantage to the plants. Even when circumstances demand that bricks and cement must be used exclusively we need not despair of growing plants on the wall if we make provisions for them according to the following method.

Let us assume, then, that the builder has put in a good foundation below the level of the ground, and is now ready to proceed with that part of the retaining wall which will show above ground, and is to be, say, 8 feet or 9 feet high. In the first place it will be our duty to see that ordinary drain-pipes 2 inches or 3 inches in diameter are inserted into the foot of the wall, say, 3 feet or 6 feet apart, and that when these drain-pipes have been walled in (sloping outwards), the space behind the pipes is filled in with loose stones, brickbats, or clinkers as drainage. On sloping ground the soil behind retaining walls of this kind often becomes waterlogged, and with new work there is a danger of the whole wall collapsing in consequence of the increased weight of soil and water pressing against it.

I have tried to make my meaning clearer by the accompanying rough sketches, which, however, must be taken as diagrams only and not as absolutely correct to scale. Sketch No. 1 shows a transverse section of such a retaining wall. *A* represents the original firm soil which has not been moved; *B* represents the body of new soil filled in as the wall is being built; *C* represents the loose stones or brickbats referred to, which are to act as drainage and convey surplus water through the drain-pipe *D*. The spaces *E, F, G, H, I,* and *J* show open channels filled with soil and communicating with the soil inside.

Sketch No. 2 shows the elevation of such a wall with the mouths of the drain-pipes (indicated by black circles) at the bottom, and with the openings for plants and soil at irregular intervals. For wall gardening the most important operation in the building of the wall is, of course, that of providing suitable soil, and this should not be left to the mason or builder, but should have the gardener's careful attention simultaneously with the builder's work. As the masonry progresses so the stones or bricks must be "backed up." Usually this is done by filling in brick rubble, dry clay, gravel, or rubbish of any kind, and ramming it firmly. But in this case the material must be good soil mixed with a few broken stones. Every now and then—preferably at irregular intervals, as shown in sketch No. 2—openings 3 inches to 6 inches wide are left in the wall, and these likewise should be filled with good soil communicating with the greater body behind the wall. It is in planning beforehand

what to plant that we may greatly facilitate the gardener's work in placing this or that kind of soil according to the requirements of the plants—say, for instance, peat or leaf-mould where there would have *Ramondias, Gaultheria procumbens, Polygala chamæbuxus, Ferns, &c.*; stony soil, preferably mixed with limestone chippings or old mortar for such decided lime-lovers as *Scolopendrium, Dianthus, &c.* It may seem a little troublesome to take all this precaution, but every lover of plants knows that planting at haphazard into unsuitable soil cannot be conducive to success. Besides this we must bear in mind that the application of this or that kind of soil can never be attended to with quite the same facility as at the time when the wall is being built.

But, whatever soil is used, one thing is most essential, and that is well ramming it down—not only behind the wall, but also in the openings left for the plants. The soil must be so firmly rammed that there would be no danger of its settling down afterwards and leaving hollow spaces, which would be a source of danger to the plants and a great delight to slugs and snails. The actual distance between the openings on the face of the wall must, of course, greatly depend on the plants to be used and the room these would require to show to their best advantage, but it is also necessary to have regard to the stability of the wall, as naturally it must be weaker in proportion to the number of openings.

The planting of a retaining wall constructed of masonry on the lines mentioned is comparatively easy, but requires some careful finishing touches. What to plant I will mention in another chapter, and I will here content myself with only a few general hints as to the

ACTUAL PLANTING

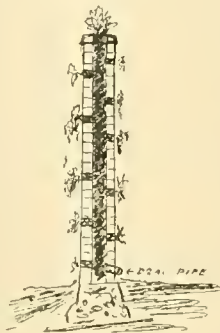
operation itself. Assuming, then, that the wall was built in accordance with all the suggestions given above, that the openings are about 4 inches to 6 inches across, and that they were filled with soil as directed, we next proceed to the work of planting. Well-established plants in pots with a good ball of roots are infinitely better and more likely to succeed than plants only recently divided. I have often seen walls constructed with openings in the way I have mentioned, which were planted by the simple expedient of pushing the plant sideways into the hole in the wall, filling a little more soil around the roots, and the operation was considered finished in a satisfactory manner. Now such planting might do in the case of some coarse-growing plant with a long tap-root, which it would be almost impossible to kill, but choicer plants would surely die if planted in that manner. This is what would happen: The first shower of rain or the first application of the watering-pot would wash away a considerable portion of the newly-placed soil, however firmly it might have been rammed. Possibly the next rain

would be heavy, beating direct into the opening and washing away still more soil till the roots would be almost bare and the plant sicken and die.

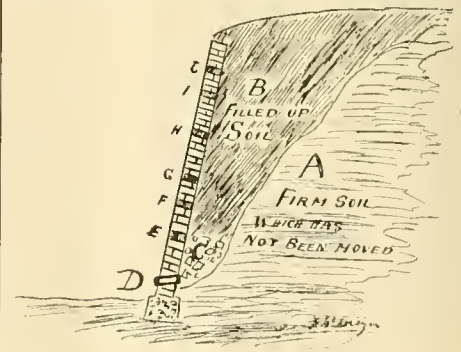
A much better plan is to have at hand a number of broken bits of the same material as that of which the wall was built, either white bricks, red bricks, or stones, as the case may be, and to use these for entirely closing the outside of the opening into which the plant was put, without, however, preventing moisture from having access to it. This is done as follows: Flat fragments of stone (or small pieces of brick as the case may be) are placed at the bottom of the opening. A thin layer of soil is then so placed as to slope inwards, *i.e.*, towards the interior of the wall, and on this the plant is placed with its crown slightly protruding from the face of the wall. When the plant is thus in proper position its roots are surrounded by suitable soil, which is well rammed and gradually filled in till the front of the opening is reached. Now comes the most important part of the operation, namely, that of filling up the whole opening all around the plant in such a way that it is tightly wedged in and no soil can be washed out, although rain or other water could get to the plant and even soak through to its roots.

The actual operation of filling up the opening is best described as the building of a miniature dry wall all around the plant, using a layer of soil, say, half an inch thick over every course of small stones or small pieces of brick perhaps 2 inches or so in thickness, and rather flat in shape so as to rest firmly on each other. Wedge-shape pieces, too, are very useful, as they can be driven in firmly, and are then not likely to shift afterwards. When the whole of the openings have thus been filled out flush with the face of the wall they will, seen from a little distance, appear as part of the wall itself, and in a year or so, when the plant would have attained a larger size, it would completely cover this miniature dry walling, which latter would then be invisible even on the closest inspection. This method of planting does not only ensure the well-being of the plants, but since the surface of the wall was made good it will be impossible to tell that holes and openings were left on purpose, and the presence of the plants on the face of the wall will appear like an accident rather than design, and this is as it should be.

In illustration No. 3 a rough sketch is given showing a section of a free upright wall of masonry, constructed with a view to wall gardening. It has openings in precisely the same manner as retaining walls, and is built on the principle of "cavity" walls, in which the space in the centre has been filled out with suitable soil. Should such a wall be at the same time a boundary wall, say, facing a road



SECTION OF UPRIGHT WALL WITH SOIL IN THE CENTRE AND OPENING FOR PLANTS AT THE SIDES. (3.)



SECTION OF MASONRY WALL, WITH OPENINGS (E TO J) FOR SOIL AND PLANTS. (1.)

or someone else's property, it would, of course, have only one face prepared with openings for planting. For the sake of greater security iron clamps or flat stones might now and then be used in the construction for tying together the outer and inner surfaces. In the next chapter I hope to deal with masonry walls which were not originally intended for wall gardening, but might be so adapted.

Elmside, Ereter. F. W. MEYER.
(To be continued.)

TREES AND SHRUBS.

SPIRÆA DISCOLOR

(S. ARLEFOLIA).

OF the scores of Spiræas that have received names one of the most distinct is *S. discolor* (or *S. arlefolia*). Some German botanists have classified and named the numerous hybrids and forms of Spiræa to such an extent that it is often difficult to distinguish one from the other, but *S. discolor* stands by itself. Besides being distinct it is also one of the most beautiful and useful. The accompanying illustration gives an admirable impression of the grace and free-flowering qualities of a healthy plant. It is valuable because it is one of the comparatively few tall-growing shrubs that are to be seen at their best in July. It is one of the largest of the Spiræas, reaching, when fully grown, from 8 feet to 10 feet in height. The main branches are erect, but their tops as well as their side shoots are gracefully pendent. The flowers, of a creamy white, are crowded on large pyramidal racemes, which frequently measure 8 inches across at the base. This Spiræa makes an imposing mass when planted in large groups, but more charming effects are produced by planting it in positions where it has a semi-wild character. Such a position is evidently enjoyed by the specimen in the illustration. One of most pleasing impressions I had at Dropmore a few summers ago was made by the informal planting of numerous specimens of this Spiræa in the delightful woods of that place. Although planted in semi-shaded places, they were flowering with great freedom, and were a charming variation from the usual shrubby undergrowth one sees in even well-tended woodlands. W. J. BEAN.

THE BARBERRIES.

(Continued from page 125.)

B. HETEROPODA.

In the United States this species is spoken of very highly as a distinct and desirable shrub, but little has been done with it in Britain. It is a native of Turkestan, and was introduced to cultivation through the agency of the St. Peter-burg Botanic Garden about twenty-five years ago. In habit it is vigorous, of medium height, and in the way of *B. vulgaris*; but the branches are usually unarmed, although the older parts are sometimes furnished with undivided or three to five parted spines. The spoon-shaped leaves are broad and rounded at the end, tapering down to a long slender stalk. The flowers are borne on long branching

racemes and are orange-yellow and fragrant, each one half an inch in diameter. The berries being covered with blue-white "bloom," add much to the ornamental quality of the shrub.

B. LYCIUM.

If not quite so striking a shrub as *B. aristata*, this species, which is also a native of the Himalaya, is very handsome. It is like that species in habit, but in winter can be distinguished by its red-brown wood. It has narrow obovate leaves, glaucous beneath, and without teeth. The flowers are borne on drooping, often branched racemes, 2 inches or more long. It is particularly beautiful in fruit, the berries being very abundant and covered with a purple bloom. It is found on the Himalaya up to 9,000 feet from Kumaon westward to Kashmir.

B. SIBIRICA.

A low bush, rarely more than 1½ feet to 2 feet high, and a native of the Altai Moun-

ains. The flowers, of a paler yellow than those of *B. vulgaris*, are borne in a corymbose raceme 2 inches to 3 inches long. The fruit is very ornamental, each berry being half an inch long and bright scarlet. The foliage changes to a bright orange-scarlet in favourable seasons before it falls.

B. SINENSIS.

Of all the deciduous Barberries this is one of the most elegant in habit. It grows 6 feet or more high, sending out long, slender, pendulous branches, which in mid-May and later are wreathed with very beautiful racemes of pale yellow flowers. These racemes are slender, pendulous, 2 inches to 3 inches long, and numerous flowered. The flowers themselves are some of the smallest in the genus. The leaves vary in size from 1 inch to 2 inches in length, and are narrow obovate and usually without teeth. The species is a native of China and Japan, and although introduced as



SPIRÆA DISCOLOR (S. ARLEFOLIA) IN MR. LENEY'S GARDEN, SALTWOOD, HYTHE. ONE OF THE FINEST SPECIMENS IN ENGLAND.

tains, where it grows in crevices of rocks and similar places. Like *B. cretica* and *B. ætensis*, it is a suitable plant for the rock garden. Like those species, too, it is of scrubby habit, producing dense rosettes of small leaves, but it differs in producing its flowers singly on their stalks. The flowers are large and drooping, and followed by dark red fruits. The species was introduced by Sir Joseph Banks in 1790.

B. SIEBOLDI.

Whilst being generally regarded as the Japanese form of *B. vulgaris*, this species is, from a garden point of view especially, quite distinct. It was introduced from Japan by Messrs. Veitch (through the late Mr. Charles Maries), and flowered at the Coombe Wood Nursery fifteen or more years ago. A shrub of similar character to *B. vulgaris*, it is, however, probably not so large. The leaves are large (as Barberries go) and glossy, they are rounded at the end, and have ciliated (scarcely toothed)

long ago as 1800, during Lord Macartney's mission to China, is still an uncommon shrub in gardens.

B. THUNBERGII.

In recent years this Japanese Barberry has become very popular. It is a very distinct shrub of dwarf habit, charming when in leaf and flower, but beautiful in autumn when loaded with its bright red berries, and still more so later on when its leaves turn a brilliant crimson. Although noticed in Japan by Thunberg in 1784, it was long before it got into cultivation. Like many Japanese shrubs it has a very dense, twiggy mode of growth, and does not seem likely to grow more than about 4 feet high. The leaves are half an inch to 1 inch long, and are arranged in crowded tufts on the red-brown branches. From most Barberries it differs in the spines being "simple" (unforked). It blossoms towards the end of April, and the flowers are pale yellow suffused with red, the outer segments being quite red.

The flowers are small, but very abundant. The low, dense habit and slow growth of this Barberry give it a very distinct character, and make it useful in positions where a low, close growth is desired which will not require much attention to keep in order. It has even been used for game cover.

Var. Dawsoni has been sent out from the Arnold Arboretum in recent years. It is still dwarfier, more twiggy, and closer in habit than the type.

B. VIRESCENS.

Although this plant was first noticed by Sir Joseph Hooker when travelling in Sikkim in 1849 and has been cultivated in Britain since 1855, it was not until about fifteen years ago that it was given a specific name, having been till that date confused with *B. aristata*. Sir Joseph then named and figured it in the *Botanical Magazine*, t. 7116. From *B. aristata* it is very easily distinguished by its flowers being produced in very shortly corymbose clusters, not in elongated racemes. It is a very

not a native, it has become naturalised, and in some parts of the Eastern States is more frequently met with than *B. canadensis*—the native Barberry. It occurs wild in many parts of England, chiefly in hedgerows and thickets, but it is doubtful if it be truly native of Scotland. Under cultivation it will grow 10 feet to 15 feet high (under certain conditions even more), and is really a very beautiful shrub, both at the flowering and fruiting seasons. Its hardy constitution and accommodating nature make it especially useful for filling up rough corners of the garden, where, when once established, it can be trusted to take care of itself. But even in ordinary tall shrubberies a mass of the Common Barberry is always worth its place. In sunny positions where, of course, it flowers best, a single big specimen makes a wonderfully beautiful picture in mid-May, with its myriads of drooping racemes of bright yellow flowers. In the typical form the berries are red, but in cultivation there are varieties with white and black berries.

of the popularity of this is undoubtedly due to the increased interest taken in Nymphaeas and their culture. Many varieties of these Water Lilies have of late years been introduced to our gardens from France and America—varieties that are remarkable for their extreme beauty, hardiness, and vigorous growth.

The delights of water gardening appear forcibly to appeal to Mr. Leopold de Rothschild, for in the lake in the picturesque grounds of Gunnersbury House one may see what is perhaps the most representative collection of Nymphaeas in English gardens, and the margins of the water are clothed with many handsome moisture-loving plants. Mr. Hudson has altogether transformed the aspect of the lake at Gunnersbury by his successful cultivation of the Water Lilies, of whose vigour and arrangement the accompanying illustration gives some idea. The clumps of the numerous varieties are arranged informally over the surface of the lake, more particularly towards either side, and the distinctive characteristics that each variety possesses, in the mode and vigour of growth, disposal of flowers, &c., add to the charming irregularity and natural beauty of the effect.

The cultural requirements of the hardy Nymphaeas are simple and easily supplied. Messrs. James Veitch and Sons, whose experience with these plants is unusually extensive, say that any pool of water or pond of moderate dimensions, and from 1½ feet to 2 feet deep, will suit them admirably.

The best months for planting Nymphaeas are end of April, May, June, July, and August. They should first be planted in baskets, previously filled with good loam, taking care to make them firm. The baskets are then lowered into the water in places where the Lilies are desired to grow. The baskets will not decay for several years, and by that time the Nymphaeas will have become well established.

Some of the stronger growing sorts, the marliacea hybrids for instance, if not planted fairly deep, say 3 feet, will in a year or two push their leaves out of the water, making quite a massive clump, and thereby losing somewhat in beauty. Nymphaeas will even succeed when planted 6 feet deep or more. Of course with the less vigorous growing ones shallow planting is quite satisfactory, for the long slender petioles spread out and the leaves float gracefully. A list of some of the best Nymphaeas is appended.

White.—*Alba candidissima*, with large pure white flowers, an early and continuous bloomer; *alba plenissima*, pure white, more double than the former; *caroliniana nivea*, sweet scented; *marliacea albidia*, fragrant, pearly white flowers; *odorata*, the North American Water Lily, which produces its cup-shaped flowers very freely; *pygmaea*, the smallest of Nymphaeas, fragrant.

Yellow.—*Chrysantha*, yellowish red, with bright orange stamens; *fulva*, light yellow, tinted with red; *flava*, citron-yellow; *marliacea chromatella*, a beautiful straw colour with yellow stamens; *odorata sulphurea* and the variety *grandiflora*, sulphur-yellow, fragrant; *pygmaea helvola*, flowers slightly larger than *pygmaea*, sulphur-yellow; *Seignouretti*, light yellow, tinted with carmine.

Dark.—*Atropurpurea*, dark crimson, large flowers; *gloriosa*, rich purple, one of the most



A GROUP OF PINK WATER LILIES.

elegant spreading bush with slender branches and luxuriant foliage of a bright but rather pale green. The leaves vary from two-thirds of an inch to 1¼ inches in length, are obovate, borne in rosettes, the larger ones only toothed. The flowers are only about one-third of an inch in diameter and are of a sulphur-yellow. The berry is narrow, long-stalked, and black, that of *B. aristata* being rounder and comparatively shorter. This shrub occurs at an elevation of 9,000 feet in Sikkim and is perfectly hardy. Its reddish brown bark gives it a pleasing character in winter. Two varieties are included in the "Hand List of Trees and Shrubs at Kew," namely, *macrocarpa*, with more strongly nerved leaves and large black fruits containing a much larger seed; and *fructu rubro*, with reddish fruits.

B. VULGARIS.

This, the Common Barberry, is the most widely spread of all the species, being found wild in Europe, North Africa, and Temperate Asia. Even in North America, where it is

The purple-leaved Barberry (var. *foliis purpureis*) is one of the best shrubs of its class, and useful for colour groups. A certain proportion of its seeds come true.

Besides these varieties there are almost innumerable other forms in existence. This, one would, indeed, expect, from the length of time and the extent to which it has been cultivated, and the varied conditions under which it is found in a wild state. These forms differ in such unimportant matters as length of raceme, shape of leaf, &c., and a particularised account of them is not necessary.

Kew.

W. J. BEAN.

SELECTING AND PLANTING WATER LILIES.

As the time for planting Water Lilies is approaching we may well draw attention to this beautiful family. Few phases of gardening have made more rapid progress during recent years than has water gardening, and much

beautiful; Laydekeri fulgens, rich crimson and orange; marliacea ignea, one of the most richly-coloured, crimson; odorata exquisita, deep rose-carmine; William Falconer, the deepest coloured hardy Nymphaea yet raised.

Pink.—Caroliniana, clear rose-pink; Laydekeri rosea, delicate rose-pink; marliacea carnea, blush; marliacea rosea, bright pink; odorata rubra, rose-pink; odorata suavissima, a beautiful pink; tuberosa rosea, delicate pink.

Other good Nymphaeas.—Ellisiana, brilliant carmine-purple; Frœbelli, bright carmine-red; odorata luciana, a deep and rich rose-pink; robinsoniana, red toned with yellow.

AN ARTIST'S NOTE-BOOK.

SAXIFRAGA (MEGASEA) CORDIFOLIA GRANDIFLORA.

MANY are the uses of the broad-leaved Saxifrages; indeed, they have a kind of special usefulness of their own that is shared only by the very few other garden plants that are leafy and well furnished throughout the year. In the flower border they are valuable as informal stretches of edging that run back here and there among other plants; their solid build makes them admirably suited for associating with step or wall or any kind of masonry. They will make a large and bold effect planted in the joints of a north or east dry wall and at its foot, and scarcely anything better can be found for filling shady outer spaces between shrubs. The variety represented in the accompanying sketch is unusually handsome in leaf and flower.

ROUND ABOUT A GARDEN.

THE GROWTH OF BULBS.

ONE of the charms of the garden in spring is the voluntary absence of weeds. They have not recovered their spirits from the "doing-up" which the gardener gave to the flower-beds in autumn. You may have felt some resentment against him in winter, when you gazed through the window upon so much bare, brown mould; but by the middle of February he was abundantly justified. Everywhere the clean earth bristled with fat green points and spikes that were pushing up from the bulbs below to support the skirmishing Crocuses, which already flaunted the yellow-white-and-blue flag of spring on the heels of retreating winter. Besides the bulbs there is an especial joy in the way in which the Peonies bulge out of the ground with fat red points almost as stout as Rhubarb, but best of all are the Crown Imperials. First you see the ground swelling and cracking as if a lot of little moles were at work below. Next day you see ruddy points poking out, and every morning after that it is worth while wandering to that part of the garden to see how much the Crown

Imperials have grown since yesterday. If a man gave thought and care to it a very accurate thermometer for spring use might be made of a scale for measuring the growth of Crown Imperials.

LOOKING TO THE LAWN.

The absence of weeds, which is such a striking feature of the spring flower-bed, does not extend to the lawn. "Lawns should now be looked to," says the gardening book, and the first discovery which you make, on looking to the lawn, is the amazing progress which the pestiferous Plantain has made. If you have ever come into occupancy of a garden which "the previous tenant" had permitted to become undermined with a mat of Bindweed roots, you understand the tenacity with which

rosette upon that spot of earth where Providence has placed it. This is usually, and, unfortunately, in the most conspicuous part of the lawn.

SUPPRESSING THE PLANTAIN.

If you attend to your lawn with more zeal than discretion you can fill all your finger-nails with earth in trying to get hold of the stalk which the Plantain has not got, or you can assail it with a spud. With this you quickly learn to bring the Plantain up with a workmanlike jerk, which tosses it 2 feet in the air, and it is said, no doubt with truth, that if another person with a salt-cellar follows the spud welder and applies a pinch of salt to the white neck of each decapitated root, visible at the bottom of the hole left by the spud, that Plantain will not grow again. If you do not do something of the kind it is a sure fact that a whole colony of flat rosettes will, later on, adorn the spot whence you excavated one. By that time perhaps you will almost welcome them as a decent covering for the naked patch you made, and I have even known persons to persuade themselves that those dark green patches on the lawn are very restful to the eye.

DAISIES IN DIFFERENT ASPECTS.

As a nuisance on a lawn, the Daisy only differs from the Plantain in two respects. In return for the comparative compliance with which it yields to your efforts to uproot it, it multiplies many times faster, and it does not hide its presence under a pretence of green humility. On a really well-kept lawn a single white Daisy looks almost as aggressively untidy as a scrap of newspaper; and if you cut the grass in the morning you can, where the weed is well-established, make a Daisy-chain in the afternoon. Nor can you say that the Daisies on a croquet lawn look restful, because they do not; on the contrary, they will put you off your favourite stroke. Yet when you leave your lawn behind you and wander down some lane with budding hedges on either hand and Daisy-starred banks where the small, wild bees are tumbling over each other with the eagerness of spring, you feel in your heart all the nice things which the poets say in their books about this wee, crimson-tipped wild flower.

WHAT IS A "WEED"?

For "weed" is only a term of locality. Dirt, for example, has been well defined as "matter in the wrong place" (wherefore it does not include the mud on a farmer's boots, which shows that he has fairly tramped round his fields) as a "weed" is only a plant which is, from the human point of view, in the wrong place. Man, with his wholesale horticulture and agriculture, creates a revolution in nature. Hundreds of plants accept defeat and disappear; only a dozen or so rise to the occasion and, on behalf of the independence of the vegetable kingdom, dispute with him for the possession of every inch of soil. These we angrily call "weeds," although, as a matter of justice, we ought to honour them for the activity and intelligence which they display in a losing cause.

IRREPRESSIBLE FLOWERS.

Besides, what is one man's "weed" is another's garden flower. Who has not seen cottage gardens which were pretty enough to make a photograph for THE GARDEN, filled only with such things as Marigolds, Arabis, Foxglove, Periwinkle, Evening Primrose, and Canterbury Bell? Yet once let loose the Marigold in your wild garden and you have sown the seed of endless worry. The Canterbury Bell, undermining the whole shrubbery



SAXIFRAGA (MEGASEA) CORDIFOLIA GRANDIFLORA (REDUCED).
(From a drawing by H. G. Moon.)

some weeds, like Irishmen, cling to the soil. Although equally hard to eradicate, in many respects the Plantain on the lawn is the antithesis of the Bindweed among the Rose bushes. While the latter tangles itself, like whipcord, over everything around, the other apes humility by plastering itself in a flat

border, will spring up in commandoes round every delicate plant which you wish to cherish. The Foxglove will sow itself wherever there is not room for it, and flourish exceedingly.

The Evening Primrose will calmly come up in colonies upon your gravel path; while the Arabis from the rock work will invade and overrun the whole place with woolly carpets of dull, matted leaves, which harbour nations of slugs and bloated battalions of

of high endeavour. At the same time you disarrange the roots of the Phloxes a good deal. E. K. R.

THE PROPAGATION OF LILIES.

THE quick and profitable propagation of Lilies on a commercial basis is not a matter that enters into the present everyday life of the gardener or amateur who seeks to grow these splendid plants—his efforts are mainly directed to improved cultivation

—a matter in which the recent Lily conference has proved of great help. There is, however, much in Lily propagation that would interest and benefit every gardener; any chance seedling of merit that passed into his hands would be saved to cultivation if he were able to perpetuate the form carefully and with all the elements of success at his command, whilst the renewal of stock, now an annual necessity, would be reduced considerably if he were able to improve upon Nature's methods of bulb increase.

Moreover, there are signs that the country's stock of the rarer Lilies is appreciably decreasing; the ever-increasing popularity of Lilies has resulted in greater demand for the rarer kinds, and units, passing from the parent stock to less skilful hands, have not always succeeded. Again, there are marked signs that stocks of some of the rarer Japanese species have been overtaxed, for it must be noted the Japanese do not propagate the Lilies they send here, but collect them and grow them for a season, or possibly two, before shipment, hence they add nothing to the economy of the world's stocks, but *vice versa*.

On the other hand, we, as horticulturists, are not doing our best as Lily propagators. Several varieties are already lost to cultivation—it is safe to say they were not understood; many varieties that fail now are equally misunderstood, and the misunderstanding in each case has its origin in disregard of the bulb's functions and frailty; these can only be understood by nursing the seedling or hurbil to the adult stage, when the indescribable characteristics of each would be apparent, and these would form the nucleus on which all requisite cultural details would be based. The great powers most Lilies have of rooting from the base of the stem would be usefully employed and encouraged; close-scaled bulbs, woefully liable to decay in retentive soils, would be planted among the fibrous roots of other plants, and the flower-stems fed by an annual surface mulch. With regard to

SOIL AND EXPOSURE

best adapted for propagating Lilies, there is no place better than a well-tilled kitchen garden, not too rich in humus, and as free from grubs, wire-worm, and other depredatory insect life as good cultivation and the remedy to be hereinafter mentioned can render. The shade of well-thinned fruit trees is a great boon, inasmuch that a seedling or tiny scale-produced hurbil would find it a hard struggle in a warm sunny position to store sufficient nutriment to carry it through the nine months of comparative rest in the two or three months' active growth it makes as a young plant. The natural method of propagating Lilies is by means of

SEEDS,

but with the exception of *Lilium cordifolium*, *L. giganteum*, *L. tenuifolium*, and *L. polyphyllum*, and in the raising of hybridised seedlings and seeds of rare species, whose roots are not available, the method is not generally employed, being slow and uncertain. In common with those of all flowering monocotyledons, the seeds should be sown as soon as ripe or obtainable. Small lots of seeds should be sown in pans and introduced to greenhouse temperature if available; a whole season is thus gained, and seeds of low germinating power, such as invariably occur in hybridised capsules, are thus given a better chance of making headway. Seedlings, I find, revel in a turfy loam, broken up small and freed of perennial weeds, a little very coarse sand being added to the actual



SCALE OF *L. MARTAGON*
ALBUM AND YEAR
OLD BULBILS.

compost. The layer of soil directly over the seeds should be very sandy, so that seedling leaves can emerge freely. If sown in autumn seeds germinate more regularly than when sown in spring; the *umbellatum* group germinates first, *elegans* secondly, *candidum*, *longiflorum*, *auratum*, *speciosum*, *tigrinum*, and *Martagon* groups germinating in succession till the following midsummer. Seedlings of many Lilies, be

it noted, may grow to the size of a Hazel Nut without making any leaf growth whatever, hence pans of seeds should not be thrown away within three years of the date of sowing, or even later, without careful examination.

In general practice and where seeds are sown in quantity it is best to prepare a roomy frame with a west aspect, filling with friable meadow loam and coarse sand, rendering the whole distasteful to depredatory insect life by watering thoroughly with an infusion of quassia chips at a strength to be obtained by steeping 1lb. of chips in four gallons of boiling water, adding another eight gallons of cold water when the infusion has "stood" for a day. Apply this liberally to the soil, and when drier sow the seeds as one would sow Peas, in broad drills, covering with 1 inch of sandy soil, adding another inch of soil in the second season before growth recommences in January. *Lilium tenuifolium* makes flowering bulbs in the second and third year; *L. polyphyllum*, which is very slow and irregular in germinating, takes four to five years; *L. giganteum* five years onwards. The two former plants are really best flowered in the seedling frame.

For general purposes it is not necessary to differentiate between different species of Lilies in the matter of raising from seeds, the young seedlings have low vegetative powers, and from the cultivator's point of view seeds of every known Lily may be treated as if produced by one plant. When the seedlings are two or three years old from date of germination leaves and roots are very active, and it is then that their respective requirements, duly set forth in the concluding chapter, must be fully met. Seeds, whether dormant or germinating, must not be subjected to extremes of heat and drought in summer, and must be protected from cold and wet in winter. An equable temperature proportionate to the season of the year, and a greater degree of moisture in summer than in winter, will be found all that is necessary for them in the seedling stage.

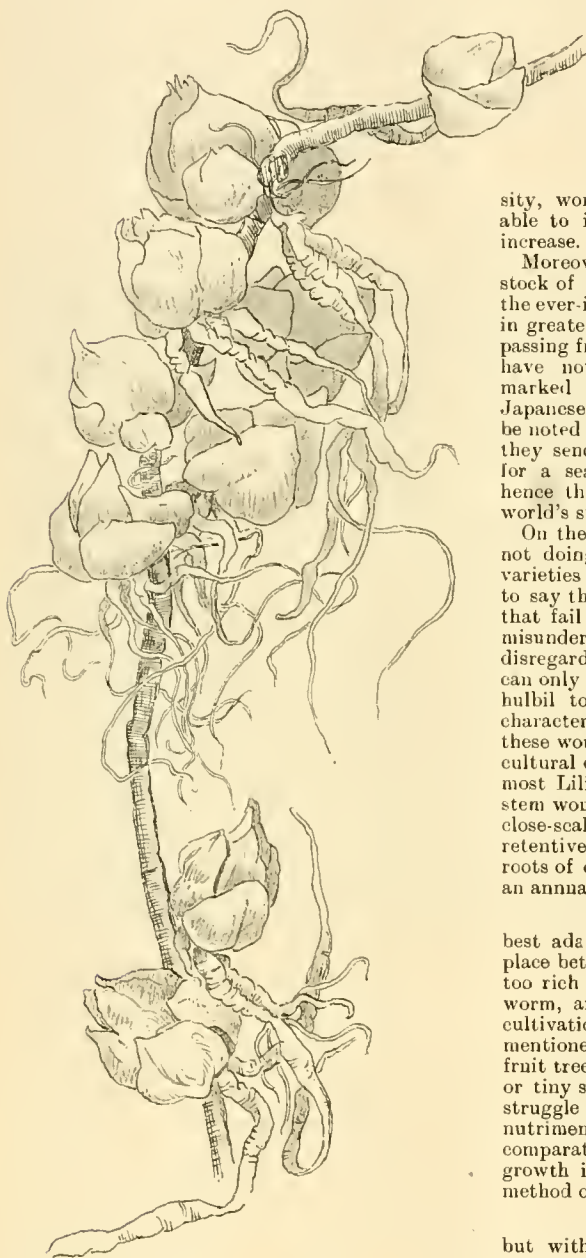
PROPAGATION BY SCALE BULBILS

is at once the quickest, best, and most certain of all methods of increase.

It is simple in practice, requiring less care and attention than is the case with seedlings, whilst the returns are really great. Practically all the known Lilies may be increased by this means, the exceptions being those mentioned previously, whilst some that will be mentioned,



ONE YEAR OLD SCALE BULBIL OF *L. X*
MABHAN, SHOWING CONTRACTED
SCALE, THE BEST FOR BULBIL
PRODUCTION.



LAYERED STEM OF *L. HENRYI*. BULBILS ONE
YEAR OLD.

armoured snails and woodlice. Vegetables, too, which are coy in the kitchen garden, throw out their leaves with abandon and riot in flower and seed, once they find themselves on the "ornamental" side of the hedge. Perhaps they try to live up to the level of the exalted company in which they find themselves, so that when in late summer you pull up a 4-foot flowering Radish plant from among the Phloxes, you may be destroying the crown

though capable of being increased by scale bulbils, have other means of increase which have so far proved best. All scales of Lily bulbs have the power to produce offsets at all seasons under certain suitable conditions, but for practical purposes there is a season and a particular type of scale better than the rest. The season is autumn, and the type of scale is found in all Lily bulbs, and is distinguished by a distinct contraction about the middle, a narrow-waisted scale. These are remarkably prolific in offsets as compared with normal scales. Even when young they have tiny cellular excrescences which, under favourable conditions, without fracture or other external aid, develop into scale bulbils. Again, bulbils produced from the middle of the scale are invariably larger than those produced from a fractured base or tip, and bulbils produced from a whole scale scratched transversely with a steel pen or knife point are greater in number and size than those produced from a scale broken in three pieces. These are small matters, but important when dealing with very rare bulbs and large quantities. The scales must be ripe, those surrounding the previous year's flowering stem are best. Any bruised, decaying portions should be cut clean away and the withered scales of some imported bulbs avoided altogether. Having prepared the scales, they may be stratified in boxes of sand or light soil to develop, the depth of covering material should not be less than 3 inches. Place the boxes outside to catch any rain that falls, and protect from sharp frosts during winter. Many advise a frost-proof building in which to store the scales, but generally one can get on well without it. Full exposure to sunshine, wind, and rain keeps down fungoid growths, the one trouble Lily propagators have to reckon with. By the following April most of the scales will have developed bulbils and are ready to plant in nursery quarters. Choose a site screened from strong sunshine, dress the soil with Quassia infusion, and raise the beds 6 inches above the general level of the garden in order to drain surplus moisture freely. Sow the bulbils as one would sow Peas, in broad drills, not more than 2 inches deep; the less hardy species may be grown in a frame, but most of them will take no harm outside. If the soil is naturally heavy it should be ridged up at the time the scales were prepared, in order that frosts, winds, &c., may pulverise it and render it as free from insect life as is possible to do by this means. Their first year's growth will be slight, a leaf apiece may be all that will be seen; nevertheless, growth is proceeding apace, and an occasional watering during dry weather will keep them going. In autumn give a dressing of light soil an inch thick to stifle mossy growth, young weeds, &c., and in the case of the auratum and longiflorum groups a protective layer of Bracken or similar cover to ward off frosty winds.

In January-February following they will make their appearance in quantity, each tiny plant having two leaves at first, developing others as the season advances. Their growth will now be rapid, and they will want attention as to watering, and a wind-screen in March if cold winds prevail. If the plants keep healthy and the soil is open and free they may with advantage remain three seasons, at the end of which time they may be regarded as plants requiring specific treatment, particulars of which will be given.

PROPAGATING ESTABLISHED BULBS.

Another method of increase by scale bulbils, and one useful to employ with bulbils of the Martagon group, is to free the bulbils of soil whilst still rooted, and scratch the scales transversely with a sharp knife. The practice has some advantages in that the flowering of the bulb is not materially impaired; it could be recommended for very rare and valuable bulbils slow of natural increase. A certain percentage of bulbils is assured without preparing nursery beds for them, and the risk of injury to the parent is reduced to a low minimum. The bulbils will need to be relieved of their offsets in the second year, and if necessary they may be again prepared for bulbil production without disturbing the roots.

G. B. MALLETT.

(To be continued.)

THE FRUIT GARDEN.

A NEW AUTUMN-FRUITING STRAWBERRY.

WE are indebted to *Le Jardin* for the accompanying illustration of the new Strawberry Odette and the following description of it: This Strawberry, sent out by M. Lapiere fils, bids fair to become very popular. It fruits uninterruptedly from early summer until the frosts in late autumn; not only in form but in their bright colour do the fruits differ from existing varieties. A seedling from St. Antoine de Padoue, Odette, so far as we have been able to ascertain, is a far better Strawberry. The fruit is shown natural size in the accompanying illustration, old fruits are often cockscomb-shaped and very large. The shining red colour of this Strawberry will make it a favourite in the market; the pale pink flesh is firm, sweet, perfumed, and of very good quality. As one may gather from this short description, Strawberry Odette is likely to prove popular not only with amateur but with professional growers.

GRAFTING.

I HAVE in my garden two old Apple trees which I wish to graft this spring. A few hints in THE GARDEN upon grafting would be very gratefully received.

Nottingham. AMATEUR.

The art of grafting is not merely an interesting pastime, but when done successfully and due care is used in selecting both suitable stocks and scions, a garden or orchard hitherto only containing inferior varieties may be made to yield full crops of superior and valuable fruits. The above letter from one of our readers reaches us at a seasonable time. It is only when the sap commences to rise that a speedy and successful union between stock and scion, or graft, can be secured. So really there is not a day to be lost in making the necessary preparations. The grafts themselves certainly may not be placed in position until the end of the present month, when the searching and drying winds have somewhat abated, but the trees which are to receive them must be taken in hand at once. It is most important that these, though perhaps only of third-rate merit as regards productiveness or quality, should be quite sound, clean, and healthy. Any that show signs of canker, or are badly infested with American blight or natural decay, should be condemned. Aged trees, providing they are healthy, may practically be rejuvenated by being cut back and grafted with approved varieties. Those with well placed and spreading branches may also be treated, each to receive several varieties, but this is not generally advised unless it is that space in the garden is limited.

CUTTING BACK THE TREES.

By this we mean shortening back all the branches in such a way that when the grafts are placed in position and commence to grow they are not far removed from the main stem or trunk. Where several dozen branches originate closely together a few of the most crowded ones in the centre might be cut right out, reserving those evenly placed to receive the grafts, and thus in a few years form a well-balanced head. In reducing the length of these branches—where there are only a few cut back more severely than when there are many—it should vary from 2 feet to 4 feet. Pruning in the first instance should be done with a sharp pruning saw, and in

such a way that the falling branch does not rend the bark beneath the cut. The latter, too, should be made so as to slant away from the centre of the tree. This will allow rain and snow to pass off freely, otherwise moisture might collect in the cavity made to receive the graft. The surface of the wound should be neatly smoothed over with a sharp knife or broad chisel, as it then heals more quickly. It is better that the sap in the trees to be grafted should be more active than that of the grafts, therefore partially bury the latter behind a north wall or in some cool moist and sheltered spot. This will keep both the bark and buds plump until required. Exposure to sun and wind would have the result of causing the bark to shrink, which is fatal.

SELECTING THE GRAFTS.

Shoots of last season's growth should be selected and graded according to size in the autumn, and then buried half their length, as previously advised. With Apples the grafts should be about the thickness of one's little finger. They should be clean, short-jointed, and well-ripened shoots, with well-developed wood buds. Where the desired number of shoots were not selected and stored away some



STRAWBERRY ODETTE (NATURAL SIZE).

weeks ago, not a day should be lost in doing this, each variety to be tied in small bundles and carefully labelled. The soft or unripened tips might be cut back; indeed, the grafts may be now made the desired length, leaving, of course, the cutting away of the bark, &c., at the base of each until immediately before they are placed on the trees. Having so far got the trees and grafts in hand, attention should be paid to other things required, so that everything will be in readiness when the time for grafting arrives.

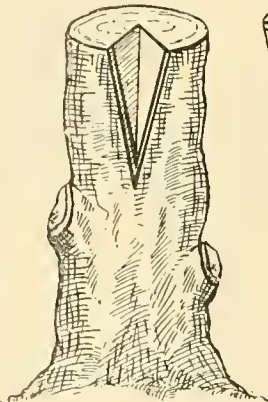
TOOLS, WAX, STRING, AND CLAY.

A most important matter is to use suitable tools. A strong and very sharp pruniog-knife will be found sufficient probably where only small branches have to be grafted, but when these are several inches in diameter a rather broad chisel with a keen edge and a light mallet would be better to form the clefts or notches. A ball of soft twine, a bottle of grafting wax (which can be obtained from any seedsman), and a quantity of well-worked clay are necessary. The latter is, of course, to be used as a thick coating over the end of the branch and surrounding also the lower part of the graft as protection from drying winds and rain, as well as for keeping the united parts air-

tight and continually moist. When only well-moistened clay is used for this purpose it quickly becomes hard by the action of sun and wind and then cracks. This prevents the covering being air-tight, and thus the object for which it is used is not achieved. It is better to make this covering as follows: Use two parts of clay, one part of cow manure, and finely chopped hay or moss; the latter when well mixed holds the whole together and prevents cracking. Having got all in readiness, the mode of grafting should be decided upon. There are three at least, viz., cleft grafting, crown grafting, and notch grafting. It would probably confuse amateurs to explain each method, and for the present purpose the latter mode will meet our requirements, and perhaps be found the most simple. Even this, however, is not easily understood, but would be quickly grasped after seeing the work once done, or perhaps the accompanying sketch may assist in carrying out successfully the remarks we have to make.

MAKING THE GRAFTS.

Towards the end of March grafting may be commenced. Everything needed should be close at hand, so that the work can be done quickly and with the least exposure of the cut or wounded parts of the stock or scion. The grafts should be, say, about 9 inches long, so that at least three well-developed wood buds remain above where it is connected to the stock or branch. The lower part of the graft should receive two clean and straight cuts from 3 inches to 4 inches in length, bringing the two cuts to an edge on one side, and leaving about one-third of the other side with the bark intact. Clean cuts are very necessary, as bruised bark or wood does not readily unite. Having formed the graft, place it in the position it has to occupy, but with the cut and bark side next to the branch. This will give the operator an idea of the length and width it will need, and can be marked on the bark of the branch with a pencil or small-pointed knife. Then the cleft or notch should be cut out of the latter in such a way that the graft fits in exactly, and for the under bark on either side of the graft to meet that of the stock. It is most important to enable the sap from the tree to meet that in the graft and support it until a union takes place. If this is done neatly and not the smallest cavity is left success is almost certain, but it must be accomplished with the same true exactness as a superior joiner dovetails his handiwork. The graft must be kept firmly in position by binding it round with soft twine, and then over this and all round where the knife has been employed cover with grafting wax. This is to prevent any air reaching the parts operated on. As a further precaution a coating of clay should follow when the wax has hardened, and thus seal up the whole. Little more attention will be needed until the grafts commence to grow, and when they have taken a firm hold they should be carefully uncovered and the string which binds them loosened or removed and retied less firmly, so as to allow room for the expansion of the swelling bark. In all probability before the buds on the grafts commence to grow freely young



GRAFTING: STOCK AND SCION.

shoots will form on the main branches beneath. Most of these should be removed, but a few retained close under the graft; these, too, should be stopped after they have made a few leaves. Their presence would tend to draw up the sap more freely and so feed the graft, but after the latter commences to grow freely all other growth from the stem and branches should be removed.

Goodwood.

RICHARD PARKER.

CHRYSANTHEMUMS.

PROMISING NOVELTIES OF 1902.

(Continued from page 127.)

UNDER this heading the following varieties may be added to those in the previous notes. Although many of them have not received recognition at the hands of the respective floral committees of the National Chrysanthemum Society and Royal Horticultural Society, there are points of merit in the flowers which are sure to place the different kinds in the leading stands another season.

JAPANESE VARIETIES.

Lady Conyers.—A very large Japanese bloom, having broad petals incurving at the ends, of good substance; colour inside the petals good rosy pink, reverse silvery white. This is a full flower which some growers think resembles that of Mrs. George Mileham, but in this instance the flowers are larger and of more substance.

Mrs. F. W. Vallis.—A bloom of this novelty of promise was placed before the National Chrysanthemum Society's floral committee on October 20 last, and so well did that body think of it that they accorded a vote of thanks. Being only one bloom the committee could not make an award. It is a very large and handsome flower, with long and fairly broad drooping petals; colour yellow, striped and suffused reddish crimson. As an exhibition Japanese this variety gives promise of being a decided acquisition.

Edith Smith.—This refined Japanese bloom was first noticed under the name of Miss Smith. The blooms are large and spreading and of even form, having very long drooping petals of good breadth, indented at the ends. The colour may be described as creamy white, deepening to a yellowish tint at the base of the petals. Some of the blooms measured 12 inches in diameter, with a depth of about 7 inches, surely large enough for any purpose.

Florence Penford.—This variety is generally valued for the pleasing and interesting colour of its blooms, which may be described as pale buff, with yellowish centre. It is a large and compact Japanese incurved of compact build, with broad petals twisting and curling and tightly incurving. F.C.C., N.C.S., October 27, 1902.

Countess of Harroby.—An English-raised seedling and a bloom of a most refined and charming character. The petals are fully 8 inches long and rather broad, also slightly curled and incurving. The colour is one of its most pleasing traits, which is a lovely soft pink, lined and suffused a deeper shade of the same colour. This is a Japanese flower, of which type there are too few in commerce.

Mrs. Harry Emmerton.—Some growers may question whether this variety can be regarded as a 1902 novelty. In any case little was seen of this handsome flower till last season. It is a most consistent variety, developing large and full blooms of good quality, and is another testimony to the excellence of the productions of our Antipodean cousins. The blooms are of Japanese reflexed type, being beautifully even in form and having long and drooping petals of medium width; colour bright amber, deepening in colour towards the centre.

Captain Percy Scott.—Several who saw this variety last autumn expressed the opinion that it was a bloom worth noting. The bloom is of large and massive build, with petals of medium width,

incurving and curling at the ends, and developing a flower of good substance suitable for exhibition purposes; colour clear yellow.

Ezmouth Rival.—This is a Japanese bloom which the National Chrysanthemum Society's floral committee commended for its colour. An apt description of this latter is very deep rich crimson, not at all dull in colour, with a bronze reverse. The petals are not over long, and they are fairly broad and pointed. Although the blooms cannot be classed with the monsters which exhibitors always seem to expect in these times, they should materially improve an exhibit owing to their colour alone.

Countess of Arran.—This is one of the most chaste of Mr. Henry Perkins' seedlings, and is a type of Japanese Chrysanthemum to which every encouragement should be given. It is a large flower of grace and refinement, having petals of great length, quite 8 inches long, and fairly broad withal. The colour is a lovely shade of cerise-pink on a pale creamy buff ground—quite novel. When finished some of the blooms were almost 9 inches in diameter and proportionately deep.

Mme. Waldeck Rousseau.—A Continental introduction which, though not absolutely novel, gained considerable notoriety last season. It is a bloom of large proportions, and for exhibition uses has in consequence value where "weight" is desired; colour carmine-red.

Sir Wm. Acland.—This is another English-raised seedling of great promise, developing large flowers of even form, with very long, drooping, and twisting petals. When cupped up for exhibition the blooms impress one with their superb quality; colour reddish bronze.

S. T. Wright.—A distinct acquisition of last season. The blooms, although not of the largest, are quite large enough for all purposes, and have broad florets of good substance neatly reflexing. The central florets, however, incurve, revealing the golden-bronze reverse; colour brilliant crimson. A.M., R.H.S., November 4 last.

Mrs. A. R. Knight.—There are points of merit in this flower, but these are not so pronounced as are some of the other sorts. The petals are of good length and fairly broad, the lower ones being slightly twisted; colour bright golden-yellow, shaded at tips of petals chestnut-red. A deep bloom when finished. F.C.C., N.C.S., November 10 last.

Hon. Mrs. A. Acland.—A very lovely full flower, having long and broad petals which incurve slightly at the tips. As the bloom finishes it develops into a large exhibition flower of good substance. The colour is a rich shade of yellow, midway between the yellows of Edith Tabor and R. Hooper Pearson. The reverse of the petals is a lighter shade of the same colour. A.M., R.H.S., October 21, 1902.

D. B. CRANE.

PLEACHED ALLEYS.

IN the period when formality ruled in the garden and topiary work was considered the highest form of embellishment for the pleasure, when, as Victor Hugo writes, "trees were forced to submit to the grotesque caprices of the shears and line, and natural order was everywhere contradicted, inverted, upset, destroyed," the pleached alley was in vogue, and few were the better class dwellings of the time that did not number one or more of these shaded walks among their chief attractions. Now, along with other fashions of that age whose disappearance is a subject for congratulation, the pleached alley is well nigh extinct, though here and there an example, such as that portrayed in the accompanying illustration, is to be met with. The advent of the foreign-titled stranger from sunnier climes, the pergola, had doubtless, owing to its superior attractiveness in holding aloft a canopy of blossom in place of a roof of uniform green and permitting the culture of Lilies and other beautiful flowering plants between its supports, no little part in the banishment of the pleached alley, but if we believe all we read the interloper's reign is not destined to be a lengthened one, for in a late number of THE GARDEN a correspondent prophesies that the garden books of



THE PLEACHED LIME ALLEY AT HOAR CROSS.

the future will speak of the pergola as "a horticultural artifice which had considerable vogue at the beginning of the twentieth century, but which, owing to the truer conception of art in the twenty-first century, has fallen into disuse!"—a prophecy whose fulfilment is not, from all appearances, likely to seriously disquiet the minds of the present generation. Fashioned generally from native Hornbeam, Beech, or Lime, the pleached alleys furnished pleasant resorts through many months of the year. On fine spring days the birds might be watched breaking on the shoots above against the blue sky. Little by little the sprays gathered green as the foliage expanded, and later, on clear evenings, one of the most beautiful sights in Nature was to be seen when the rays of the setting sun shone through the emerald transparency of the young Beech leaves, still margined with fringes of silkiest down. Throughout the springtide the alley ways were haunted by bird life appearing and disappearing amid the greenery. Finches, white throats, willow wrens, warblers, and the tiny gold-crest, whose nest, already half-finished, hung beneath an outstretched branch of a neighbouring Yew. In July, when the alley was composed of Limes, the air was redolent with the perfume of their blossoms, and the now silent bird voices were replaced by the murmurous hum of myriad honey bees. In the sultry heat of summer noons the pleached alley afforded grateful

shade, and in autumnal days the fading leaves shone transformed in russet, ruddy bronze, and gold. In the winter the alley was left severely alone, and the winds whistled unheeded through the bare branches. The foregoing has reference solely to pleached alleys fashioned of deciduous subjects. Sometimes they are formed of evergreens, such as Yew, Box, Holly, or Cotoneaster microphylla. The advantage seems to rest, however, entirely with the deciduous trees, whose varying conditions from month to month contrast agreeably with the monotonous sameness of the evergreen, the shade of which is also often too dense. Within one of the latter that I know of there is a "dim religious light," even on the brightest of summer days. Other good trees for use in the construction of alleys are the weeping forms of the Ash and Elm. That this habit of growth is not indispensable is shown by the majority of pleached alleys of old time being formed of trees of upright growth, but those with naturally pendent branches more readily assume the required shape. Flowering trees may be used, but it must be remembered that if the branches are so thickly trained as to form a shaded walk in the summer they will probably be too crowded to ripen well and therefore to blossom as profusely as if they enjoyed more air and light. *Prunus Mahaleb pendula* is a very pretty weeping flowering tree, and this, as well as *Laburnum* and

Wistaria, may well be used if the branches are thinly trained overhead. In Japan the *Wistaria* is widely employed for covering overhead trellises and archways, the variety used being generally *W. multijuga*, whose flower racemes are 3 feet and more in length. This form is but rarely seen in England, and I only know of two gardens where it is doing well. Where *Wistaria* is grown as a covering for a shaded walk, the roof should be of sufficient height to permit of the space of a clear 2 feet intervening between the boughs and the heads of those traversing the path beneath. *Wistaria* is generally of slow growth in its earlier stages and annual climbers, or what is practically annuals in this climate, such as *Cobaea scandens*, *Mimosa lobata*, *Tropaeolum carariense*, and *Lophospermum scandens* may be utilised with good effect until the *Wistaria* shall have made good growth. A pleached alley requires considerable attention if it is to be kept in good order in the matter of cutting out old wood and bending down and laying in the young shoots. Pretty covered ways are often seen composed of Pear or other fruit trees, but these have little in common with the alley, since the branches, to flower and fruit well, can not be so closely trained as to throw a dense shade. In writing of the pergola in "Trees and Shrubs for English Gardens," Mr. Cook says: "It often occurs that in laying out ground the owner wishes to have a pergola, as it were, in the air, and when

there is nothing to justify its presence. It should not be put haphazard over any part of the garden walk, but should lead from somewhere to somewhere of importance in the garden design." This excellent advice applies every whit as strongly to pleached alleys.
S. W. FITZHERBERT.

GARDENING OF THE WEEK.

THE FLOWER GARDEN.

MOSSY LAWNS.

OLD grass lawns, more especially in humid climates and pent-up situations, are very liable to become overgrown with various species of Mosses, rendering them less firm to tread upon, and, by choking the grasses, destroying that cheerful green appearance which makes our lawns the admiration of all strangers, unless it be in shady walks and places where it would be impossible to get grass to grow. There, indeed, nothing can be better than Mossy covering; but on the lawn, whether in the flower garden or around the house, Moss should be extirpated altogether, or so kept under that the healthy growth of the lawn grasses may not be interrupted. The early spring is the best time to give a top-dressing of finely-sifted leaf-soil and rotten manure or any of the fertilisers that are congenial to the growth of grass and destructive to the Moss—lime, guano, soot, or finely-sifted coal ashes are all of this class of fertilisers—and where their application may be objected to on account of their colour they may be employed in a liquid state, and if applied during rainy weather neither their colour nor odour would be objected to.

VINCAS.

For forming permanent edgings to large beds the Golden and Silver Vincas are most effective. They can be trimmed to any desired height and form when they get well established, and will also bear pegging down. These and the common Periwinkles are excellent plants for planting in shaded situations, or for planting round the sides of baskets, or for hanging over raised beds, covering unsightly walls, and one often sees them used with good effect when covering the stumps of old trees. They increase themselves into stools, which can be lifted and separated when it is desired to increase them; or cuttings put in when the growths become moderately firm root freely.

CALCEOLARIAS.

These generally thrive best after they are planted out without ever having been put into small pots at all. In the absence of cold pits and frames, the plan I would recommend is to throw out trenches like those generally used for Celery beds, put 6 inches of rotten leaves in the bottom, and then 6 inches of light rich soil. Here the young plants, lifted with as little injury to their roots as possible, should be pricked out about the end of the month, 6 inches apart each way. When all are planted water well, and lay some sticks or trellis work across the trench, and cover with mats or canvas when cold weather renders it necessary. For the first fortnight after being transplanted they should be shaded through the day when the sun shines. Thus managed they make fine strong plants with very little trouble. As they grow they should be looked over at intervals and topped, so as to keep them dwarf and well furnished. About three weeks before they are planted out the spade should be run along the lines each way, cutting to the depth of 6 inches. This cuts off the roots of each plant from its fellow, checks them for the time, but causes them to make fresh roots nearer home, and the result is that they lift well and scarcely receive any check when planted out.

ANTIRRHINUM (THE SNAPDRAGON).

To grow this plant from seed is most easy. Now is the best time to sow it, and the best way to treat it is to sow in shallow pans in a cool frame, and plant out the seedlings in a bed of light soil. As soon as they are large enough to handle grow

them on till the end of May, when they will be fit for planting out. The dwarf kinds are the best for beds and massing. Golden Queen, with its large golden-yellow flowers, is a gem for beds or pots.

T. B. FIELD.

Ashwellthorpe Gardens, Norwich.

FRUIT GARDEN.

PEACHES.

IN the earliest house still attend to the thinning, disbudding, and tying-in of the young shoots intended to form next year's fruit-bearing wood. As we have before observed, the disbudding of indoor Peach trees is an important work which requires daily attention, combined with a knowledge of the condition of the roots. If the latter have been recently disturbed, or the trees have been weakened by heavy cropping, a little delay will give them time to pick up before many of the shoots are removed; but as trees of this kind generally set freely the timely removal of a great number of the least promising fruit may precede disbudding, when good mulching, followed by a moderate supply of warm liquid manure, will soon start them into growth. Vigorous young trees, after being divested of fore-right shoots, may have many of the side shoots pinched either to form spurs or to supply foliage where there is likely to be a scarcity; but it must always be borne in mind that the best shoot which starts from the base of this year's fruiting wood must have plenty of room for growth and exposure to the influence of warmth and light. Where

YOUNG TREES

are trained upon the extension principle and last year's shoots are from 2 feet to 4 feet in length, the latter may be allowed to carry a Peach at every foot run, and, provided they were well thinned out at the autumn pruning, two or more shoots may be laid in full length. If borders are well made and properly drained there is little danger of over-watering inside borders. Let the temperature range about 55° by night and 10° higher by day from fire-heat.

VINES.

Practical Grape growers who have to keep the varieties Mrs. Pince, Black Alicante, and Lady Downe's Seedling fresh, black, and plump until new Black Hamburgs are ready, will hardly need reminding that the houses should now be closed. When buds begin to swell a somewhat higher temperature than that recommended for early houses may be given; indeed, to have Lady Downe's thin skinned, full flavoured, and capable of keeping fresh and plump until May the Vines should receive Muscat treatment until the Grapes begin to colour, when Hamburg treatment will ensure colour. Black Morocco and Gros Colman, when properly managed and allowed a long growing season, are valuable for use from January to March, but they should be ripe in September. Bunches of Gros Colman should hang for some time on the Vines after the leaves fall. An excellent late Grape, Mrs. Pearson, is well worthy of a place in every autumn and winter vinery. As a grower it is quite as free as its inferior relative, the Golden Queen. It shows an abundance of handsome bunches, which set well, and my experience justifies me saying it will keep for a long time and improve in quality after it is ripe.

Madresfield Court.

WILLIAM CRUMP.

KITCHEN GARDEN.

FORCING.

MAINTAIN a succession of Seakale, Asparagus, Rhubarb, and Chicory by introducing fresh plants as often as the needs of the establishment demand. Very gentle forcing suffices at this date, for by growing as naturally as possible the flavour will be retained. Especially does this apply to Asparagus, which may now be cut from frames quite green and of full flavour if abundance of air has been admitted whenever the weather allowed. Asparagus in frames requires copious applications of warm water pretty frequently to ensure quick

growth, which is so essential for the production of tender heads.

FRENCH BEANS.

Where large quantities of these are required during spring, and accommodation is limited for fruiting under glass, it is a good practice to sow a large batch now in pots, or in narrow boxes specially made, for planting in the open at the end of April. If pots are utilised, 4½-inch will be best. Sow five Beans in each, leaving sufficient space for top-dressing, place in a temperate house to germinate, and as soon as up remove to cold frames and keep near the glass. Do not admit air for the first three days, and even then it must be done cautiously, as nothing is so harmful to this delicate vegetable as draughts. On quiet days give air freely and apply tepid water at the same time. When the weather is quite favourable and the ground to a fit condition transplant them in rows on a warm border and protect with evergreen branches or treble thickness of fish netting. Osborn's Forcing and Ne Plus Ultra are good varieties for this purpose.

SEED SOWING.

Tomatoes for open air culture may be sown at this date in pans of finely sifted soil; the chief aim should be to raise the plants in medium warmth and keep them sturdy, yet steadily growing throughout. As it is unsafe to plant Tomatoes out until the end of May or early in June, it is obvious that strong plants must be available at that time, as our summers are generally short.

Well-grown plants, if well tended, will give good crops of fruit in the open in sunny seasons. Ham Green is the best variety with us.

LEEKs

for the main and late crops should now be sown on a warm border for transplanting into trenches or in holes bored with the Potato dibbler. The Musselburgh I have found the best to follow the earlier and more tender varieties.

BETROOT

for summer use is in demand in most gardens for saladings, and some of the early round variety may be sown to precede the main crop.

TOMATOES UNDER GLASS.

Sow for the late summer crop in pits and cool houses, and grow on as advised above. Remove all side shoots from plants that are flowering or fruiting, and tie and encourage the leading shoot to grow freely. Afford adequate protection to all vegetables raised under glass and planted out.

Stonleigh Abbey Gardens.

H. T. MARTIN.

INDOOR GARDEN.

LAPAGERIA ROSEA AND L. ALBA.

WHETHER growing on trellises, on the roof of the greenhouse, or allowed to ramble at will over rock-work, which is its natural position, the borders in which they are growing should be periodically examined. Where found necessary perfect drainage must be restored, and a top-dressing of peat and sand with an admixture of broken sandstone or rough corks must be given. The border should be kept sufficiently open to allow the water to pass freely through it. The young shoots frequently suffer from attacks of aphids, and should the plants be growing where fumigation is inconvenient syringe them twice weekly with diluted Quassia extract, directing the mixture chiefly to the affected parts.

EPACRIS

and the soft-wooded section of Ericas now passing out of flower should be cut hard back, leaving only from half an inch to three-quarters of an inch of last year's wood at the base of the stronger and medium-sized shoots, cutting the weaker ones quite close in. After pruning the plants may be syringed lightly on every bright morning, and as soon as the buds begin to swell a little the plants may be repotted. Anything like shaking out the whole of the soil must be avoided, and any sickly or unhealthy plants had better be consigned to the rubbish heap. On repotting use pots of only one

size larger. The plants thrive best in peat with a good admixture of coarse white sand and charcoal broken somewhat fine, but with all the dusty particles sifted out of it. Very firm potting is necessary; therefore use a thin, flat stick to work the soil tightly round the roots. Keep the plants cool, and avoid fire-heat as much as possible provided the temperature does not fall below 32°. In the event of bright sun a light shade of tiffany must be given. The repotting of the general collection of *Ericas* had better be deferred for some time yet.

CARNATION CUTTINGS

of the winter-blooming section put in some weeks ago will now be sufficiently well rooted to be potted off; for this purpose use very small pots and place one cutting in each. Use a compost of two-thirds light friable loam with one-third decayed leaf-soil and a little sand; after potting place the young plants in a close case (which can be ventilated as required) for about a week, keeping the temperature from 50° to 55° until root-action commences. As soon as the young plants are rooting freely place them on a shelf, shading them from bright sun, and gradually harden them off.

SALVIAS

Cuttings of *S. Brauntii*, *S. Pitcherii*, *S. rutilans*, and *S. gesneriflora* for autumn blooming should now be put in, as these plants are exceedingly useful for grouping and give variety of colour and form at a season of the year when the *Chrysanthemum* dominates the entire garden.

Wendover. J. JAQUES.

ORCHIDS.

DENDROBIUM × THWAITESÆ.

MR. R. G. THWAITES, Christchurch Road, Streatham (gardener, Mr J. M. Black), exhibited this new hybrid *Dendrobium* before the Orchid committee of the Royal Horticultural Society on the 10th inst., when it received an award of merit. The parents of this beautiful hybrid are *D. splendidissimum grandiflorum* and *D. Wiganie*. Sepals and petals are pale buff tinged with purple towards the apices, the base of the lip is also pale buff, while the centre is dark crimson. It is the purple tint in sepals and petals that gives to this flower its charm.

SOCIETIES.

READING AND DISTRICT GARDENERS' ASSOCIATION.

A VERY pleasant evening was spent by the members of the above association at their last fortnightly meeting, when Mr. W. Townsend, of Sandhurst Lodge Gardens, Wellington College Station, gave a paper entitled "A Berkshire Garden in Summer," illustrated with limelight views. Of course, the garden dealt with was that under Mr. Townsend's charge, and which is noted for its beautiful outdoor flowers. The visitors were, so to speak, shown the principal features, which were the *Roses*, *Lilies*, *Fuchsias*, *Hydrangeas*, &c., which bloom profusely here. The slides were run through a second time so as to enable the members to ask questions, and, needless to say, the opportunity was taken great advantage of. Mr. J. Gibson, of the Gardens, Danesfield, Marlow, made a splendid exhibit of the Sutton Variegated Kale, staging about three dozen heads. A hearty vote of thanks was accorded the lecturer and exhibitor.

CROYDON HORTICULTURAL SOCIETY.

A MEETING of this society took place recently, when a good attendance welcomed a member, Mr. W. Briscoe, who is one of the staff at the Royal Gardens, Kew, and who kindly came down to read his prize essay on "Propagation." Perhaps some will remember the occasion of this society's annual dinner in January last, when a presentation for the first prize essay on "Propagation of Plant Life" was made to Mr. Briscoe, and at the time mention was made that the recipient would read the paper before the members of the society at a future date.

For the last two years Mr. Briscoe has been at Kew, where the many facilities offered there have greatly benefited him, both in technical and practical horticulture, and his reception was extremely hearty from his many friends and members of this society.

In his paper he dealt with every part of this important subject, giving full description of the propagating house, where the multiplication of plant life may be carried on, and classifying the subject into eight headings—viz., seeds, Fern spores, division of plants, suckers, leaf, root and flower-stem cuttings, layering, grafting, and budding.

Splendid specimens of plants in bloom were exhibited by members of the society—viz., Mr. E. Kromer, who brought well-grown *Lelia jongheana*; Mr. M. E. Mills, who showed *Cyclamen Papilio* and *Dendrobium Pierardii* in fine form; and Mr. A. Edwards bringing good flowered plants of the double *Cineraria*.

The next paper will be read on Tuesday next, when Mr. A. C. Roffey will discourse on the treatment of Cucumber culture.

LIVERPOOL HORTICULTURAL ASSOCIATION.

AS a conclusion to the winter evening meetings, Mr. J. Hathaway delivered on Saturday a paper on "Profitable Fruit Culture." The subject was ably treated as far as possible in the limited time at command. Some interesting details were given as to the imports of hardy fruits. The site advised was that of a slope falling to the south or south-east, which was preferable to flat land. A marly loam was suggested as the best soil; it should be well treated to the depth of 2 feet to 2½ feet, and well drained. The best season for planting was given as from the middle of October to the middle of December. Stocks, planting, form of tree, pruning, and general culture were treated in detail, and the best fruits to grow for market.



DENDROBIUM × THWAITESÆ (NATURAL SIZE).
(Exhibited by R. G. Thwaites, Esq., before the Royal Horticultural Society on the 10th inst., and then given an award of merit.)

At the conclusion of the paper, Mr. T. Foster (the chairman) opened the discussion, in which Messrs. J. Skitt, R. G. Waterman, Joseph and John Stoney, G. Symons, F. Twist, W. Mercer, and S. Haines took part. Vinegar was strongly advocated by one of the speakers as an antidote to American blight, to be used with a soft brush during the spring. Mr. G. Symons of Formby exhibited some excellent *Gloria Mundi* Apples. A cordial vote of thanks was tendered to Mr. Hathaway for his excellent paper and to Mr. Foster for presiding.

BRISTOL AND DISTRICT GARDENERS' ASSOCIATION.

A WELL-ATTENDED meeting of this association was held at St. John's Rooms, Redland, on Thursday the 12th inst., Mr. E. Binfield presiding. This was the evening set apart for the official visit of the Bristol Amateur Horticultural Society, and they received a hearty welcome. Two amateurs, prominent members, came forward with well written papers, Mr. Batson choosing for his subject *Cyclamen* culture, while Mr. Johnstone did justice to *Roses* from an amateur's standpoint. Both lecturers imparted their experiences in a lucid manner, showing that they were no mean horticulturists. Mr. Batson himself is a most successful cultivator of the *Cyclamen*, while Mr. Johnstone makes a special study of *Roses*. Mr. Batson dealing with his subject emphasised the necessity of obtaining the very best possible strain of seed, as success depended especially on this point. He carefully described the composts most suitable, as also the time of sowing and after treatment. Good drainage and careful potting are items not to be overlooked. Attention to every detail meant bringing the cultivation of the *Cyclamen* to a successful issue.

Mr. Johnstone detailed his mode of cultivating *Roses* from the time of budding till the blooming season in a clear and masterly way, and the amateur association is to be congratulated on having such good men among its members. His lecture was listened to with a great amount of interest, and was much appreciated by all present. At the close of

each lecture many questions were put to the lecturers, who answered each in a clear and concise way. A hearty vote of thanks to each lecturer brought to a close a very pleasant and instructive evening. It is hoped the good feeling which exists between these two flourishing societies will continue, both working for the good of horticulture. The prizes for the evening were for two *Cyclamen*, the competition being very keen. The prize winners were Mr. W. A. F. Powell (gardener, Mr. Raikes), who came off first, while Dr. Eager, Northwoods (gardener, Mr. Cane), was an excellent second. Certificates of merit went to Mr. Gilbert Howes (gardener, Mr. White) for *Cymbidium gibberum*, and to Mr. J. Chetwood Aiken (gardener, Mr. Clarke) for *Cymbidium lowianum*. The final meeting of the winter session will take place on the 20th inst., when Mr. W. Ellis Groves, the energetic secretary, will give a lecture on the value of mutual improvement associations, which will undoubtedly be worthy of a full attendance, Mr. Groves being a capable lecturer on this subject.

NATIONAL AMATEUR GARDENERS' ASSOCIATION.

FROM the report, &c., of this excellent institution the officers and executive have every reason to be pleased with the progress that is being made. The association came into existence in 1890, so that it has now entered upon the thirteenth year of its operations. The membership is well maintained, finances are better, the monthly exhibitions during the past year showed great improvement in every respect, and the monthly lectures were a distinct source of pleasure and profit to all who attended them. The two social functions of the year—the conversation in July and the annual dinner in December—were most enjoyable, and proved a capital means of bringing members into closer union. For the current year several excellent Saturday afternoon outings to gardens and nurseries of more than ordinary interest have been arranged. A capital series of lectures has been arranged. The first was given by Mr. J. Cheal on the 3rd inst., entitled "Rambles in the States and Canada," and the others are as follows: April 7, "The Loves of the Flowers," by Mr. A. Boulton, F.R.H.S.; May 5, "Hardy Primulas," by Mr. S. Hillman; June 2, "Gloxinias and Streptocarpuses," by Mr. A. J. Foster, F.R.H.S.; August 11, "The Influence of Air on the Roots of Plants," by Mr. G. M. Gross; September 1, "Hardy Flowers," by Mr. D. B. Crane, F.R.H.S.; October 8, "Tomatoes," by Mr. W. Iggulden, F.R.H.S.; November 3, "Ferns," by Mr. H. A. Smith; December 1, "Vegetables," by Mr. G. Hobday, F.R.H.S.; and January 5, 1904, "Diseases of Plants," by Mr. T. W. Sanders, F.L.S. The prospects of the current year are very bright indeed, and the enthusiasm of the members in the pursuit of their hobby is also very keen. The subscription is only 5s. per annum. Mr. F. Finch, 117, Embleton Road, Vicar's Hill, Lewisham, S.E., is the hon. general secretary.

THE HORTICULTURAL CLUB.

AT the monthly dinner of this club, held on Tuesday the 10th inst., under the presidency of Mr. Harry Veitch, when some fifty members and friends attended, an extremely interesting discussion on fruit cultivation at the Cape was initiated by a verbal address by Mr. Pickstone, who is now on a visit from the Cape, who for a long period controlled the various fruit plantations established by the late Mr. Cecil Rhodes. Mr. Pickstone, on his first arrival at Cape Colony, found that for more than a century fruit culture had been carried on entirely by the Dutch, and despite the fact of long-continued British occupation, absolutely nothing had been done by the English in that direction, Mr. Pickstone being the first and solitary pioneer. Mr. Cecil Rhodes, however, speedily grasped the fact that no branch of land cultivation gives employment to so many men as that of fruit culture, and with his usual farsightedness in connexion with the future development of the country, he took steps to extend the very limited orchard area by engaging Mr. Pickstone, first of all to acquire a number of farms at an expense of some £150,000, and eventually to stock them with suitable trees. As was to be expected, this task was by no means an easy one in either of its sections, since in the first place the Dutch landowners, as is their wont, were not easy to deal with as regards the purchase, and eventually, when the question of acquiring the trees arose, it was found that no stock was available of the sort hitherto cultivated there, and that these, moreover, were of any most heterogeneous description, only two or three of any one such being obtainable. The climatical conditions also were such that the only area suitable for deciduous fruit trees was a comparatively small one on the flanks of Table Mountain and within 150 miles of it, where the winter rains provided the useful moisture. Elsewhere in the Cape these were lacking, and as irrigation was, and is still, practically non-existent, experience had to be dearly bought when fruit culture was attempted in other quarters. Mr. Pickstone gave a vivid description of the results of furious windstorms which wrecked and destroyed the young plantations. The soil is of a loose granitic gravelly nature, and after one of these storms he found that the wind had torn up this soil and hurled it with such violence, sand-blast fashion, that the young trees were eroded away to the very pith and completely destroyed, over some eighty acres in extent. To counteract this, oat crops were grown on the loose soil, but a storm which succeeded the reaping of these crops actually blew the very stubble out of the ground and annihilated the trees once again, when the task at that point was abandoned. In other parts of the Cape deciduous fruit growin; is handicapped by the climate preventing a thorough rest, with the result that when trees are pruned,

as is done here, soft sappy growth is produced, which is a prey to all the pests, fungoid and insect, known to fruit culture, a partial cure for which was found in leaving the trees unpruned altogether. Mr. Pickstone's speech was so replete with interesting facts that space precludes more than a mere allusion to salient ones, so that we must refer our readers to the forthcoming full report in the Royal Horticultural Journal. In the subsequent discussion, however, in which Messrs. A. C. Pearson, Bunyard, Paul, Drury, H. Veitch, Dr. Horace Browne, Rev. G. Engleheart, and others took part, other important points were elicited, and among them the lack of fine flavour in the imported Cape fruits was alluded to, and though Mr. Pickstone could not deny this altogether, he pointed out that some of the Japanese Plums produced there surpassed those obtained in any other part of the world, even Japan itself, and certainly some specimens produced at the last club dinner could hold their own with the most delicious. As regards the other fruits, Mr. Pickstone pointed out with justice that at the Cape fruit growing on high quality lines was a young industry, but he was sure that to time selection would lead to improvement, and even now the finest sorts of Pears were produced. Mr. Cecil Rhodes had also introduced fruit drying on the Californian system with promising results. Although many of our English Apples will not do well owing to climatical disadvantages, Mr. Pickstone had established one Apple which would grow side by side with the Orange, a probable pioneer which he regarded as a precious acquisition in the way of adaptation.

Some remarks were made as to the possibility of glutting the market by over-production, and Mr. Pickstone fully agreed that this possibility existed, though he believed that by proper control over quality and packing there would always be room for the best at remunerative prices. A hearty vote of thanks concluded a very pleasant and instructive meeting.

EAST ANGLIAN HORTICULTURAL CLUB.

There was not quite such a good muster of members as usual at the March meeting of this club. The subject for the evening—an essay competition, restricted to single-handed gardeners—was full of interest, and brought forth a good debate. The judges had made their awards prior to the meeting, with the following results: First, Mr. C. Matthews, Holly Lodge, Thorpe; second, Mr. G. W. Meade, Hethersett; third, Mr. E. C. Ramus, Hethersett, Norwich. The papers were carefully compiled, and contained many pithy practical points. Mr. J. C. Abel also read a paper entitled "How to Keep a Garden Gay from April to October." In the course of his paper Mr. Abel dwelt upon raising spring-flowering plants from seed in wide borders, allowing room to plant the summer occupants before these were past their best to keep up the succession. There was a pretty display upon the exhibition tables. Mr. C. Burtenshaw and Mr. F. Williams staged ideal Cinerarias. The former named exhibitor staged also a nice plant of *Pteris Alexandræ*. Mr. C. Fox, Old Catton, showed fine *Rhubarb* and good Apples for so late a date. Mr. C. H. Hines was a notable exhibitor in the vegetable classes. There were also upon the table for inspection two charming sprays of *Tussilago alba* (the white Winter Heliotrope) from Mr. T. B. Field, Ashwellthorpe, which attracted much attention. Mr. C. Burtenshaw also brought up charming sprays in full bloom of *Forsythia suspensa*.

HIGHGATE AND DISTRICT CHRYSANTHEMUM SOCIETY.

The nineteenth annual general meeting of the above society was held on the 11th inst., the High Sheriff of Middlesex (Mr. C. F. Cory-Wright, J.P., D.L.) presiding, and there was a large attendance of members. The annual report and financial statement were submitted, from which it appeared that the last exhibition of the society, which was held at the Alexandra Palace, was a great horticultural success, and was patronised by a larger number of visitors than on any previous occasion. The receipts for the year show a great increase upon former years, especially the donations towards the special prize fund. The committee have arranged for their exhibition for this year to take place at the Alexandra Palace on November 4, 5, and 6.

The chairman, in moving the adoption of the report, said that he was very glad they went to the Alexandra Palace last year, for until that time they had never had a place where they could do justice to their exhibits; on the last occasion the public were not sufficiently aware of the fact that the society were moving to the Alexandra Palace. Mr. J. McKechar seconded the adoption of the report, which was carried unanimously. Votes of thanks were accorded to the retiring president (Lord Mansfield), the officers, committee, and auditors. The election of officers for 1903 then took place. Mr. T. Bevan proposed that Mr. C. F. Cory-Wright, J.P., D.L., should be president for the ensuing year. Mr. J. McKechar seconded the motion, which was carried by acclamation. The treasurer (Mr. J. McKechar), secretary (Mr. W. E. Boyce), and auditors (Messrs. Attkins and Smyth) were re-elected. In returning thanks, Mr. Boyce said that the society's show at the Alexandra Palace would be the great show of the year there. The following were elected to serve on the committee: Messrs. Turk, Webber, North, Witty, Bevan, Saunders, Pannell, Blanch, Bone, Taylor, Treney, Marriott, Bittern, Rand, Sedgwick, Bignell, Ransom, and Antrobus. The meeting closed with a hearty vote of thanks to the chairman for presiding.

CARDIFF GARDENERS' ASSOCIATION.

The usual fortnightly meeting took place at the Grand Hotel on the 10th inst., Mr. C. E. Collier presiding. Mr. F. S. Daniels (chairman and representative of the Newport Gardeners' Mutual Improvement Association) delivered a most practical and instructive paper on "The Cultivation of the Strawberry," giving general details regarding the aspect, soils, and manures, as most likely to aid successful culture. The four best recommended for a small collection

were as follows:—Vicomtesse Héricarte de Thury, Green's President, La Grosse Sucrée, and Royal Sovereign. The best thanks of the meeting were voted Mr. Daniels for his splendid paper.

ANSWERS TO CORRESPONDENTS.

Names of plants.—A. T. Bowles.—*Acacia leprosa*.—J. T. D.—The flower is *Eupatorium ianthinum*.

Soil for Rhododendrons (QUEENS).—In many districts Rhododendrons grow quite as well in loam as in peat, but it is essential that it be not clayey, absolutely free from lime, and not parched up in the summer. These conditions fulfilled, chopped up sods, but not the manure, would suit the Rhododendrons well. What is known as a good friable loam will grow Rhododendrons well without any admixture.

Canna seeds.—In response to a recent question I may say that I find it is a good practice when sowing *Canna* seed to cut through the hard outer shell, being careful not to go near the eye, with a sharp-edged file. With this treatment every seed will germinate in a good bottom heat in a water pan of ten days.—J. R. WILSON.

Water plants in glasses (S. D.).—We presume your question refers to the ordinary *Ilyacinth* glasses. If so, there are very few water plants that may be grown in them. Perhaps the best would be *Cyperus alternifolius*, with Rush-like stems, terminated by bright green leaves, arranged after the manner of the ribs of an umbrella. There is also a variety with variegated leaves.

Flower bedding (C. H. C.).—We can but regret that you should in your bedding arrangements have any penchant for designs in flower-beds. Whatever may have been the popularity that once attached to bedding of this description, it certainly has none now. Still further, all the most pleasing effects now obtained in summer bedding are those of the least formal kind, and where effort is made rather to be natural than to follow mathematical lines or figures. Some of the prettiest effects have been secured by creating carpets in the beds of neutral tints, and then putting out plants thinly of one line of colour, amidst which are interspersed pleasing tall grasses or flag-like plants, or some having pleasing foliage or flowers. Many entirely mixed beds of plants that are of similar habit of growth are very effective. In making bedding arrangements every effort should be to keep as far as possible from stiff or formal designs.

Manufacture of spawn (A GROWER).—In reply to your correspondent, I regret if I have not made quite clear in my article on the manufacture of spawn the character and quality of the spawn to use for impregnating the bricks. What I did say was (see THE GARDEN of the 7th ult., page 97): "That on the quality of the spawn to be used will depend almost entirely the success of the operation. In any case, doubtful spawn must not be used in impregnating the new bricks." The spawn spoken of here for the purpose of impregnation is the ordinary brick spawn. The best quality bricks of the previous year's make should be reserved for this purpose. This is the only spawn I have ever used, and invariably with best results. "Best quality" spawn, as purchased from our nurserymen, will answer the purpose equally as well. The spawn should be crushed rather small (the size of French Beans), and the holes punctured in the brick partly filled, leaving sufficient space effectually to seal over the spawn with the same material as formed the brick.—D. THOMAS.

Grafting Rhododendrons (PONTREU).—This requires a considerable amount of skill, and it must be done under glass. If your seedlings are good plants you may lift them now, put into as small pots as you conveniently can, and place in a cold frame, keeping fairly close till they are established, after which the lights may be left off altogether. The month of August is a good time for carrying out the operation of grafting. Various methods have been employed, but that generally followed is what is known as veneer grafting. In this the stock only needs shortening back to a convenient length, as the graft is inserted at the side in the following manner: In the first place the scion must be formed of a shoot of the current year, from 4 inches to 6 inches long, and the bottom portion to a length of 1½ inches finished off with a clear sloping cut. The side of the stock then has a piece cut out into which the sloping cut of the scion will exactly fit, and is tied securely in its place. After the operation the plants must be kept quite close and shaded till union is complete, which will be in about six weeks, after which they must be gradually hardened off. Then a portion of the stock may be cut off, and early in the following spring before growth recommences they may be cut back to the graft.

Pegging down newly-planted Roses (CARNATION).—If you pegged down the strong shoots this season the result would be unsatisfactory, for there is insufficient root action in recently transplanted bushes to support the extra demand made upon them, consequently the new growths would be weakly and stunted. Better to cut back rather hard this month, then next season at pruning time reserve some of the longest and ripest shoots for pegging down. To see that pegging down Roses answers well, one has only to pay a visit to Kew Gardens and inspect the fine beds of Grace Darling, Gloire de Dijon, Mme. Abel Chatenay, &c., which are pegged down. They are a glorious mass of blossom. Many Roses well established and that have a natural spreading habit, such as *Gloire de Margottin*, *Bardou Job*, &c., would be infinitely more beautiful if their growths were allowed greater freedom. By partly bending the shoots bloom buds form almost their entire length. In like manner some of the rambler Roses, planted as single specimens and permitted to spread and bend outward, are one mass of bloom. We have had *Crimson Rambler*, *Electra*, *Polyantha grandiflora*, *Una*,

and others with such growths each carrying some dozen or more trusses of blossom, and making a floral picture of surpassing beauty.

The best zonal Pelargoniums (J. W. B.).—One of the finest exhibits of winter-flowering zonal Pelargoniums that has come under our notice recently was staged by Mr. H. Cannell of Swanley at the December exhibition of the National Chrysanthemum Society. The following were all in splendid condition, and you can make a good selection therefrom. *Single*: *Barbara Hope*, salmon-pink, large white eye; *Captain Holford*, crimson, suffused orange; *Countess of Hopetoun*, white margin, bright salmon centre; *Crabbe*, soft cherry-red; *Dorothy Burroughs*, bluish-pink; *Duchess of Marlborough*, soft salmon, mottled white; *Duke of Norfolk*, magenta-crimson, large white eye; *General Walseley*, clear rosy red; *Ian Maclaren*, deep salmon, shaded orange in centre; *King of Crimsons*, bright glowing crimson; *Lady E. Malet*, pure white; *Lady Roscoe*, bluish; *Lady Sarah Wilson*, a fine bright flower of the *Souvenir de Mirande* class; *Lilacina Improved*, lilac-pink; *Lord Curzon*, bright magenta-carmine; *Lord Roberts*, magenta-purple, base of upper segments orange; *Mark Twain*, white, freckled and flaked carmine; *Mary Beaton*, pure white; *Mary Hamilton*, rich crimson-scarlet, white eye; *Mrs. George Cadbury*, salmon; *Mr. T. E. Green*, orange; *Mrs. Brown Potter*, clear bright pink; *Mrs. Williams*, bright rose-pink; *Princess of Wales*, rosy cerise; *Sir John Llewellyn*, intense crimson; *Sir Wilfred Laurier*, white centre, outside magenta; *Snow-storm*, white; *The Maine*, rich rosy lake; *The Mikado*, soft cerise; *The Sirdar*, bright scarlet; *W. E. Corden*, clear bright scarlet, white eye; and *Winston Churchill*, magenta-pink, white centre. *Double*: *Colossus*, deep crimson; *Dr. Deprés*, a large rich scarlet flower; *Double Jacoby*, crimson; *Golden Glory*, one of the best of the orange-coloured class; *Gustave Emich*, clear bright scarlet, unsurpassed for winter blooming; *Miss G. Ashworth*, pure white; *Mme. Charlotte*, salmon, mottled white; and *Raspail Improved*, deepscarlet.

Camellia buds dropping (BRANSTON).—It is difficult to say without seeing the plant what causes the buds of your *Camellia* to fall. The branch you send looks perfectly healthy. It is probable that the soil around the roots has become sour, and also that the drainage is bad—both these things cause buds to drop. Bud dropping is also caused by an excess of water being given and also by allowing plants to become very dry, the former especially. It is advisable to examine the roots now, and if the soil is sour remove as much as possible, retrain, and fill up again with a fresh mixture of sandy fibrous peat and loam, watering carefully afterwards.

APPOINTMENTS.

MR. MATRICE GRAY has been appointed to represent Messrs. J. Peed and Son, Roupell Park Nurseries, West Norwood, in the Isle of Wight and South and South-East Coast towns, in place of the late Mr. Harrington.

MR. A. R. OSMAN, who represented Messrs. Cripps and Sons, Tumbleidge Wells, for three years, is now similarly engaged, in addition to Mr. Slack, for Messrs. Sankey and Son, Bulwell Potteries, Notts.

TRADE NOTES.

SHANKS' LAWN MOWERS.

THE booklet about lawn mowers issued by Messrs. Shanks and Sons, Limited, Denis Iron Works, Arbroath, N.B., and Bush Lane House, Cannon Street, E.C., contains illustrations of a variety of these machines. Among the hand lawn mowers we notice one especially constructed for mowing long grass. This has three knives in the revolving cutters, iron side rollers, and adjustable delivery plates. They are particularly strong. There are numerous different styles of machines illustrated, from the popular one known as "The Britisher," adapted for use in the smallest gardens, to the Patent Horse Mowers, fitted with steel axle, springs, and other improvements, and the prices are such as to suit all pockets. Full particulars of rollers of all sizes are also given in the booklet.

MESSRS. BARE AND SONS' SPRING CATALOGUE.

THIS contains descriptions of numerous hardy herbaceous plants, alpines, and aquatic for present planting. Comprehensive collections of Michaelmas Daisies, hardy border Chrysanthemums, Delphiniums, Helianthus, Christmas and Lenten Roses, Irises, Peonies, and many other plants grown in the Ditton Hill Nurseries are detailed.

OBITUARY.—MR. JAMES J. FROMOW.

THIS gentleman, the eldest of three brothers, proprietors of the nurseries of Messrs. W. Fromow and Sons, Sutton Court Nursery, Chiswick, died on the 13th inst. at the age of 48. Mr. Fromow, who was in vigorous health, met with an accident in the public roadway which did injury to his knee; this took fatal effect inwardly and resulted in his death after a month's illness. He married two years ago, and leaves a widow and one child. In addition to the home nurseries at Turnham Green, there is a large one at Bagshot, of which Mr. James Fromow had the management, and the firm also have the business in Hounslow Town, formerly carried on by Messrs. Dobson and Sons. The present proprietors represent the third generation in the business, which has rapidly extended in late years. Mr. Fromow was buried in the Ealing Cemetery on the 18th inst.

* * * The Yearly Subscription to THE GARDEN is: Inland, 15s.; Foreign, 17s. 6d.

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[MARCH 28, 1903.]

IMPROVEMENT OF ROSE SHOWS.

IT is with no desire to criticise unkindly the present ways of exhibiting Roses at summer exhibitions that we again give prominence to the subject, for we know that secretaries and others deeply interested in the societies for which they labour are as anxious as the general public to institute reforms. We have received the following letters in reference to our remarks in *THE GARDEN* of February 21 and the note from the Dean of Rochester in the issue of February 28. We hope to receive other opinions, as this is a matter not only of exhibitions of Roses but of those of more miscellaneous flowers. We are anxious for definite advice, and not mere abuse of existing practices.

Our first contributor advocates strongly the gardens of the Royal Botanic Society for the show of the National Rose Society. He writes:—

"It is true that the Temple Gardens are central, but so is Regent's Park or Holland House, at least quite central enough for the public to patronise the show. I fear that unless the National Rose Society looks after the comfort of its patrons they in return will withhold their support. If it is a question of paying for the use of the Royal Botanic Gardens surely some arrangement could be come to between the prize winners for settling this account. As to the supplying of Palms, &c., to make the tents more attractive, there are several London firms that would do this for a mere trifle. It is a small matter, yet one of those matters that enhance the beauty of a show considerably.

"With regard to the society adding to the beauty of their later exhibitions by awarding prizes to collections of garden or decorative Roses, I maintain that the cramped space allowed has hindered rather than helped the proper display of this beautiful class. How can anyone make an adequate display on 36 square feet? Why, 200 feet I should consider small. One can see any day in June and July packed displays of Roses and other flowers if one visits Covent Garden. I am ready to give the National Rose Society the credit of endeavouring to popularise decorative Roses, but they have not been the only agent. The Roses themselves, in my opinion, have forced their way upon our notice mainly owing to the displays seen in large private and commercial establishments in the land. I could name several popular decorative Roses which are rarely seen at the National Rose Society's shows.

"As to a two days' show, I am glad to think

I am not alone in its advocacy. Those who wish well by the society from a financial point of view will, I think, support me. Suppose the first day happened to be a wet one, the flowers would remain fresh, and there would be a chance of retrieving loss on the second day, which in all probability would be fine.

"I should like to ask whether it was quite impossible for the National Rose and the Royal Horticultural Societies to combine their two shows, which take place this year within six or seven days of each other. I am quite aware a week at that time of year makes a vast difference to Roses, but I think the matter is worth considering another year, so that a really good show could be held at Holland House, supposing the generous owner should again lend his beautiful grounds for the purpose. Surely a little diplomacy could have managed this this year; and we should all do well to bear in mind that the Rose being the national flower, the 'best' place and the 'best' manner of displaying it should be accorded to it. In my opinion exhibitors of decorative Roses should be given a free hand to make the best display upon a given space, and this space should be considerably increased. As to the admissible list, all Roses known to be good decorative kinds, although capable of being produced exhibition size by severe thinning and disbudding (quite unnatural aids), should be included. If necessary, let this list be revised by all the members of the National Rose Society. If put to the vote, we should find many Roses included in this list of decorative varieties that are now debarred. "A WELL-WISHING CRITIC."

"In reply to Canon Hole's appeal may I suggest that more and simpler classes might with benefit be added to the schedule of the National Rose Society in regard to the decorative section: Classes for pot Roses shown growing, say, six to nine pots; vases of cut blooms, from six to eighteen, same kind or various; and baskets of cut blooms, either decorative or show. This, of course, for the amateur section.

"CHAS. WM. CROSBY."

"All I can suggest is to get away as much as may be from the usual weaknesses of shows and give more encouragement to Roses arranged for house decoration. It is well to remember that it is the free arrangements of Roses in vases, bowls, baskets, &c., that makes a pretty show and that points out how they may be used and best enjoyed. I think it would be a great advance in taste and usefulness if in certain classes, especially the Tea Rose, that it be shown so as to give an idea of its growth and habit. No limit of number of blooms, just what will show it best, cut rather long, such as five blooms and a few buds, and, of course, its own foliage.

"X. Y. Z."

"I greatly enjoyed reading your excellent leader and the note from the Dean of Rochester.

May I suggest that beautiful groups of Roses be shown, perhaps from pots, in the centre of the tent, or at least a portion of the tent, to show the glory of the varieties in their full flower beauty. The trade would do this with satisfaction to everyone I am sure. Another point is to institute more classes in which the flowers are to be shown, cut with long stems. Such an exhibit was seen at the last National Rose show, and proved of immense interest apart from its beauty. It would be well if there were more classes to show beauty of arrangement, that is, bowls and baskets of Roses. The present decorative classes are interesting, of course, but the flowers are too closely bunched. I hope other rosarians will contribute to this interesting discussion. I am secretary of a Rose show, but please use initials only, as I am too occupied for private correspondence. "E. R. T."

THE BEST SWEET PEAS.

IN *THE GARDEN* of the 7th inst., on page 157, one of your contributors gives a list of Sweet Peas, which, with your permission, I should very much like to criticise, feeling in my own mind that the list as there given is most misleading.

To begin with the whites. Dorothy Eckford may certainly be the best white that is at present in cultivation that maintains its present character, but your contributor should add that it is a new variety, and that the seed is very expensive in comparison to some of the good standard varieties. It is only this year that it has been put upon the market at a cost of 1s. for each ten seeds, whereas many of the other whites may be had at about 6d. per ounce of 400 to 500 seeds, a very serious consideration with many small gardeners.

In speaking of the next best white there always seems a very great diversity of opinion as to which is the better of the two, *i.e.*, Sadie Burpee or Blanche Burpee, but when one looks at the number of times Sadie Burpee and Blanche Burpee were exhibited at the great Bicentenary Exhibition, and at the general exhibitions of the country, we find Blanche Burpee was exhibited ninety-six times at the great Centenary Exhibition, and it was seven times in the first prize stand; it was also shown in the provinces fifty-six times, whereas Sadie Burpee only has a record of sixty-five and thirty-seven. That Blanche was a much greater favourite than Sadie is demonstrated by the fact that in 1902 it was shown 227 times at the leading exhibitions, whereas Sadie Burpee only appeared 170 times.

In the crimson shades, to class George Gordon and Salopian is most misleading. Salopian is certainly a rich dark crimson, but George Gordon is more of a bicolor than it is a self; it has a carmine-crimson standard, with more of a rosy purple or dark lavender wing, and is, in my opinion, a decided bicolor.

The lavender varieties may be very well as they are, as the two most distinct of that particular shade; but when we come to talk of pink varieties, and put Countess of Lathom and the Hon. F. Bouverie as the two represented in this class, I should say is decidedly wrong, both these being more of a pinkish buff, or a pink overlaid with buff, the latter colour being rather more prominent, particularly in the first-named variety. What I should think would be the two best represented as pink would be Prima Donna and Lovely, the Hon. F. Bouverie may come as a third, but it has a decided salmon-pink tinge over it rather than a pure pink.

In the orange section, to class Miss Willmott, Triumph, and Gorgeous all in one is another most misleading statement. Miss Willmott is a decided self, and much more of a salmon-red than orange; it is a grand flower in its way, and worthy of its name, but to put Triumph by the side of it as an orange variety is very erroneous, for it is really more of a bicolor, having a carmine shade in the standard, with a decided pink wing, which at times comes decidedly grained or streaked. Gorgeous, as far as standards are concerned, is the nearest approach to orange we yet have, and may really be called orange, but the wings are a decided pink or pale crimson, and quite a bicolor rather than a self.

In speaking of magenta, and putting Captivation in that class, and then putting Duke of Westminster and Dorothy Tennant amongst rose and dark colours, is again very misleading, because I think they all ought to have been put in one class rather than divided; and in the maroon or dark colours put Othello if you like, although Othello is a variety I do not care about much, preferring Black Knight or Stanley, which, however, are so near alike that one may be very well substituted for the other.

The pale primrose varieties are right, but when we come to rose and speak of Prince of Wales, Lord Rosebery, and Prince Edward of York together, the first two may be in their right class, but Prince Edward of York I look upon as a bicolor rather than a self; it has a sort of salmon-carmine standard and rosy wings, a very pretty combination of colour, and a great favourite of mine, but certainly could not be classed as a rose with Prince of Wales and Lord Rosebery.

Speaking of Countess Spencer, it may interest your contributor and your readers generally to know that I have a good stock of this variety now growing, and hope to be able to distribute it amongst your readers or horticulturists generally in 1904, although I am afraid the stock the first year will be somewhat limited.

The other classes, which I do not criticise, I consider fairly good, although when you speak of Colonist and Lady Skelmersdale, they are two varieties which are now very rarely seen on exhibition tables. Colonist is more after the style of Prince of Wales, but there is so much variation in colour that it cannot be called one thing or the other. I have often seen four or five distinct shades of colour in a row 4 feet or 5 feet long. Lady Skelmersdale is hardly ever seen now on the exhibition stand, and is one of the weakest flowers that is mentioned in the whole of the list.

Birmingham.

ROBERT SYDENHAM.

NOTES FROM SCOTLAND.

HORTICULTURAL EXHIBITIONS.

THE balance-sheet of the Dundee Horticultural Society shows a condition of affairs that must give the liveliest satisfaction to its members, the year's working terminating with a balance on the

credit side of over £500. No less than £700 was taken for admission to the show in August last, but against that the expenses were very high, amounting in all to £807, of which only £240 19s. was disbursed in prize money. The chief item in the prize list for the present year is a "Decorative Dessert Table," the first prize for which is a challenge cup and £7. Mr. and Mrs. Martin White, Balruddery, offer prizes for cut flowers under somewhat novel conditions as to judging. Instead of being judged on the morning of the first day of the show, the competing vases are to be left alone till the third day and then judged, this in order to test the lasting qualities of the material employed.

The schedule of the Dumfriesshire and Galloway Horticultural Society is also to hand. The most desirable prize offered by this recently-resuscitated association for a group of plants is a 15 guinea challenge cup and £5. Other prize lists include those of the royal horticultural societies of Aberdeen and of Perthshire; this, the oldest society in Scotland, dating from 1805, gives evidence of a very pleasant and vigorous spirit permeating their doings. A remarkable feature of Scottish horticultural societies in general is the great number of prizes offered in the various sections. Those of the Aberdeen society, for instance, amount to nearly 750, and Dundee has almost as many. It is not possible to offer prizes of any great value under these circumstances, and it says not a little for the keen spirit of rivalry existing that very strong competition is secured.

R. P. B.

NOTES OF THE WEEK.

FORTHCOMING EVENTS.

April 1.—Royal Botanic Society's Spring Show.

April 7.—Royal Horticultural Society, meeting of committees; Horticultural Club, paper by Mr. F. W. Burbidge, M.A., F.L.S., V.M.H., on "Horticultural Progress," 6 p.m.

April 8.—East Anglian Horticultural Club meeting.

April 15.—Shrewsbury Spring Show.

April 18.—Ghent Quinquennial Show (opening day).

National Auricula Society (Midland section).—The annual report and schedule of prizes of this branch of the National Society has just been issued; the Rev. F. D. Horner, V.M.H., is the president. From the report we learn that the third annual exhibition, which was held in the Botanical Gardens, Edgbaston, Birmingham, last year, was the most successful yet held by the society; the exhibits increased threefold, and the quality of the bloom was of the highest order. By means of the operations of the society a great impetus has been given to Auricula culture in the Midland district. The show is held a few days after that in London, the advantage being that growers from the south and north can meet in friendly rivalry, the date suiting both, and when such northern growers as the Rev. F. D. Horner, Kirby Lensdale, and Mr. Thomas Lord, Todmorden, can be found in competition with such a southern champion as Mr. James Douglas, of Great Bookham, and other southern growers, quality is certain to rank high. To this exhibition last year the Rev. F. D. Horner was able to bring some of his newest productions in Auriculas, and especially of selfs, and with them he carried off some of the highest honours. This year the annual exhibition is fixed for April 30, and will be held in the Temperance Institute, Corporation Street, Birmingham, in order to afford better opportunity for the dwellers in the city to see the flowers. The strong protest made at Birmingham last year against the laxity in insisting upon the observance of the old procedure in exhibiting Auriculas, namely, that a pin-eyed flower, that is, a long-styled flower, in which the pistil protrudes above the anthers, has borne fruit, and disqualification is to be visited upon any such in the future. Whether the same treatment is to be meted out to any pin-eyed

flowers which may be shown at the Drill Hall on April 21 remains to be seen. Another point which came up for discussion at the last exhibition in Birmingham, and also on the occasion of the annual meeting of the supporters of the southern section a short time ago, was—Should alpine Auriculas be restricted to one stem and truss only, as in the case of the show varieties? It is the present intention to admit a plurality of trusses at the show of the southern section, but at Birmingham a kind of compromise has been arrived at, as, while there is to be no restriction as to the number of trusses on a plant, for the rule sets forth "the trusses not for competition must be tied down;" but this does not make it quite clear whether one only or two or three competitive trusses may be left on the plants. The old-fashioned gold-laced Polyanthus are recognised in the schedule, and there is also a class for a group of any sorts of Primulas arranged in a basket or box; these last year afforded an extremely interesting feature.—R. D.

Winchester New Park and Recreation Ground.—The Winchester Town Council recently offered two premiums, the first of £75, the second of £25, for the best designs for a new park and recreation ground. These premiums have now been awarded, but the decision appears to have caused considerable dissatisfaction. Several letters have appeared in the *Hampshire Chronicle* criticising the accepted plans; one of them is from Mr. A. G. Jackman, Woking Nurseries, Surrey, and we append extracts: "Upon reading the account of the proceedings of the Winchester Town Council in your paper of March 7, and that the plans were to be on view, I decided to take the opportunity of going down to see them, and very glad I was that I did so, as I could have never believed that such an injustice could have been done to the twenty-five competitors, or that the members of the council who passed the resolutions awarding the premiums should have so little artistic taste or practical knowledge of the subject before them. To my mind it was a great error of judgment not to call in the assistance of an expert to advise them in a competition of such importance. If such had been the case I have not the slightest hesitation in saying that 'Venta's' design would not have been placed in the first dozen. . . . From the observations made by different members of the council, and the designs selected, it is evident to everyone that artistic display did not enter into the adjudication. What evidently was desired was a recreation ground pure and simple, plain in design, and, above all things, economical, and these were the main points which influenced them in their selection. I happen to have known Winchester intimately for several years, and also live within five miles of a very chalky locality, and have had a considerable experience with very many sorts of trees, shrubs, and plants, and if there are any shrubs which dislike and absolutely refuse to grow in soil impregnated with lime such as this ground is it Rhododendrons and Azaleas, to say nothing of other plants 'Venta' has mentioned. To a man with any practical knowledge of the cost of growing trees and shrubs 'Venta's' idea of a nursery of two acres in an exposed and damp situation for growing trees and shrubs for renewing deficiencies or carrying out any future planting is, to say the least, amusing; it would, I presume, consist of a Poplar grove, withy bed, and Rhododendron cemetery. . . . I do not see any sum set apart for drainage, road and walk making, always expensive items, but he has evidently allowed £260 for contingencies, as his figures do not agree, and I think he will want it, and probably another 0 tacked on to the end."

Mr. J. Ashton Sawyer, of Winchester, writes as follows: "'Venta's' design (placed first) is to my mind a long way from being the best. It does not comply with the instructions, inasmuch as it has net two cricket grounds of four acres each, as set forth in instruction No. 4, but only one of 6½ acres. No drains are shown on the plan or otherwise described, as there should be according to instruction No. 2.

Spring bedding at Edinburgh.—

Mr. McHattie has introduced a novel form of spring bedding into East Princes Street Gardens, Edinburgh. Looking across the valley from the General Assembly Buildings two series of brilliantly coloured designs, one on each of the steep slopes, force themselves upon one's notice. On a close inspection these are discovered to be arrangements of various Crocuses, white, yellow, and mauve predominating. The corms have been planted in the grass, but at a short distance this cannot be detected, and one supposes that these are beds cut out on the slopes. A large star at the east end of the garden is quite as brilliant as the others. Other arrangements to follow these are planted with Daffodils. The series of new beds on the Princes Street level will soon be gay with Tulips and other flowers.

Pinguicula caudata superba.—This fine and striking form of the Mexican-tailed *Pinguicula*, exhibited by Mr. J. T. Bennett-Pöe at the last meeting of the Royal Horticultural Society, recalled to my memory the sight of a number of plants of the type which I saw at the Queen's Road Nursery, Cheltenham, in November, 1901. They were then in full bloom, and occupied a place in a house with cool Orchids. The plants, several of which had bloomed freely, were in 3½-inch pots, and Mr. Cypher informed me they were in a compost formed of peat, sand, and sphagnum moss in about equal parts, and had been potted lightly. Autumn is the time of blooming, and the flowers appear to possess lasting qualities. When the plants go out of flower they are rested for a time, during which season they require but very little water; but when growth commences more is given, and it is at that time increase is made by division. The temperature in which the *Pinguicula* is grown is the same as for cool Orchids, about 45° to 50° at night during winter, and plenty of moisture in the atmosphere both summer and winter. In addition to propagating by means of division, increase can be obtained from leaves similar to the method adopted in the case of *Gloxinias*. They are found to strike root freely in such a compost as that named above. Seed can also be obtained from the plants, and it is probable Mr. Bennett-Pöe's fine form originated in this way.—R. DEAN.

Grease-banding fruit trees.—A few years ago when the grease-banding of fruit trees was recommended as a means of capturing the female insects of the winter moth when crawling up the stems for the purpose of egg laying, the custom became very common amongst the proprietors of orchards. But whether the novelty of the thing has worn off, or whether growers have found that the remedy is not so efficacious as it was supposed to be, the fact remains that the practice has dropped into disuse, and comparatively few people grease-band their trees now. At the same time, I am of the opinion that there is something in grease-banding, as on various occasions I have seen quite a number of the female moths made captive by the sticky material. Abuse has probably been responsible for grease-banding getting into ill-favour, because I have seen instances where the practice has led to positive ill-health of trees. This was in instances where grease containing poisonous matter was applied so carelessly that a portion of it ran off the papers and down the bark of the trees. The thing to do when applying grease-bands is to secure paper that is grease-proof and smear it over with grease that does not run, and, at the same time, does not dry quickly. The bands should be in position by the middle of November. In some instances I have seen dwarf trees grease-banded, but this is more or less a waste of time, for when the lower branches are close to the ground the insect finds means of getting on to them without going up the stem; indeed, if fruit trees generally are kept in a state of cleanliness by winter washing, and spraying if necessary in the spring, it is an open question whether grease-banding is not a superfluous operation.—G. H. H.

Chrysanthemum Gladys Gray.—This is a bright yellow sport from Mme. Ed. Lefort, and properly looked after should prove one of the most useful early-flowering Pompons of recent years. Those who have grown plants of

the parent variety know well that it is one of the very best Pompons extant. On October 27 last a few insignificant blooms of the sport were placed before the floral committee of the National Chrysanthemum Society, but nothing could be done with them. This note is written in the hope that interested growers will acquire stock for next season's display. The sport is in the hands of a north country grower.

Euonymus and caterpillars.—At a recent meeting of the scientific committee of the Royal Horticultural Society, Mr. Carter, of 22, Pelham Crescent, enquired as to the best method of dealing with the caterpillar which attacks the *Euonymus*. Mr. Saunders replied as follows:—"The caterpillars on *Euonymus* are those of the 'maggie,' or 'Gooseberry and Currant moth' (*Abraxas grossulariata*), a very common insect, which may often be seen fluttering about during the daytime—it flies very badly; the general colour of the insect is creamy white ornamented with black spots, but they vary very much in colour, some nearly white specimens having been found, and others which were almost black. The insect measures 1½ inches to 1¾ inches across the open wings. The chrysalides are not made in the ground, but in dead leaves, which they spin together, or in some similar kind of shelter. Any leaves which do not fall with the others should always be examined, as it will be often found that the caterpillar has spun the edges together and attached it to the bush, and has undergone its transformations within it. Picking the caterpillars off by hand is no doubt one of the most effectual ways of dealing with this insect, but it is tedious; spraying the bushes with a solution of paraffin emulsion would probably kill a large number. In the winter, all the dead leaves beneath the bushes should be collected and burnt. The moths may be caught very easily in a butterfly net." Mr. Drury observed that he had tried dusting with Hellebore powder freely into the web colonies, and that it was effectual in destroying them.

Camellias dropping buds.—Although I have seen many very large *Camellias* in the open air, I have never seen or heard of their dropping buds. The complaint seems not even to apply to *Camellias* planted out under glass where reasonably attended to; but it is so easy in the case of rather old plants to understand how the roots, cramped and confined in pots, or even in tubs, may at times, as it were, resent what is such unnatural cultivation, and cast well-formed flower-buds at critical moments. When planted out in congenial soil *Camellia* roots run wide, and seem to revel in freedom. They are, so planted, very fibrous, and as a rule in very diverse condition from what may be seen in pots. Then the moistenings the roots and foliage obtain are more plentiful, and there is no danger that on the one hand through neglect they may become starved by drought or suddenly forced into rapid top action by a flooding of water. That there are many gardens in this country in which *Camellias* will do well as hardy shrubs there can be no doubt. Like so many other quite hardy things introduced from Japan, it became the rule to regard them as tender, whereas they rank amongst the hardiest of evergreen shrubs. Some have found failures after planting out because they have put out old pot-bound ones that cannot possibly form good roots. To plant these out is to court failure. To have good specimens outdoors they should be planted whilst young, and have been well seasoned by a summer's exposure outdoors. The few specimens growing on a cold north border at Chiswick are often referred to as evidences of the *Camellia*'s hardiness. But there in uncongenial soil, and where the summer shoots do not well ripen, the plants are far from being favourable examples of outdoor growth. At Glen Eyre, Southampton, noble specimens there grow in the full blaze of hot sunshine, and do equally well as those in shaded aspects, and when in bloom are indeed superb examples of outdoor *Camellias*.—A. D.

"The Veitchian Nurseries."—Mr. James Herbert Veitch, F.L.S., has compiled a booklet descriptive of the various nurseries of Messrs. James Veitch and Sons, Limited, Chelsea,

and containing many illustrations at Langley, Coombe Wood, Feltham, and Chelsea, where the several nurseries are situated. Portraits are given of the founder of the firm (Mr. John Veitch, 1752-1839), James Veitch, 1792-1863, James Veitch, jun., 1815-1869, John Gould Veitch, 1839-1870, and Arthur Veitch, 1844-1880. The illustrations are from photographs, and are reproduced upon art paper. The most attractive are those showing views in the nursery at Coombe Wood, Kingston, for instance, "Looking South-West Towards the Wood," "Water Lily Pond in Bamboo Garden," "New Plant Ground" (in which is shown *Astilbe Davidii* flowering for the first time in Europe), and "Maples in the Nursery." Mr. Veitch has produced a dainty and interesting booklet that gives one a good idea of the extent of the Veitchian nurseries and the variety of their products.

Andromeda (Cassandra) calyculata.—Some pot plants of this shrub are in flower just now, and look sufficiently attractive—whilst the species is known to be one of the hardiest and neatest—to merit special notice. Owing to the peculiar position of the leaves their rusty under surface is very conspicuous. The numerous pure white bells suspended from the branchlets, relieved by the bronzy foliage, make up a handsome and distinct shrub worthy of a good position in the peat shrubbery. Like most *Andromeda* the plants begin to flower at an early age.—J. Wood, *Plant Club, Kirkstall, Leeds.*

Sefton Park, Liverpool.—The special attraction in the large Palm house is at present the *Amaryllis*. Hitherto they have been spoken highly of, but there can be no doubt that this exhibit is well ahead of that of previous years. The number of bulbs is about 1,500, and when it is considered that these have undergone severe selection it will be understood that the display as a whole must be in advance of previous ones. The colours vary from nearly pure white through pink, salmon, scarlet, to rich crimson. As the collection is simply for the public no names are given to the varieties, but simply the best are retained and the worst rejected. Mr. H. Herbert, the superintendent, is to be congratulated upon this successful venture, as all the bulbs have been grown from a very small beginning. Small pots, very little water, and deep plunging in some suitable material after flowering, with a little feeding, are the chief cultural points followed. The exhibition is open free to the public every day, and is worth a long journey to see.

Ornithogalum Hausknechtii.—When it becomes better known this pretty *Ornithogalum* will probably be a favourite plant with those who admire spring flowers. It appears to share with some others of the genus their accommodating ways of flowering in shade as well as in sun, while its flowers are large and of a good white. It produces a tuft of broad leaves, from the centre of which appear its clusters of white flowers, which are almost close to the ground. They opened here early in March this year, although in a shady position and almost under a *Rhododendron*. *O. Hausknechtii* comes from Asia Minor, whence it was first introduced in 1897. So far as the few years experience we have had of it warrants one in speaking, one may say that it is hardy in our climate. The drawback of many of the *Ornithogalums* is that they increase too rapidly. Possibly *O. Hausknechtii* may have this fault, but it has yet to be proved, and so pleasing a flower deserves a trial.

Iris willmottiana.—This lovely little *Iris* is at present in bloom here after having again been cultivated in the open without any protection during winter. It was fully in flower on my return home on March 18, and to prolong the flowering it is now covered with a small handlight. It is a charming little flower with its delicately coloured blooms of blue and white, and has been cultivated for the past two seasons in a rather peaty soil at the base of a rockery and in a position facing south-south-west. One of the most recent of one's treasures in the shape of *Irises*; it is also one of the prettiest.—S. ARNOTT, *Carse-thorn, by Dumfries, N.B.*

Royal Botanic Society.—The spring exhibition of this society will be held on Wednesday next in the Gardens, Regent's Park, and will remain open for one day only. Special prizes are offered for Daffodils, the first being a silver vase specially designed by H. G. Moon, and offered by Messrs. Barr and Sons.

Spring flowers in Scotland.—A bed of the Winter Aconite in the middle of February was a beautiful sight in the gardens of Dr. Tait, Inverure. Thousands of the yellow flowers peeping from their green frills made a striking ground covering, and especially when the sun shone upon them. We often see clumps and rows of Snowdrops, but away north in Banffshire Mr. Fraser, gardener to the Dowager Countess of Seafield, showed me recently a plot of grass land about two acres in extent quite white with them. It is rarely one has an opportunity of seeing Snowdrops so plentiful.

Choisya ternata in Scotland.—The value of *Choisya ternata* as a hardy shrub is only partially recognised. It seems to pass through the hardest winter quite uninjured. As an evergreen only it is as pretty a shrub as the broad-leaved green *Euonymus* at its best, whilst in the spring with its lovely white, sweet-scented flowers it is a perfect picture. In the gardens of Keir House, near Stirling, Mr. Lunt, of Grape growing fame, has a plant of *Choisya ternata* on a wall; it is clothed with lovely dark green foliage, and well set with flower-buds. Mr. Lunt speaks most highly of its behaviour at Keir.—SPECTATOR.

Windsor Rose Society.—By gracious permission of the King, the twelfth annual exhibition of this society will be held in the private grounds of Windsor Castle, known as "The Slopes," on Saturday, June 27. Mr. W. Colin Romaine has given up the honorary secretaryship, to which Mr. W. Titt has succeeded, while the post of honorary treasurer has been relinquished by Mr. J. F. Hoddinot in favour of the Rev. S. K. Tabourdin, The Cloisters, Windsor Castle.

Gardeners' Royal Benevolent Institution.—The committee of this institution are sending out collecting cards with the earnest hope that those who receive them will kindly do what they can to collect or personally contribute something, however small, in aid of the work which for sixty-four years has been the means, in large measure, of removing the anxiety, smoothing the pathway, and brightening the declining years of those aged gardeners, &c., and their widows, who through sheer misfortune and no fault of their own have found themselves stranded in their old age. There are now 204 persons—116 men and 88 widows—receiving £20 and £16 a year respectively for life, at an annual cost of £3,728, whilst last year £104 was distributed from the Victorian Era Fund amongst those candidates who had been subscribers and were unsuccessful at the previous election. This year as much or more will be given away from the same fund in like manner. Gratuities are also granted from the Good Samaritan Fund as temporary help in urgent cases of distress and need. The cards may be obtained from the secretary, Mr. G. J. Ingram, 117, Victoria Street, London.

Propagating early Chrysanthemums.—There appears to be an impression that early-flowering Chrysanthemums should be propagated fairly early; in fact, that cuttings should be inserted during the same period as the ordinary November flowering ones. Experience has taught one that the propagation of the early sorts may be continued for some time to come. The late Mr. Piercy, than whom there was no more enthusiastic cultivator of the early-flowering varieties, used to point with pride to plants which were the results of cuttings inserted in May and June, and when visiting him during September these same plants were to be seen blossoming profusely, and without any protection whatever. At this moment the old stools are simply bristling with numerous growths, and for this reason the present time is best to insert cuttings for next autumn's display.

Waterlow Park, spring prospects. This park is situated on one side of Highgate Hill,

and has a southern aspect. The hardy borders afford the keenest interest to many. The lower entrance is the more popular means of approach to, and exit from, the park. It is here that the present superintendent (Mr. Carson) and his assistants carry out a bold and comprehensive scheme of bedding for effect. On one side of the principal walk is a broad sloping border with a southern aspect, and here are massed in regular designs groups of Wallflowers, Primroses, Tulips, Narcissi, Daisies, Arabis, and other equally useful plants. There has been an attempt at naturalising the Crocuses here, and very pretty was the effect on the occasion of our visit. Groups of white, yellow, purple, and striped Crocuses made a dainty display. To residents in the immediate neighbourhood, and to others living within easy access by public conveyance, this lung of North London is an inestimable boon, and from the way in which the work of the garden is done visitors cannot fail to be impressed with gardening as one of the most interesting and delightful of all recreations.—D. B. CRANE.

Fruit from Queensland.—The Queensland Fruit Growers' Association, which was formed last year for the purpose of organising the export of fruit in the coming season, hopes to send forward shipments to London. Up to the present the association has been directing its energies to the sale of fruit in New Zealand and other states, but with the break-up of the drought it is proposed to ship to Europe. Grape growing has much increased in Queensland of late, the coast districts from Bundaberg to the New South Wales border being particularly suited for the industry. The following sorts are grown with success in the state:—Chasselas d'Or or Sweetwater, Prococe de Courtiller, Madelaine Augurine, Madelaine Royal, Luglienga, all early varieties; Chasselas Negrepoint, Blue Portuguese, Black Hamburg, early coloured varieties; and later varieties of Mrs. Prince Muscat, Muscat Hamburg, Muscat Beaume, Ronsette, Golden Champion, Bermestia Gros Guillaume, and Wortley Hall. All those mentioned are European varieties. American varieties grown are Concord, Delaware, Wilder, Geethe, Iona, Alvey, F. de Lesseps, and a so-called Wantage.

Garrya elliptica.—So much has been written of the wall shrub *Garrya elliptica* that I fancy the enclosed photograph will interest you, although it may not be of any use for reproduction. The *Garrya* is the climber nearest the porch of the house on the left side as you face it. You will see that it reaches the eaves and projects possibly 3 feet from the wall. I know it was constantly cut back to prevent its encroachments on the windows. The catkins were very long and beautiful. This photograph was taken at least twenty years ago, but I do not know how old the shrub was then. The house is on the eastern slope of the Gareloch, Dumbartonshire, a part of Scotland most favourable to the growth of tender shrubs. I cannot give you the measurements of the *Hydrangea* bushes growing at the sides of the porch, but I know a child of twelve could easily be hidden inside of them. The colour of the flowers of one was a beautiful blue, and they were never moved or protected. They grew in heaps of large stones which had probably once been rockeries. A *Fuchsia* grew right over the porch, having a thick, woody stem, and not far off a *Myrtle* some 12 feet high growing against a house used to flower almost every summer.—FRANCES GIBSON, *The White House, Lansdowne Road, Aldershot.* [The photograph, which, unfortunately, was not suitable for reproduction, showed a remarkably fine growth of the *Garrya*, which was figured in THE GARDEN of the 14th inst.—Ed.]

The promise of Pears.—At the time of writing the bloom on the Pear trees is not out, but the swelling buds reveal the fact that whatever the crop may be there will be an abundance of blossom. Trees, old and young, on walls, in gardens, and in orchards look most promising; but there are fears that if the bloom is out early, as it gives every promise of being, there will come a biting frost, the like of which has on so many occasions blighted the hopes of the Pear grower. Curiously enough, there is rarely any dearth of

Pear bloom, although it is frequently so thick that much is infertile, and then it is out at a time when it has to run the risk of sharp frosts, consequently the Pear crop is always an uncertain one.—H.

Zonal Pelargonium Pink F. V. Raspail.—The original scarlet coloured F. V. Raspail, from which the new plant takes its name, is so well known, and its value for showy displays as well as for cutting so highly appreciated, that the distribution of a pink variety should be welcomed. A recent visit to the Rycroft collection of these plants revealed the existence of this fine pink flower. The stock appears to be in excellent condition, so the ensuing season should see the novelty in large demand. Mr. H. J. Jones has a great opinion of its worth, and says it is just what is wanted by private as well as market growers.—D. B. C.

Lime-washing fruit trees.—Anyone travelling through the fruit-growing districts of Kent during spring may observe the stems and lower branches of standard fruit trees made spotlessly white by their annual lime-washing. When in the train one hears all sorts of questions asked as to why it is done, and amusing answers are sometimes given by persons who are evidently not acquainted with the ways of fruit growers. Indeed, I am not sure whether some of the growers themselves have a definite idea why they treat the lower parts of the trees to the annual plastering of lime-wash, but the process has been in practice so long that it has got to be part of the routine work. The object, no doubt, is a good one, namely, that of destroying moss and lichen on the stems and the destruction of insect pests, but I can imagine nothing more unsightly. In fact, this white-washing of trees makes them hideous and a blot on the surrounding landscape. Again, is it necessary? Perhaps it was before the introduction of the caustic alkali solution, which does away with any need of whitening, and is the best-known winter wash for fruit trees. But old customs die hard, and in spite of the expense there is attached to the whitening of tree-stems, scores of fruit growers still do this, though they might, by means of the solution referred to and a spraying apparatus, clean, not only the stems and lower branches of the trees, but every particle of growth, at considerably less cost. Only the other day I was in a large fruit-growing establishment where the trees are sprayed once every winter with the caustic alkali solution formed as follows: 1lb. of caustic soda and 1lb. of pearlash are dissolved in 10 gallons of water, along with half a pound of soft soap that has been previously dissolved in a little boiling water. The operator wears an old suit of clothes, and is provided with gloves. By means of a knapsack sprayer all the parts of the trees are damped with the mixture, which has the effect of killing every particle of obnoxious growth, and the bark assumes a shining, healthy appearance. It is too late to use the caustic solution now, as the buds are on the move, but the hint may be useful in view of next winter. I am quite convinced that the general use of this wash would be more efficacious, less costly, and far more sightly than the common custom of making the trees hideous to look at by coating them with white-wash.—G. H. H.

Poison Oak—Case of poisoning.—A case of poisoning from contact with *Rhus Toxicodendron* occurred here last autumn. Though warned to be careful in handling a plant that was being transplanted, the man in charge of the other workmen encircled the shoots with his bare arms, which resulted in several days terrible agony—two days and nights without sleep. The plant moved was of the variety known as "radiicans." I have pruned and trained a specimen of the other form commonly called *Ampelopsis japonica* annually for the last ten years at least, and have used the beautifully coloured foliage for decoration on several occasions without ever feeling any bad results. The poisonous nature of the plant has long been known, Dillenius in "*Hortus Ethnensis*" gives a detailed account of both forms of the plant, with good engravings, and remarks on its poisonous qualities.—R. B., *Tynningham.*

Perpetual or Beet Spinach in spring.—The ordinary Spinach fails in many gardens in the winter months, and there is some difficulty in keeping up a supply when the best possible culture is given. This does not apply to the above variety, as it will grow almost anywhere and needs little attention. It has a large root, not unlike the Beetroot, and is a very hardy green variety; indeed, it may be classed as a true Beet with a Spinach-like leaf. The plant is well known, and as regards quality it cannot be compared to the ordinary Spinach. It is, however, a good substitute, therefore it is well worth a note at this season, as it produces such a quantity of leafage, and is a valuable plant for producing a continuous supply of leaves when it is impossible to obtain the better variety. Sown late in the spring and severely thinned a full supply will result from October to May, but I advise its use from December to the end of April, as if cut then it continues to grow and the new leafage is of better quality than when grown at other seasons. It grows rapidly at this date, and if not cut over the seed-stalk will soon form. This should be prevented. I have retarded growth by taking up the roots and laying them in a north shaded border. In the northern parts of the country, in a cold soil or situation, this plant is most valuable.—A. C. N.

“Went Slugging.”—In an old garden diary, from the middle of March to the beginning of June, each day begins and ends with the same interesting item, “Went slugging,” but whereas the morning entry is generally followed by the words “Found none,” in the evening come figures, increasing from thirty or ninety on March evenings to hundreds in April, and gradually falling again to from twenty to two in May. The means used to catch the slugs were simple but effectual. Late in the afternoon large pieces of Orange-peel were placed, the white side underneath, near any plants especially favoured by slugs; then at ten o'clock in the evening, armed with a candle-lantern, a pot of salt and water and a flat stick, the slug-hunter visited, not the plants, but each piece of Orange-peel, and on turning it over found slugs clinging to the white surface, attracted by the scent and coolness. When they were brushed off with the stick into the water, the peel was replaced until after the morning visit; then it was taken away for two reasons—first, because it was unsightly, giving the garden a Bank Holiday appearance; secondly, because the sun would make the peel too dry to be of any further use. Woodlice were not troublesome in the garden, probably because a broom was used with energy in all the corners of greenhouse and potting-shed; but the following makes a good trap, either in glass houses or frames: Take two slates, slant one against the wall, then lean the second against the first. In order to leave room for woodlice to crawl in between, keep the two slates from quite touching by a small stone or piece of wood. Then water the ground, so that the rising moisture will keep the slates damp. The next morning, on taking away the outer slate, the inner one will be found covered with woodlice. These devices are recommended to energetic youth, but to busier seniors a more excellent way is to keep toads in the garden.—W. SPURLING.

Forced Beetroot—Sutton's Globe. It frequently happens that the last season's roots are used up, and the new ones sown in the open in April are not ready for use, therefore there is a want of really good roots for salad in May and early June to supply the deficiency. I would advise sowing seed under glass at this date (March), and by growing for a time in frames and then planting out on a warm border a much earlier supply may be secured. Beets force freely in their early stages provided free ventilation is given, ample space in the seed-pan or box, and the plants are grown near the glass. For forcing one of the best early Beets I have grown is the Sutton Globe, a Turnip-rooted variety of splendid quality; the flavour is very fine, and the colour far better in every way than the ordinary form of Turnip-rooted Beet, such as the Egyptiau, the latter when forced lacking colour. Sow the seeds thinly in a box in frames, and when large enough

prick out the seedlings singly into small pots or boxes, give frame room for a short time and they will make good planting material. It is surprising how well the Beet stands forcing. Grown thus, the plants planted out in richly manured soil will grow rapidly, and the quality will be vastly superior to the old stored roots that were housed in autumn.—G. WYTHES.

Earliness of Asparagus this season.—The Asparagus in open beds promises to be earlier than usual. This will be a great gain to those who have a scarcity of green vegetables. Of course we are not yet safe, and cannot expect the Asparagus to progress very freely with frosty nights, but this so far has not much influenced the growths, as they were not on the surface. The warm sun will now force the growth to the surface, and it will well repay growers who can cover the beds for a short time at night with strawy litter, removing it in the daytime. We have this year cut our first Asparagus from open beds nearly a month earlier than last season. The supply is small, but upon examination I find the growths close to the surface and well worth timely shelter. I should add that our soil is very light, and the beds mostly face the south. In the open they are not shaded in any way.—S. M.

Pelargonium disease. At a recent meeting of the scientific committee of the Royal Horticultural Society, Dr. Cooke reported as follows upon the leaves sent by Mr. Meredith, Tibberton, Newport, Salop: “Two leaves of Pelargonium submitted were spotted indistinctly, and in one instance with an appearance of rotting, as caused by the rot moulds. It is reported that the disease appears on this variety only ‘like blisters on the young stem and cracks on the older wood; the leaves are attacked by these spots, which soon cause them to wither.’ The leaves sent were closely crushed and compressed, so that all trace of any delicate mould, if present, would have been destroyed. Examination of the spots under the microscope exhibited no trace of mycelium or spores; stems not seen. From the specimens sent no evidence can be found of fungus parasite, otherwise the appearance would suggest the attacks of a Peronospora, of which one species is known in Germany and Belgium to attack wild species of Geranium. Possibly it might prove to be the early stage of one of the white moulds, such as Ramularia, but it has not the appearance of Ramularia Gerani. At any rate, the leaves sent afford no evidence from which to determine the disease.”

Crown Imperials.—It is possible that the moist, cool summer of last year did something towards maturing the bulbs of Fritillaria imperialis. A clump of the large-flowered single form is sending up very strong stems; indeed, indicating

the possibility of a good head of bloom. As soon as the leaves show themselves I loosen the soil round the stems, remove some of the surface, and apply a dressing of fresh soil and Clay's Fertilizer, watering it in soon after. Fine blooms and rich colour result.—R. D.

LARGE LEAVED VINES.

APART from the different members of the genus Vitis that are grown solely for the sake of their fruits, there are numerous others remarkable for their handsome leafage, combined in some cases at least with edible berries. Regarded solely from an ornamental standpoint their merits are by no means sufficiently recognised,



JAPAN VINE (VITIS COIGNETIÆ) OVER ARCH.

for all are beautiful, and may with advantage be grown in different ways; for instance the large leaved forms are, as shown in the accompanying illustration, seen to very great advantage in clothing an arch or pergola, or in rambling over neighbouring trees as at Knap Hill, while nearly all the species form delightful wall plants, and failing these positions they may be grown as at Kew, where the entire collection of Vitis is treated in the same way, i.e., each plant fastened to a secure stake, and spurred back annually, so that the whole series consists of gracefully disposed bushes, which are, from their uncommon appearance, very attractive throughout the summer, and doubly

so in the autumn when the foliage of many of them becomes very richly coloured. This latter feature is common to the various members of the Vine family, particularly in that portion which used to be included in the genus *Ampelopsis*.

Of the large leaved Vines the species which has attracted the greatest share of attention within the last ten or twelve years is that herewith figured.

Vitis Coignetia.—A native of Japan, said to have been first introduced in 1874, but it is only within the last decade or so that it has become at all common. The large thick leaves of this species are cordate, irregularly toothed, and as much as 8 inches to 10 inches across. They are rich green on the upper surface, and clothed with a brownish tomentum on the undersides. The autumn tints are particularly bright, various shades of orange, yellow, and crimson being represented, but in this respect there is a good deal of individual variation, as well as that caused by the vagaries of our climate and the different soils in which the roots may be situated. It is not so easily increased as most Vines, cuttings, eyes, and layers having all been tried with only partial success, but of late years seed has been obtained in quantity from Japan, which has made it far more common. In Professor Sargent's "Forest Flora of Japan" is an illustration of a lofty forest tree—*Acanthopanax ricinifolium*—the topmost branches of which are festooned by this noble Vine.

V. Thunbergii.—This is another Japanese Vine, thought highly of by Messrs. Veitch, who regard it as one of the finest of all Vines for ornamental planting in this country. It is described as having the general habit and aspect of *V. Coignetia*, but more vigorous, the leaves somewhat larger, and clothed with a soft down on the under surface. The foliage in autumn assumes the most brilliant shades of orange and crimson. It has been long known both under the specific name of *Sieboldii* as well as that of *Thunbergii*, but it has only come prominently forward within the last few years.

V. Romaneti.—A species from Western China, remarkable from the fact that the young branches and petioles of the leaves are clothed with stout bristles, this giving it on close inspection a very singular appearance. The leaves are large, varying from cordate to five-lobed, of a bright green above and silvery beneath. In autumn the foliage becomes heavily tinted with purplish red. It has yet to make its mark in this country, but though the leaves are large it does not appear likely to form such a vigorous specimen as the preceding species.

V. amurensis is the last of the Old World species to mention here; it has foliage a good deal like that of *V. Coignetia*, but is almost entirely wanting in the rich autumn tints that have made this last-named species so much talked about. It is a native of Northern China and Amurland, and is altogether a vigorous grower. North America is very prolific in species of Vines, some of which are valued for fruit as well as for their foliage. One of the most ornamental is the Northern Fox Grape.

V. Labrusca.—The leaves of this show a considerable amount of variation, some being entire, while others are deeply lobed. They are thick in texture and clothed on the undersides with russet down. In a wild state the musky flavour of its fruits has obtained for it the name of the Fox Grape, but under cultivation many superior forms of it have been obtained. It is well worth attention as an ornamental Vine.

V. aestivalis (the Summer Grape).—This was one of the first of the North American Vines to be introduced into this country, and though the leaves are not equal in size to those previously mentioned, it is for all that well worth growing for its ornamental qualities. A particularly vigorous specimen bears a considerable resemblance to *V. Labrusca*.

Mention of these few large leaved species by no means exhausts the members of the Vine family, which are, from their ornamental qualities alone, worthy of a place in gardens, as all the following have a decided claim to recognition: *V. inconstans* (syn. *Ampelopsis Veitchii* and *A. tricuspidata*), with its dark-tinted variety *purpurea*; *V. quinquefolia* (Virginian Creeper) and its self-clinging variety *Englemanni* or *muralis*, which attaches itself to a wall after the manner of *V. inconstans*; *V. vinifera apiifolia* (Cut-leaved Grape), *V. v. purpurea* (Claret Grape), *V. heterophylla*, which on a sunny wall produces its blue fruits in the autumn; *V. serianifolia*, with pretty divided leaves; and *V. californica*, *V. cordifolia*, *V. riparia*, and *V. vulpina*, all four of which are North American species. H. P.

WAITING.

THROUGH my garden fair I roam,
Ever of my loved one thinking,
While the Rose's glorious crown
Humbly in the dust is sinking;

And the Lilies bloom and blow,
Though my love's not here to cull them.
He their beauty cannot see—
I will never stoop to pull them!

So the summer wears away,
Blossoms one by one are dying.
Oh! that I might go to him,
On the fleecy cloudlets flying!

For the flowers my heart doth grieve,
All unplucked, unloved, they wither
Through the hours and days and weeks—
But my love comes never hither.

And the hours like useless leaves
From the Tree of Life are falling;
Without him my life becomes
But a dream fled past recalling.

Come! My heart is full of love,
Longing for thee through the hours.
Come! Ere love and youth are gone—
Faded—withered—like the flowers.

SYDNEY HESSELRIGGE.

—(From the German of Rückert.)

THE ROSE GARDEN.

TEA ROSE TRIFLES.

"Trifles make perfection, but perfection is no trifle."

IT is not my intention in these short notes to go fully into the cultivation of Tea Roses, but simply to mention a few of those trifles which, in my opinion, tend to success or failure; and I am confident that success depends more on a common-sense observance of trifling details than on the adoption of a system of culture differing materially from the practice that generally obtains.

Every phase in Rose cultivation has been so fully discussed that I feel that much I shall say will savour of repetition, and to many it will not prove particularly interesting or instructive because of their intimate acquaintance with the subject. I am fully aware, also, that to many rosarians my remarks will seem too obvious and elementary; my remarks, however, are not specially intended for the skilled rosarian, and I hope that those who are not far advanced in our art may gain some hints that may be useful in themselves and tend to promote a desire for further information. I also hope that what I shall say will induce those who have not already done so to commence the culture of the Tea-scented varieties, which, in my opinion, are the most charming of all our Roses.

Many rosarians say that they cannot grow Teas, as their soil or situation, or both, are not suitable;

but I believe in many instances they have come to this conclusion without having given them a fair trial. I have not found them more difficult to grow or less hardy than many varieties usually looked upon as easy of cultivation, and able to bear without injury our average winters.

I do not propose to give what are my ideals as to position and soil, as I prefer to speak of the details from actual experience rather than to theorise, and I shall endeavour to show some of the conditions under which I have grown the Roses I have exhibited. It is my firm belief that anyone with a true love for Roses may grow Teas successfully in nearly any position, though, of course, some positions are much more desirable than others.

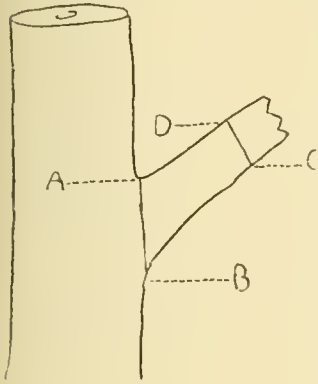
My garden is on the side of a hill—130 feet above sea-level—and faces south-east. It is well protected on the north-east and north-west by a high fence and by fruit trees. I consider the position and aspect as good as can be found for the purpose, and am of the opinion that the side of a hill is a better position than on a flat plain, as the frosts are less severe, the air as it cools rolling down into the valley below.

The question of height above sea-level I do not consider of any importance; but high ground relatively to that near it I consider a great advantage. I am convinced that the pure dry air of East Anglia plays a more important part in the cultivation of Roses, and especially of Teas, than anything else.

While many rosarians would probably approve of the position of my garden, I am sure not one would select the soil as suitable to Roses of any kind. Resting on a subsoil of gravel, the greater part is very light and stony, and totally different from that in which the Roses in this district are mostly grown. I think that for Teas this light open soil has its advantages over those of a heavier texture, as there is no necessity to raise the beds above the ordinary level to ensure perfect drainage and warmth to the roots, and in it the plants do not make coarse growth late in the autumn which has no chance to ripen sufficiently to stand even an ordinary winter. The soil has been deeply cultivated, but I have not added to it any other soil of a heavier or more retentive character. It is very necessary, when preparing ground for Roses, that the trenching should be done as early in the autumn as possible, to give time for it to settle before planting in October or November. Many advise, where part of an old meadow is to be prepared for Roses, that the turf should be put in the bottom of the trench, and I think that this practice has much to recommend it; but great care must be taken that the sods are well broken up, and, if dry, they should be trodden somewhat solid before the trench is filled in. If this is not done, when the grass rots, the ground under the plants becomes hollow and does not provide a firm root-run. I prefer to plant as early in the autumn as possible; but if this is done before the plants have lost their leaves, and while the sun has still considerable power, much withering of the shoots will be the result. This can be prevented by cutting off all the leaves, and so checking evaporation. This takes rather a long time, but I have proved the plants to benefit so greatly from the defoliation as to fully repay the time devoted to it. I have examined plants a month or so after planting, and have found that they had started rooting at once. Many failures in the cultivation of Tea Roses, I am sure, are due to a want of care in planting. The roots are not spread out sufficiently, and unsuitable soil is frequently put into direct contact with them. Some leaf-mould containing plenty of grit should be put under and over the roots before the ordinary soil is filled in.

With reference to the stocks on which Tea Roses should be worked, I will at once state that I prefer the standard Briar budded 2 feet to 3 feet from the ground, but for some of the stronger varieties the Briar-cutting stock gives good results. I know the seedling Briar finds favour with many rosarians, but the tendency this stock has to throw up suckers is, I consider, a disadvantage. In no class of Roses is the influence of stock upon scion more marked than in Teas; and my experience is that the majority of varieties must be grown as

standards if grand specimen blooms be the end in view. I know of no variety which cannot be grown in that form, but I have found many which have failed to produce flowers of appreciable size when grown as dwarfs. Standards can easily be protected against frost by Bracken tied



When a broken stump, such as is here shown, has to be sawn off the proper place to amputate is from A to B, the wrong place from D to C.

to the centres of the heads. This will keep the union dry, and consequently this vital part will be less liable to be frozen. The plants here are too large to be thatched as recommended by some authorities. Should some plants be killed, as was the case during the frosts in February this year, I think the loss is more imaginary than real, only the weakest, or those with bad unions, being seriously damaged. With many it has been the practice to use the hoe only when there were weeds to be destroyed, and I believe some of the older men employed in gardens still look upon this as sufficient. I am certain it is as necessary for Tea Roses to have plenty of pure air to their roots as it is to their foliage, and this can only be secured by the frequent use of the Dutch hoe or some other suitable tool. Many authorities deprecate the use of the spade among Roses, but I consider it absolutely necessary for turning in manure and deeply moving the soil between the rows. Roses grown for exhibition blooms require so much attention that the ground is frequently trampled on, and often when it is very wet, with the result that it becomes almost impervious to air and moisture; therefore mere surface cultivation with a hoe or a pricking over with a fork is wholly insufficient to loosen the soil to a proper depth to give free access of air to the roots. I know that many will think that great risk is run of damage to the roots if the spade is used, and I readily admit that in the hands of a man who does not understand what he is doing some harm would no doubt be done, but not so much as many would anticipate. The spaces between my Teas are dug over early each winter, when they receive a good coating of manure. The soil is only stirred to the depth of not more than 2 inches near the plants, where the roots are close to the surface and where there has been no traffic to consolidate it; but in the middle of the space between the rows, where there are no roots near the surface and where the summer traffic has been, I like to see the spade pushed down into the soil to nearly its full length. This treatment ensures the soil being sweetened and so well pulverised by frost as to render surface cultivation in the year following much more easy and efficient.

For moving the surface of the soil where it has become too consolidated for the Dutch hoe to be readily used, I have a "crome" with two prongs 5 inches long and 3 inches apart. There is another and equally important reason for good surface cultivation—that is, the cutting off of capillary attraction, so that the moisture in the soil, though attracted up to the roots, may not be lost by evaporation from the surface.

To prevent this loss, the top 2 inches or 3 inches of soil must be kept broken down very finely, so that the air between the small lumps may act as a non-conductor. With regard to mulching, except as a protection to newly-planted Roses and against the splashing of dwarfs by heavy rains, I do not use any. I have never had any standard Teas mulched. I consider a thin coating of fresh

stable litter the best mulch; but sodden, half-rotten manure should not be used. A thick coating of wet manure prevents free access of air to the roots, and I believe that the vapour arising from it after rain assists the growth of mildew. I am not in favour of watering save in a few exceptional cases, and then, of course, sufficient must be applied to thoroughly moisten the soil. Last year, with a total rainfall of between 15 inches and 16 inches only, my Roses had no water given to them. As opinions differ so greatly on the question of how much or how little Teas should be pruned, I will close my remarks with a brief reference to it. If the frosts leave any choice I am distinctly in favour of letting some strong shoots—if well placed and thoroughly ripened—remain at nearly their full lengths. I consider this absolutely necessary in the case of the stronger-growing varieties. If at the time of pruning the young new growths are very advanced, I like to leave one or two of the stronger of them, as I believe that they prevent such a great check being given to root action as would be the case if all were removed. These can be taken off later or shortened back if it is found that they are not likely to carry perfect blooms.

There is one item of plant revision or pruning I must refer to, and that is late summer pruning. I think all plants should be looked over not later than the end of September, and all useless wood removed. This enables the sun and air to reach all parts of the heads, and good, hard, ripened wood is the result. Careful summer pruning rids the plants of a lot of useless growth, to their great benefit, and it greatly lessens the work in the spring when pruning proper has to be carried out.

Nothing has then to be done in the spring but to shorten the shoots, and it is astonishing how much more easily this can be effected when there has been a careful revision of the plants the previous year.

I have always found that strong natural healthy growth, brought about by good cultivation, is much more likely to carry fine blooms than that coarse sappy growth caused by too much manure. — OSMOND G. ORPEN, F.R.H.S., of Colchester, in the *Journal of the Royal Horticultural Society*.

NEW ROSE IDEAL

THE new pink Rose Ideal, which originated with Jacob Becker of Philadelphia, and which is to be sent out by him the coming spring, is being watched with great interest by Rose growers not only in his vicinity but throughout the country. It is a free and continuous bloomer, producing large, clear pink flowers about the colour of Bridesmaid, but a more rounded flower like La France. It is delightfully fragrant, and said to be a good keeper. At the autumn exhibition of the Pennsylvania Horticultural Society it received the first prize as the best pink Rose in its class and also a certificate of merit.—*Gardening* (America).]

TREES AND SHRUBS.

THE CARE OF OLD TREES.

IN most old gardens and parks there are trees to be found which, although possibly of the commonest types and long past their best, are still regarded with interest and even affection because of the memories and associations that belong to them. Often, too, there are fine trees of rarer species that have reached or passed their zenith which their owners naturally wish to preserve from the decrepit state as long as possible. Belonging to this latter class are numerous specimens, scattered over the country, of American and other foreign trees that were amongst the first of their kind to be introduced to Britain, such, for instance, as the Tulip Tree, the Robinia, and various Oaks, from America; the Sophora, from China; and various European trees. There is no doubt that many of these might have their days considerably lengthened and their symmetry preserved if they had a little timely attention that they now frequently lack.

The two most potent factors in the destruction of old trees are storms and fungoid parasites. Nothing is more grievous than to have a favourite tree from which every violent storm wrenches a limb or branch. A good deal may be done in the early training of a tree so to control its building up that it may



SOPHORA JAPONICA WITH BRANCHES CHAINED TOGETHER (KEW).

best withstand the violence of gales. And the most important matter in this connexion is the development of a strong erect trunk—a central axis of such height and strength and bulk as to be capable of supporting its head of branches easily. It is advisable, therefore, always to prevent the premature forking of the trunk in important trees. In other words, the leading shoot should always be watched, and, by the repression of any rival leaders that may appear, allowed to retain its predominance. This is by no means so troublesome a matter as might appear, for when once a strong leading shoot has been developed it usually keeps its place till the tree begins to assume the shape natural to it. In the best English nurseries only trees with good "leads" are sent out.

In the accompanying illustration of an old specimen of *Sophora japonica* one sees the danger of allowing a tree to fork near the base. It has already lost a large limb, and had it not been given artificial support it would in all probability have been torn in twain long ago. Still, in the case of trees a century or more old such a matter is past redemption. The question in such a case is: Should artificial support of twin trunks be necessary what is the best way to afford it? The illustration is of value as showing a right way and a wrong one. The lower support, which consists of two iron bands, one encircling each limb, held together by a stout chain, is unsatisfactory. Growth of the branch is prevented at the point where it is clasped by the iron belt, and not only is the flow of sap arrested, but ultimately the thickening of the branch above and below constitutes a source of weakness to the tree. Unless the iron band is periodically shifted (a matter apt to be overlooked) it gradually becomes embedded in the wood and causes an unsightly swelling, until at last it is almost impossible to remove it at all. And the end usually is that the portion of the limb above the support is blown down. Such, however, is the method almost universally adopted in this country.

A better method is shown in the upper part of the illustration. This is an altogether simpler and better way, and is intended to replace the chain-and-belt fastening below. As will be seen a hole is bored right through the centre of each of the two limbs (or it may be trunk and limb) to be held together, and a stout steel rod is used to connect them. At the outer side of each limb a square iron plate—curved sufficiently to fit the wood—is held in place by a screw nut.

A few things have to be remembered. The rod should be of tough iron or steel and should exactly fit the hole bored by the auger; the portions embedded in the wood should be smeared with coal tar before they are pushed through, so as to make the holes as nearly as possible air and water-tight; one end of the rod should be "threaded" sufficient to allow of the limbs being braced slightly by screwing up the nut and thus supporting some of their weight; finally, the bark should be neatly cut away so as to let in each of the iron plates closer to the living wood, for by this means the time required for closing over the plate by new wood is shortened. The advantages of this system are, first, its neatness, for in time the wood grows over the plate and nut, and the only evidence of support is the rod passing from one limb to the other; and, secondly, its non- (or very slight and temporary) interference with the growth of the tree.

A frequent source of premature decay in trees is to allow the stumps of branches that have been sawn or blown off to remain on the tree. Even at this day, when the evil of such

a practice has been exposed time after time, it is no uncommon thing to see such stumps left (from a few inches to 1 foot in length) where branches have been lopped. When a limb or branch has to be removed it should be sawn off at the point where it joins the trunk—that is, the saw should travel from point A to B, as in the accompanying sketch. When a stump is left (as would be done by sawing off at C D) decay sets in sooner or later, and, although the tree often succeeds in healing over the dead part, it more often fails to do so until the decay has reached the trunk itself. With the softer-wooded trees, like the Horse Chestnut, disease frequently reaches the heart of the tree quickly by this means, and even in harder-wooded ones, like the Oak and Sweet Chestnut, I have frequently seen a core of decayed wood reaching down into the trunk, whose origin could be clearly traced to the neglect of a short stump left from a branch torn off by wind or carelessly lopped.

W. J. BEAN.

THE FLOWER GARDEN. CARNATIONS IN THE OPEN.

WHEN writing of Carnations in the open I intend my remarks only to refer to varieties which are hardy and strong enough to stand the winter in the open border without any protection whatever, and there are so many Carnations that will do so that it is quite unnecessary to try, and probably fail, to grow in the open the more delicate show varieties which should be wintered under glass. Now these border Carnations, which are so useful and satisfactory when well grown, do not receive half the attention they deserve, and I am strongly of opinion that if at our large shows there were always two classes—one for the show varieties grown under glass and the other for purely border Carnations—this would result in the introduction into our gardens of a greater number of the hardier sorts. The border varieties should also be distinctly specified in nurserymen's lists. If this were done I am sure the Carnation would soon become much more popular as a border plant, and, in consequence of the increased demand that would result, Carnation growers would aim at producing a strain of plants more suitable for this purpose, which most people I think at present experience some difficulty in procuring. I am certain there is an immense amount of disappointment suffered by enthusiastic amateurs who visit shows and see the blooms as they still are, unfortunately, only too often exhibited, with their necks encased in paper collars and nothing but the petals showing, and of these only a percentage of the natural number arranged with geometrical precision instead of as Nature intended them to be arranged. These are mostly show and not border varieties, but layers are ordered and in due course received, and the purchaser plants them out with the utmost care in his or her garden and waits with keen anticipation for the time when they will produce blooms like those seen at the show.

Now what follows? I am afraid the results seldom come up to the expectations. If they have been planted in the autumn—and this is by far the best time of year to plant border Carnations—many of them, unless the district be a very favourable one, will probably have suffered severely during the winter, and this

for the simple reason that they are the offspring of plants which have been accustomed to protection from the heavy rains and gales, which they are now expected to weather in the open border and have not constitutions strong enough to do so. If planted in the spring after having been wintered in pots under glass they will stand a very much better chance of succeeding, but when I speak of Carnations in pots I am deviating from the subject of border Carnations, to which this article is intended solely to refer. I do not advise anyone to plant border Carnations in the spring if they can possibly plant them in the autumn, except, of course, to fill up any gaps in the beds which may be occasioned by the ravages of such pests as the Carnation maggot, wireworms, slugs, hares, rabbits, and other enemies which Carnations have to contend with, but to these pests I will refer in a subsequent article. For this purpose it is as well when planting in the autumn to have a few plants of each variety kept in reserve to meet such contingencies. These can be put in any spare corner of the garden and carefully labelled. It is very disappointing to find gaps in your beds in the spring, and to have no spare plants of even the same colour, much less the same variety, with which to fill them up. The careful labelling of such emergency plants is, of course, important for obvious reasons. However, to return to the subject of

SPRING PLANTING.

As I intend what I am writing for the guidance of those who are only now commencing to grow Carnations as well as those who have their beds already filled, I will just give a few hints on spring planting, which will, I hope, prove of service to those who must plant now or do without Carnations next summer, and to these my advice is: Procure, if possible, only hardy varieties which have proved themselves strong enough to stand out through the winter without protection, and state your requirements in this respect when ordering your plants. It is well also to give the grower from whom you order them an idea of what the soil is composed of, and I would strongly advise the beginner to deny himself the pleasure of marking a list himself and to trust to the grower to send the varieties most likely to succeed in his particular locality, only stating the colours required; by so doing I feel sure a great deal of disappointment will be avoided. In going through a list one's fancy is so apt to be taken by a name or by the fact that a certain variety is a new introduction which may not have been proved to be of good enough constitution to flourish in the open.

Order the plants, which you should do at once. When they arrive they will most probably be in pots, from which you may gather that they have been wintered under cover. If the weather is not favourable and the ground in a sodden condition keep them in a cold frame, giving as much air as possible.

The bed which is to receive the plants should have been prepared some time before in order to give it time to settle. Perhaps it may be useful if I describe in detail how the bed should be prepared and the position most suitable. The best site for Carnations is an open, airy place which gets plenty of sun, but at the same time it should not be too much exposed to strong winds. A good loamy soil suits the plants best, and I prefer one rather inclined to be heavy than light. Do not choose too hot a position, where the plants will get scorched up in summer, nor yet a damp, low-lying one, which, especially if the

soil be heavy, will be very trying to the plants in the winter, and would result in their becoming diseased, as in a damp position "the spot" (a disease which attacks the foliage) would be very troublesome.

Having chosen a suitable position, spread some fresh loam, the top spit from an old pasture which has been previously stacked and turned in the usual way (one word of warning about such fresh loam; beware of wireworms, which usually abound in pasture land; these should be searched for carefully when the soil is turned over and destroyed), or some road scrapings, leaf-mould, old Mushroom or hot-bed manure, or a mixture of two or more of these over the surface, and let it remain for a few days so that the birds may pick up any wireworms or other insects which have been brought with it. Then trench the ground, which should be done thus: First throw the top spit of the first trench from one side of the bed to the other, then break up the subsoil, but do not bring this to the surface. Turn the next spit, the manure being well mixed with it, over into the first trench. Repeat this process across the bed, filling up the last trench with the soil you have thrown from the first. Let the ground settle, and when the soil is in good condition bring the plants to the bed and carefully remove them from their pots, taking out the drainage crocks; if the roots are matted round the sides of the pots loosen them with a pointed stick, but be careful not to injure the small fibrous ones. Plant firmly about 1 foot apart, putting a handful or two of fine prepared soil round the roots to give them a fair start (beware of fresh manure, which is not good for Carnations at any time); press the soil firmly round them, and plant so that the soil is level with the lowest foliage, but never bury the roots deeply; it is better to have too much of the stem above ground than below. The best way of

SETTING OUT THE PLANTS

is to stretch a line lengthways slightly to one side of the centre of the bed, which should be about 3 feet 6 inches across when three rows only are intended to be planted in each bed; it is not wise to have more than four rows in a bed, since it would then be difficult to reach the plants in the centre when the layering season comes. If your space is not limited it is therefore better to have only three rows, and the first row should be set out down the middle of the bed, and the plants in the other two rows opposite the spaces, leaving 1 foot between the rows and 9 inches between the outside plants and the path. If, however, the plants are seedlings or layers from very strong growers it is as well to allow a little more room and plant them 15 inches apart, allowing the same distance between the rows. The more space you leave for the paths the easier will be the work of layering, for it is most difficult for anyone, especially if he possesses a pair of long legs, to get amongst the plants without injuring them if there is no room to kneel down.

If any of the plants have a lengthy growth put a small neat stake and tie it loosely to this to prevent its being blown about and loosened by the wind. When planting in the autumn it is as well to cut off any flower-stems

that the layers may throw out; these would be of little use the following season, and by cutting them off the plants become more bushy. Now the plants are safely in the ground they will subsequently receive the same attention as those which were planted in the autumn, so I will proceed to describe the treatment which my Carnations receive. I always plant as early in the autumn as I can after the layers are well rooted. I look them over carefully once or twice during winter in quest of the

CARNATION MAGGOT,

which can generally be detected by the leading shoot looking slightly withered; a gentle pull, if the maggot is there, will result in the shoot coming out, when the small whitish yellow grub will be found in the stem just below where the shoot has been detached, but frequently the shoots come off thus after a small slug has been feeding on the centre of the succulent stem. A little experience will soon teach you how to detect the presence of the maggot, which, when found, should of course be destroyed. At the same time cut off any unhealthy or diseased "grass," and burn this with the shoots which have been pulled off, then go carefully round the plants pressing the soil firmly about the roots: this is necessary after a frost, which raises the ground and loosens the roots considerably, especially those which have been planted late in the autumn and were not able to get hold of the ground before the winter set in. These are sometimes thrown quite out of the ground and must be replanted. Now wait for a favourable opportunity after a shower of rain and give the plants a good dusting over with soot and wood ashes, mixed about half and half; to this you may add some slaked lime (it is as well to give the beds a dressing with this mixture in the autumn if they are planted then). Do not mind if the plants look rather unsightly for a few days until the next shower of rain falls, as this will soon clean them and wash the mixture into the ground, the foliage is thus rendered unpalatable to pests such as

slugs and sparrows. Sparrows, where they abound, work great havoc among Carnations at this time of the year by nibbling the young shoots apparently out of sheer mischief.

When the ground is dry enough, and it will be all the better to do this as soon after applying the soot and wood ashes as you can, stir the surface of the soil around the plants with a small rake so as to let warmth and air into the ground, which will have become hard and smooth after the heavy winter rains; this will also mix up the soot and wood ashes with the soil. You should repeat this operation whenever the surface gets beaten down again, and another dressing with the soot and wood ashes will do good. I generally give my plants a second dressing, for this mixture, besides rendering the foliage distasteful to the pests above ground, helps to drive away the underground enemies, such as wireworms, from the roots, and acts as a manure, the soot especially having a very beneficial effect. There will be little more to do to the plants now until the flower-stems begin to grow, except keeping down weeds, so I will leave them for a short time and deal with another phase of Carnation culture, which is, I consider, by far the most fascinating branch of this most interesting pursuit, and that is the raising of Carnations from seed.

St. Asaph.

W. A. WATTS.

(To be continued.)

THE PAMPAS GRASS.

In the accompanying illustration, the photograph of which was kindly sent by Mr. Draper, gardener to the Marquis of Londonderry at Seaham Hall, this noble Grass is shown in handsome groups. Standing out boldly as represented, without encroaching neighbours, the beauty of Pampas Grass is well displayed.

ANNUALS FOR TOWN GARDENS.

MANY useful notes have lately appeared in *THE GARDEN* on the seasonable topic of annuals, and



GROUPS OF PAMPAS GRASS IN SEAHAM HALL GARDENS, THE RESIDENCE OF THE MARQUIS OF LONDONDERRY.

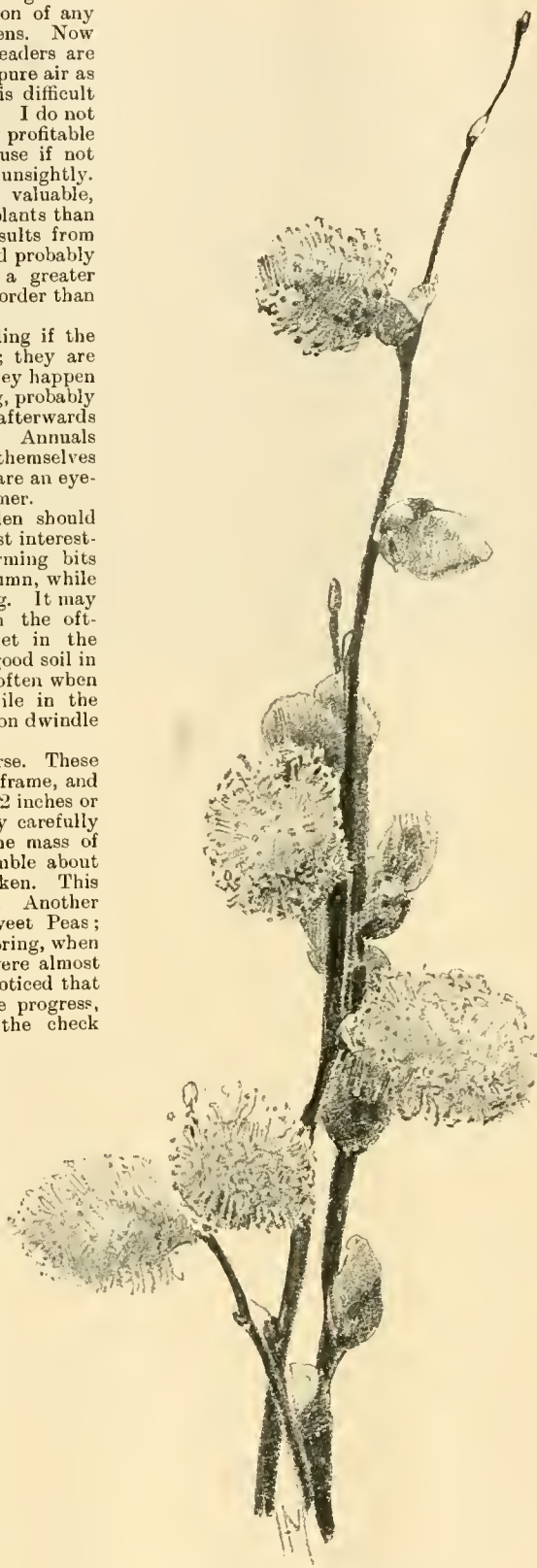
although selections both for large and small gardens have been given, I have seen no mention of any that are known to do well in town gardens. Now it is very probable that some of your readers are not able to grow their flowers in such a pure air as they could wish, probably with some it is difficult to make plants grow at all satisfactorily. I do not think that on the whole annuals are very profitable plants to grow in town gardens, because if not really well cultivated they are most unsightly. In town gardens space is usually very valuable, and one grows a far greater variety of plants than we really should to obtain the best results from each, but there is charm in variety, and probably the town gardener always will grow a greater number of species and varieties in his border than he ought to.

Annuals grow very weakly and spindling if the ground is not well prepared for them; they are so different from perennials, which, if they happen to do badly the first season after planting, probably give a far better account of themselves afterwards when their roots are well established. Annuals have not this opportunity of reinstating themselves in favour; if they do not succeed they are an eyesore and a nuisance throughout the summer.

Yet it is a pity that the town garden should be without a few annuals. They are most interesting plants to grow, and provide charming bits of colour throughout summer and autumn, while some of them are invaluable for cutting. It may be superfluous to say any more upon the oft-reiterated subject of thick sowing, yet in the town garden this is all important. In good soil in the country garden annuals will thrive often when they are sown much too thickly, while in the atmosphere of town and suburb they soon dwindle away.

Sweet Peas must be included, of course. These I find do best if sown in pots in a cold frame, and the seedlings planted out of doors when 2 inches or 3 inches high. They need to be very carefully turned out of their pots, otherwise the mass of soil falls to pieces, the tiny plants tumble about in all directions, and many roots are broken. This means delay, and delays are dangerous. Another word of caution with reference to Sweet Peas; sparrows are very fond of them. Last spring, when some 3 inches or 4 inches high, ours were almost ruined by these little rascals. It was noticed that they looked sickly and made but little progress, but at first this was attributed to the check when planted out. We soon found, however, the real cause of the mischief, and forthwith stretched pieces of thread tightly over and around them. This had the desired effect, for after that our Sweet Peas grew famously. There is an excellent protection for Sweet Peas and Carnations, of which sparrows are also fond, now to be had. I remember to have seen it among the advertisement pages of *THE GARDEN* last year. It gives far less trouble than the old-fashioned method of using thread.

Shirley Poppies we tried, but they did not succeed; annual Lupins were good, while *Linum grandiflorum* was splendid, its patches of pretty red flowers were much admired. *Nigella damascena* (Love-in-a-Mist) also did very well; it is one of the prettiest annual flowers. *Mignonette* failed to grow satisfactorily, as also did Iceland Poppies. Marigold and *Nasturtium* of course grew like weeds. Although the *Nasturtium* is often strictly kept out of many gardens, some of the dwarf compact varieties are excellent plants for border edgings, and their flowers are most brilliantly coloured. *Brachycome iberidifolia*, *Gypsophila paniculata*, Virginian Stock, Snapdragons, Scabious, *Lavatera trimestris*, Malope, Malva, Larkspur, Annual Candytuft, *Eschscholtzia*, Chinese Pink, and some few more were responsible for most of the attractiveness and colour, so far as annual flowers were



THE GOAT WILLOW OR "PALM."

(From a drawing by H. G. Moon.)

concerned. It is a mistake to grow too many things in a town garden, and certainly the annuals must not be allowed to run riot. Tropæolums in particular need to be kept within reasonable bounds.

A. P. H.

AN ARTIST'S NOTE-BOOK.

THE GOAT WILLOW.

IN the wilder parts of the garden, particularly in the neighbourhood of water, many of the stronger growing Willows can be very effectively used, each one having its special season of beauty. In winter, when destitute of leaves, the red and yellow-stemmed Willows are very attractive; in spring the Weeping Willow *Salix babylonica* is particularly charming, each pendent branch being studded with bright green leaves; in autumn the leaves of many turn a brilliant yellow; then, again, another attractive feature is given in early spring at the time of flowering, for when in full flower a male specimen of *Salix Caprea* is decidedly showy. In rural districts the name of Palm is given to this Willow, and in some places flowering branches are used extensively both for the decoration of houses and places of worship on Palm Sunday. Although *Salix Caprea* is the species to which the name of Palm is most often applied, there are several other species whose male inflorescences are quite as ornamental as those of the plant under notice, and of these *S. smithiana* is one of the most conspicuous. On this the fluffy yellow catkins are borne very freely, and when in flower the whole bush is a mass of yellow. In places where *S. Caprea* grows wild in quantity the effect of large masses of old plants smothered with yellow is very beautiful.

W. DALLIMORE.

ORCHIDS.

CATTLEYA ENID MAGNIFICA.

AFIRST-CLASS CERTIFICATE was awarded to this *Cattleya* when shown by Messrs. Charlesworth and Co., Heaton, Bradford, Yorks, before the Orchid committee of the Royal Horticultural Society on March 10. This is one of the finest hybrid *Cattleyas* yet raised, of rich colouring and beautiful form. The flower is large, the petals of extremely graceful contour, slightly drooping, the lip beautifully frilled. The colour of the sepals and petals is soft rose-white, the lip is a rich purple, tinged, and slightly veined with a lighter shade towards the edge, and the frill is rose, showing well against the mass of purple. The throat is yellow veined with purple. This *Cattleya* is fairly intermediate between the two parents *C. gigas* and *C. Mossiae*. The raceme shown bore four splendid blooms, one of which is shown in the accompanying illustration.

CALANTHES AND MENDEL'S LAW.

MR. CHAPMAN forwarded the following reply to Captain Hurst's observations reported at the last meeting of the Scientific Committee of the Royal Horticultural Society: "I am not at all surprised to find Captain Hurst claiming the fact of *C. Oakwood Ruby* and *C. Sibel* having been derived from the same seed-pod, and bearing directly on the action of Mendel's law. Had the rose or rose-carmine characteristics been maintained, Captain Hurst might have been sure of my support of the principles of which he is such an able advocate. Let us see what has really taken place. The first cross producing *C. Veitchii* from *C. vestita* and *C. (Limatodes) rosea*; the second cross was between *C. × Veitchii* and *C. vestita rubro-oculata* (giving a second cross with *C. vestita*) produced *C. Cooksonii*, with a yellow eye or disc, also *C. Alexanderi*. Here the first change takes place.

The deep ruby eye as seen in *C. vestita rubro-oculata* is removed to the front lobe of the lip and each of the petals, the sepals only being white, in some cases slightly tinted with the colour of the petals. It is remarkable to note that the rose or rose-carmine colours have disappeared. I cannot get at the exact parent that was used in the next generation, but from the information I can gather the darkest varieties were selected and crossed with each other, until the remarkable variation between *C. Sibyl* and *C. Oakwood Ruby* was produced. In the latter case the flower of *C. vestita rubro-oculata* had been turned inside out. I cannot trace any of the rose or rose-carmine of *C. Veitchii* or the shape of *Limatodes* in the flower as seen in *C. Veitchii*, but in the bulb the shape and general structure resemble *C. (Limatodes) rosea*. I cannot see what advantage can be procured by intercrossing *C. Oakwood Ruby* with *C. Oakwood Ruby*. I cannot expect to gain more from this than I procured nearly six years ago when crossing *C. Veitchii* with its own pollen, and the result was that it reproduced itself from seed. I might add to this another instance in which I procured a primary crossed hybrid from seed. Nearly ten years ago I crossed *C. leeanum* (a very fine form of it), and the result brought its parent, with no more variation than constitutional or cultural conditions are capable of bringing about. With such clear results as these I, at least, cannot see where the application of 'Mendel's laws' applies."

Cotoneaster thymifolia and *C. horizontalis* are two very desirable shrubs for wall culture. The former has bright red berries, and the foliage of the latter changes to a pleasing red in autumn, succeeded by scarlet fruit.

Styrax japonica.—One of the most lovely Japanese shrubs we have, needing protection in severe weather until it becomes thoroughly established. The charming white flowers are freely produced in May.

Hedera maderiensis variegata.—Of all the Ivies this is probably the most beautiful, the variegation being especially good at this season of the year. It is a fairly strong grower, thickly clothing a wall, and though considered by some to be tender, it has proved perfectly hardy here, having gone through the winter of 1894-95 when the glass fell to 2° below zero without the slightest protection. Most effective when growing on a red wall.

Vitis heterophylla variegata.—Another extremely beautiful variegated climber, by no means a rampant

Carpenteria californica.—A little-known shrub with white flowers of great beauty, requiring a warm sheltered position. After becoming established it flowers freely, but must be protected in cold districts.

Palurus aculeatus.—Said to be the true Christ Thorn; interesting on account of the great length of the thorns, but somewhat tender.

Clerodendron fatidum.—A desirable plant for a south wall with lilac-rose flowers and purplish green leaves. The stems die down in winter unless well protected. A most effective plant.

BEAUTIFUL WALL PLANTS

(Continued from page 181.)

ERCILLA SPICATA, SYN. *BRIDGESIA SPICATA*. A quick growing evergreen, soon covering considerable space, and clinging closely to the wall. The flowers are freely produced and purplish blue in colour.

Menispermum canadense.—Rarely seen in cultivation, but a handsome climber, preferring a shady wall.

Berchemia racemosa variegata.—One of the most delightful deciduous climbers we have, and should be included in all collections.

Periploca graeca.—A very rapidly growing deciduous climber, with curious flowers, green outside and purplish within. Succeeds well on a north wall.

Photinia serrulata.—A handsome evergreen wall shrub, with large deep green foliage, but does not appear to flower in a young state. Should be protected in severe weather.

Calycanthus floridus.—A desirable shrub, succeeding better with us on a wall than in the shrubbery. The flowers are purple and sweetly scented.

Myrtus communis (Common Myrtle).—If a warm position by a south wall can be found for this charming plant, with thorough protection given in winter and plenty of drainage, it will prove hardy around London, and flower freely.

Phlomis fruticosa (Jerusalem Sage).—One of the most showy plants for this purpose, the leaves being thickly clothed with a white tomentum, and the flowers are produced in whorls; colour, yellow. Should be protected in winter.

Phlomis cashmeriana.—The leaves of this variety are similar to the above. Colour of flowers pale lilac; needs protection.

Escallonia langleyensis.—A very distinct evergreen with red flowers. One of the most refined free-flowering wall shrubs, and deserving of a place in all choice collections.

Escallonia philippiana.—A white-flowered shrub of great beauty. The ground for this should be well drained, of a light porous nature, and a warm position on a south wall chosen. Like the above, it must be secured against severe weather.

Caryopteris Mastacanthus, with pale violet flowers, and the white variety *albus*, are two of the most charming shrubs, succeeding well against a wall.



CATTELEYA ENID MAGNIFICA (NATURAL SIZE).

(Exhibited by Messrs. Charlesworth and Co. before the Royal Horticultural Society, on the 10th inst., and then given a first-class certificate.)

grew, and well worthy of a place in any collection. Succeeds best on a south or west wall.

Rhus Toxicodendron (Poison Oak).—The magnificent colouring given us by this in autumn renders it worthy of cultivation in every garden. It should be planted in poor soil to be seen at its best, and care taken when handling its beautiful foliage.

Griselinia littoralis.—A very neat evergreen shrub with light green foliage; it is well worthy of cultivation, and is rarely seen.

Clerodendron trichotomum.—One of the handsomest shrubs we have, succeeding well in the shrubbery, but the young growths get injured by spring frosts, rendering the protection of a wall necessary in many parts. Flowers red and white.

Azara microphylla has dark green shining leaves and orange-coloured berries. Valuable for covering walls, and should have slight protection in winter.

Pyrus japonica and varieties.—Probably there are no shrubs more beautiful for covering low walls

than *Pyrus japonica* and its varieties, as they produce flowers almost throughout the year, and bear large fruits, which are edible when made into a preserve. The best varieties are *sinica*, Knap Hill Scarlet, *carnea*, *cardinalis*, and *Mallardii*, with white flowers. These should be allowed to grow up as naturally as possible to see them at their best.

Pyrus Maulei.—A handsome shrub with light red flowers and large quantities of golden fruit. There is a variety named *alba*, but the flowers are not a good white. A. E. THATCHER.

Aldenham House Gardens, Elstree, Herts.

CORRESPONDENCE.

(The Editor is not responsible for the opinions expressed by correspondents.)

THE GREAT WOODPECKER.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—It may not be generally known how useful this bird is in the pleasure ground. It is usually seen in trees, particularly old trees, such as Elm and Oak. It devours large numbers of injurious insects besides those which prey upon trees. It is naturally a shy bird, therefore where it is desired to encourage it the gun should not be used. I have watched it carefully about the grounds here, and it was a long time before I could discover which insect attracted it to certain parts. I, however, discovered at last what it was in search of, viz., the leather jacket and the cockchafer grubs. This bird will very quickly clear a lawn of these and other insects if not disturbed. I watched it from my window the other day for a long while searching every inch of ground, and when it came upon one of these insects pulled and tugged at the earth and roots of plants with all its strength, digging deep holes and pulling out large quantities of earth until it reached the grub. It would then carefully reject certain parts of the insect, which I examined. These appeared to be the head and some of the skin of the leather jacket. This undoubtedly is the most useful bird we have, and it should be encouraged as much as possible. It is grievous to see it so often in glass cases as a stuffed specimen.

Cirencester.

T. A.

A "BLACK LIST" OF HARDY PLANTS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—“S. G. R.’s” notes on the above subject (page 145) are of particular interest, since they refer to a topic which, although but rarely ventilated in the horticultural press, must for ever hold a foremost place in the minds of those who love their gardens. Some years ago a series of letters having the same object in view appeared in the pages of THE GARDEN under the title of “An Index Expurgatorius,” the perusal of which was instructive owing to the difference of opinion expressed by the various writers as to the desirability or the reverse of the numerous plants alluded to. It is but natural, having regard to the diversity existing in human likes and dislikes, that subjects exciting the admiration of some may to others appear objectionable, and that we therefore find one person excluding from his list of meritorious plants the very things that another is particularly anxious to grow to perfection. Soil and environment are preponderating factors in the successful culture of hardy plants, and subjects that are found flourishing with a minimum of attention in one garden may be seen languishing in another but a few miles distant, although treated with every solicitude that horticultural art can suggest. In like manner these same conditions affect the growth of some species to such an extent that certain plants, as remarked by “S. G. R.” “are harmless in one place and obnoxious in another.” Much, however, depends upon the amount of care lavished on the herbaceous border in determining what plants may be allowed a place within its precincts. If the

occupants are permitted to grow for weeks and months without any attempt being made to check the undue exuberance of those of naturally spreading habit, these will, naturally, eventually crowd out their less vigorous neighbours, but where constant supervision is given it is a comparatively easy matter to keep them within bounds. I am not alluding in this connexion to subjects such as *Polygonum cuspidatum*, *P. sachalinense*, and the *Calystegias*, which should be afforded isolated positions, but to some of those mentioned in “S. G. R.’s” list of “dangerous plants,” such as *Bocconia cordata*, *Physalis Franchetti*, *Lathyrus grandiflorus*, and *Acanthus*. The Bergamot or Bee Balm (*Monarda didyma*) is another plant of spreading growth, a small piece of which will attain a diameter of almost 3 feet in a season, which comes in the same category. *Acanthus latifolius*, the strongest grower of its race, has never given me any trouble, though remaining undisturbed in the same position for over eight years, having formed a fine symmetrical clump which annually throws up numerous tall flower-spikes 7 feet or more in height, while the others I have always been able to keep within due limits by an autumnal reduction of the clumps.

Had I left them severely alone during the time they have been in the borders they would doubtless by now have appropriated far more ground than desirable. It is wonderful how much may be effected in the way of the repression and even extermination of unwelcome plants by constant watchfulness. I remember a case where a narrow border between a wall and lawn was occupied by the Winter Heliotrope (*Tussilago fragrans*), one of the most difficult of plants to eradicate. The *Tussilago* was dug up and *Anemone japonica* planted in its place, but in a short time such roots of the former as still remained deep in the ground commenced to show growth above the earth. As soon as this was observed a daily visit was made to the border, and every tightly-folded leaf that pierced the soil was cut off about 2 inches beneath the surface. The *Tussilago* died hard, but at the end of two years it ceased to appear, and the border has since then been free from it. In many cases a fortnightly or monthly clearing away of the *Tussilago* foliage would doubtless have been deemed sufficient, but in the intervals the leaves would have strengthened the roots, whereas in the other instance they died from inability to express themselves above ground. The only one of the *Alstroemerias* alluded to by “S. G. R.” that gives the slightest trouble with me is *A. aurantiaca*, *A. chilensis* and *A. psittacina*, though increasing in size and beauty, never spread to excess, and *A. pelegina* and its white form would be far more valuable if they would assume that habit to a certain extent, for as it is they are too delicate for culture in the open air in the majority of gardens. *A. aurantiaca* would become a weed if allowed, but by following down the outlying shoots with a trowel in the autumn and digging up the roots I find the clumps may be kept from spreading unduly. A list is given of plants “requiring a great deal of supervision,” but, surely, this is only what should be given to every portion of the garden, and the lack of it in any section can only be productive of disastrous results. Self-sown seedlings of *Viola odorata* and other plants mentioned by “S. G. R.” have no terrors for me, for a finger and thumb will easily remove them while they are still small if they appear where they are not wanted, while in some spots they may be allowed to remain with advantage. The Welsh Poppy (*Meconopsis cambrica*) propagates itself freely in gardens where it is once established, though often proving difficult to raise from seed where this is not sown as soon as ripe. Flowering among trailing plants on stone edgings or by the verges of paths it has a pretty effect, and if the seedlings spring up in positions where their presence is unwelcome it is by no means a laborious task to clear them off. *Ionopsidium acaule* seeds itself freely over a portion of my garden, the seedlings growing where they list among the other occupants of the borders, but they are never interfered with unless to make room for new introductions, and I confess to a certain fondness for dwarf surface-

rooting things, that do no harm to the neighbours amongst which they grow, informally spangling the surface of the soil. S. W. FITZHERBERT.

HARDY PLANT GARDENING UNDER GLASS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—The illustrations of the hardy plant house in the Royal Gardens, Kew, and your leader on the subject of hardy gardening in general are most opportune. There are hardy plant gardeners who set their face against any hardy plant if it has to be given protection. They are forgetful of those earlier flowering plants whose merits not only entitle them to such protection as is now advocated, but permit the owner enjoying his plants without fear of their being spoilt by the weather.

By “hardy plant gardening under glass” we understand that so far as the plants require it, and in respect to their hardiness particularly, the glass covering is not at all an essential. Those who grow alpine plants are inclined to place a sheet of glass over some specially admired plant or great rarity, and this glass house is but an enlargement of the idea. The idea is by no means new, for I did the same thing in 1876 or 1877 to admit of my employer (the late Mr. Latimer Clark, of Sydenham Hill) seeing the plants he loved so much during winter. Our alpine house was not only absolutely cold, but fitted with swinging front lights that were rarely, if ever, closed. A narrow stage fronting these lights contained the choicest plants, and plants that were very scarce then are much more plentiful to-day. The late Mr. Joad at Wimbledon then had an alpine house, a structure chiefly intended, I believe, to protect the choicest of alpine gems, and in particular the *Androsaces* and such like, from winter wet. This latter was, therefore, more of an experiment in a given direction, in the hope of saving the plants at all hazards if possible, and with a group of plants that largely could not be regarded as winter or early flowering.

The work that for the past few years has been carried on at Kew agrees generally with my first conception of the idea when I had such plants as *Iris reticulata*, *I. persica*, *Orobans*, *Saxifraga burseriana*, *S. juniperina*, *S. calyciflora*, *S. aretioides*, *S. squarrosa*, *S. cæsia*, and others; and even then I did not confine myself to plants that flowered only quite early, but to others that appealed to me by beauty of foliage alone. For example, *Saxifraga longifolia*, *Sempervivum triste*, then a scarce and expensive plant, the *Arachnoid Houseleeks*, the variegated *Astrantia*, the pretty *Anthemis aizoon*, *Agave Utahensis*, and others of an attractive nature, in company with the early and winter *Crocus*, of which alone a large collection was grown. The number of good and suitable plants for the same purpose to-day is infinitely greater; indeed, in one or two directions the increase is remarkable. So that now anyone who elects to take the matter in hand may be certain that the year will have scarcely started on its way ere some of the earliest buds are bursting into blossom.

Nor are the shelter afforded and the possible exemption from bad colds or worse troubles the only advantages derived from this method of alpine gardening. What is perhaps the best feature is the increased beauty of all the plants; their flowers are almost perfect, unspotted, and untarnished. It is not forcing these plants into flower that we aim at, but protection in the only way we can in England, where snow—Nature’s blanket—no longer shelters them. In a large degree this alpine shelter has been rendered necessary during recent years by the very considerable increase of quite good early-flowering things—Iris for example. These, in conjunction with the best of old plants, will be found ample to make a small airy house one of the most attractive features in a garden. In certain directions and with certain classes of plants little preparation is needed. All plants of a bulbous nature—*Fritillaries*, *Iris*, *Cyclamens*, *Snowdrops*, &c.—may be planted in August or as soon after as convenient. It is, however, the evergreen alpine plants that most require preparation,



THE NEW BRUSSELS SPROUTS CAMBRIDGE CHAMPION.

allowing them a season's growth in pots and pans before the period of flowering under cover. Take, for example, all the varieties of *Saxifraga oppositifolia*, *S. burseriana*, *S. Boydii*, and *S. B. alba*, the pretty hybrid *S. Salomoni* (a good grower and free bloomer), and *S. apiculata* (not only one of the most valuable and earliest, but one of the most profuse). To these may be added any *Primulas*, for instance, *P. marginata*, *P. rosea*, *P. denticulata*, *P. alba*, *P. megaseeifolia*, *Trilliums*, *Arabis*, *Draba*, *Orobis*, *Epimediums*, *Corydalis thalictrifolia*, *Anemone blanda*, also the true *Wood Anemones*, *Shortia*, and some of the most distinct of the *Houseleek* family; all the forms of *Sempervivum arachnoideum*, for none are more beautiful than these when the rosettes are pricked out singly and given a year's growth before being placed in the house. To these may be added a large number, and all that is required is liberal cultivation in pots and pans beforehand.

E. JENKINS.

THE KITCHEN GARDEN.

BRUSSELS SPROUTS CAMBRIDGE CHAMPION.

UNQUESTIONABLY the above variety is the best that has come under my notice, and I was glad to see in *THE GARDEN* for January 17 that Mr. Wythes also thinks highly of it. I am sending a photograph, which you may perhaps find room for, which represents a fair sample. I understand that Mr. Ridgewell has disposed of the stock, the bulk of it being purchased by Messrs. Charles Sharpe and Co. of Sleaford.

The seed of Brussels Sprouts is often sown too early, the last week in February or first week in March being quite soon enough to make the first sowing. This should be raised under glass in a very gentle heat, sowing the seed thinly in shallow boxes or pans. Care should be taken not to allow the plants to become drawn, and immediately the young plants are large enough prick out either into other boxes or skeleton frames in a warm sheltered position, 3 inches apart each way, and protect in cold weather till the young plants become well established. Though Brussels Sprouts are among the hardiest of our winter greens they require a good start, and should be properly

hardened. The ground on which these will be planted should have been well manured and thoroughly trenched during winter, and left in a rough lumpy condition, thus allowing the frost and cold winds which we are sure to experience during spring to thoroughly penetrate, Nature's best remedy for pulverising and sweetening the land; this, previous to planting, should be pointed over with the fork and made level. When the plants are about 6 inches in height they should be lifted with good balls of earth and firmly planted; indeed, on light soils this can hardly be done excessively.

These enjoy an open position and plenty of room, 3 feet between the rows and 2 feet 6 inches from plant to plant being none too much. In very exposed positions time will be well spent in placing a stake to support them, especially so when extra fine buttons are required.

During very hot and dry weather the plants will derive much benefit if the ground between them is well mulched with long stable litter and thorough soakings of farmyard liquid or sewage are applied. Grown in this way there is no reason why Sprouts should not be picked from early in October till late in spring. However, it is well to ensure a constant supply by making another sowing early in April; the seed should be scattered thinly broadcast, well protected against birds, and the plants put out in their permanent quarters as soon as fit.

In many localities and on land which has been over-cropped with the *Brassica* family, a mistake too frequently made, not always the fault of the gardener, but owing to insufficient room, clubbing is very troublesome, and when this is the case fill up the holes with finely-sifted cider ashes, the best remedy I am acquainted with, and a good one too.

E. BECKETT.

Aldenham House Gardens, Elstree, Herts.

SORREL IN SPRING.

THIS is a plant not largely grown, but one that should not be overlooked. It is useful as a salad, and by no means inferior as a vegetable. There are not many varieties, and the one best known is not the best—at least, such is my opinion—as the one so largely cultivated on the Continent has a larger leaf, and does not run to seed so quickly as the common variety; it is a smaller variety, with more acidity than the larger. Sorrel used as a vegetable is so distinct from others that it should find a place in all gardens where variety is valued,

and I think there is often a want of variety at this season, when Sorrel can be used to advantage. It is greatly improved by culture, the leaves are more solid and more useful. The common Sorrel is a native of Great Britain, and is a perennial often found abundantly in swampy pastures. In drier soils it soon runs to seed. I do not recommend this variety for garden culture, but the Continental variety and French Sorrel. The leaves of the *Belleville* are large, not nearly so acid as the common kind, and when given good culture make a valuable vegetable served in the same way as Spinach. This variety is largely cultivated for the Paris market, and finds a large sale. There are several ways of cooking and serving. It is a favourite dish with veal, and is much grown for use in various ways as a vegetable. I have referred to the French Sorrel, also known as the Roman and Round-leaved. This is a hardy perennial, and a favourite abroad. It has a trailing growth, attains a height of from 15 inches to 18 inches, the leaves being roundish, heart-shaped, and smoother than the variety noted above; it is more acid than the others, and by many is liked when cooked as a vegetable.

Another variety has blistered leaves. This I do not think so good as the last-named. There are the *Mountain Sorrels*, one having pale green leaves. These do not run to seed so quickly as the common variety. The leaves are not so large as the *Belleville*, but it is a good grower. The *Green Mountain* variety is very acid, the leaves being a dark green, large, and freely produced when the plant is given good culture.

The above are the best known of this interesting family, and though I have seen other Continental varieties under different names, I could not see much difference in the growth to those described. I had at least half a dozen kinds, but preferred the *Belleville* and Roman or Round-leaved, but for salad the *Green Mountain* is much liked.

As regards the culture, I have described it as simple; the plant is easily raised from seed or by dividing the roots at this season. Some kinds are best raised from seed, but I do not advise this for all kinds, as I find they are apt to degenerate so that a good variety is best retained by division in March or April. The plants divided now and planted in good land 18 inches between the rows and half that distance between the plants will give a full crop the following season. If seed is sown there should be severe thinning when the plant is large enough to handle. There will be good salad material in two or three months, but for use as a vegetable the large leaves are best gathered singly.

I do not advise the use of this plant in the hot summer months, as if needed then it is well to grow it specially on a cool border, young plants being planted for the purpose. The plants remain good for three years, but of course as they age the leaves are smaller, therefore it is well to divide a small portion yearly. By destroying an old bed by this means a good supply is maintained for several months. If raised from seed the best time to sow is in the spring. It may also be sown in autumn, in August or September, for salad purposes. It is useful for salad when other green things are scarce, and as it is very hardy it is always reliable. On the Continent this plant is often used in soups and made into sauces and used as a common salad.

G. WYTHES.

QUALITY OF POTATOES.

A GREAT complaint is being now made that Potatoes, whether home-grown or purchased, are of indifferent table quality. The varieties are far too generally blamed, but it should be obvious that in such an indifferent Potato season as that of last year quality was in almost any variety greatly deteriorated by the unsuitable weather which pre-

vailed. There is, all the same, good reason to hope that the seed tubers now about to be planted will be productive of more even and robust growth than was the case last year. It did seem as if some two or three successive hot, dry seasons, and especially on naturally porous soils, had materially weakened the growing vigour of the tubers, whilst it appreciably created starch or dry flesh. Seed tubers apparently break growth all the stronger when they contain a fair proportion of water or sap, and this winter they seem to contain a larger proportion than usual. It will be interesting to watch growth this spring and see how far it will differ from that of last year, when it was exceptionally thin and bad. A. DEAN.

KEW NOTES.

INTERESTING PLANTS IN FLOWER.

Temperate House.

CALPURNIA AUREA, *Cytisus fragrans* var. *elegans*, *Eutaxia myrtifolia*, *Hardenbergia comptoniana*, *H. monophylla*, *Illicium floridanum*, and *Rhododendron arboreum* varieties *Acacias*.

Palm House.

Astrocaryum mexicanum, *Brownea Ariza*, *Napoleona imperialis*, *Passiflora reflexiflora*, and *Roydsia suaveolens*.

Succulent House.

Agave latifolia, *Bowiea volubilis*, *Crassula abyssinica*, *C. multicaeva*, *C. profusa*, *Rhipsalis conferta*, and *R. Saglionis*.

Orchid Houses.

Ada aurantiaca, *Bulbophyllum dayanum*, *Celogyne flaccida*, *Cymbidium eburneum-lowanum*, *C. eburneum*, *Cynorchis villosa*, *Cypripedium Exul*, *Dendrobium crepidatum*, *D. fimbriatum*, *D. superbum* var. *giganteum*, *Epidendrum Allemanii*, *E. claesianum*, *Eria confusa*, *Eulophia sanderiana*, *Eulophiella Elizabethæ*, *Laelia Euterpe*, *Masdevallia bella*, *M. Ehiphium*, *M. Pourbaixii*, *Maxillaria picta*, *Miltonia candida*, *Octomeria juncifolia*, *Odontoglossum andersonianum* var. *ruckerianum*, *O. constrictum* var. *sanderianum*, *O. Erstedii*, *O. Pourbaixii*, *Phaius Wallichii*, *Selenipedium titanum*, and *Trichopilia suavis*.

T Range.

Asarum macranthum, *Caraguata cardinalis*, *Centradenia floribunda*, *C. inæquilateralis*, *Ferraria antherosa*, *Gladiolus tristis* var. *concolor*, *Ixia* (various species and varieties), *Lachenalia* (various species and varieties), *Melaspheerula graminea*, *Porphyrocoma lanceolata*, *Scutellaria luzonica*, *Sparaxis* (various), and *Tillandsia Pölmanni*.

Greenhouse.

Similar plants to those mentioned recently.

Rock Garden.

Cardamine digitata, *Epimedium macranthum*, *Erythronium dens-canis*, *Mertensia pulmonarioides*, *Primula denticulata*, *Pulmonaria saccharata*, *Saxifraga marginata*, *S. sancta*, *S. Stracheyi* var. *alba*, *Scopolia carniolica* var. *concolor*, and *Synthyris reniformis*.

Bulb Borders.

Chionodoxas, *Muscari* and *Scillas* in variety, *Brodiea uniflora*, *Fritillaria conica*, *F. planiflora*, *Tulipa Dammannii*, *T. Lownei*, and *T. trausoniana*.

Alpine House.

Anemone intermedia, *Arabis Billardieri* var. *rosea*, *Arisæma japonicum*, *Cardamine trifolia*, *Crocus aureus* var. *sulphureus*, *Dodecatheon ellipticum*, *Draba altaica*, *D. Gilliesii*, *D. grandiflora*, *D. rigida*, *Erythronium grandiflorum* var. *giganteum*, *E. Hartwegii*, *Fritillaria pudica*, *Gentiana verna*, *Hyacinthus azureus* var. *robustus*, *H. moschatus* var. *major*, *Ionopsidium aculea*, *Lysimachia crispidens*, *Muscari commutatum*, *M. conicum*, *M. suaveolens*, *Narcissus triandrus* var. *concolor*, *Primula denticulata* var. *alba*, *P. frondosa*, *P. marginata*, *P. rosea*, *Saxifraga Griesebachii*, *Scilla italica*, *Soldanella montana*, *Thalictrum anemonoides*, and *Trillium nivale*.

Arboretum.

In addition to those mentioned recently *Corylopsis himalayana*, *C. spicata*, and *Dirca palustris*.

A JUNGLE HOUSE.

AT Headington Hill Hall, Oxford, a unique feature of the garden, and one which might be imitated with advantage in other gardens, is known under the above name. The house itself is a large, partially lean-to, old-fashioned building, but the interior presents a remarkable picture. The plants are planted out, or arranged in pots, on cleverly constructed rockwork. Entering the door an enormous *Ficus elastica*, displaying to the full its tropical luxuriance and character, meets the eye. The main stem, some 7 feet high and about 2 feet in circumference, is supported by huge gnarled, twisted, and intertwined roots. The branches forced hard against the roof are similarly contorted, so much so that an iron cross-bar is actually imbedded in one of them, while the deep leathery green foliage forms an appropriate canopy.

A huge plant of *Hibiscus schizopetalus* fl.-pl., originally placed in a pot on the rockwork, but with roots long since forced through and over the pot, annually yielding abundance of its glowing flowers, occupies one corner, while further on a huge specimen of *Monstera deliciosa* displays its curious cone-like scented fruit and its umbrageous perforated foliage. Beneath are planted out and arranged in charming confusion clumps of *Hedychium coronarium*, *Crotons* (in bright and varied hues), *Alpinas*, *Acalypha hamiltoniana* (with ornamental feather-like foliage), and *Eucharis amazonica*, its pure white flowers showing to full advantage amid the profusion of foliage.

Twined round a supporting pillar of the house are the stems of *Pereskia aculeata*, terminating in a huge irregular-shaped mass of *Epiphyllum truncatum* grafted on the *Pereskia* some 6 feet from the ground. Unfortunately, the plant was not in flower on the occasion of the writer's visit, but judging from its size and luxuriance a mass of flowers will be the result in due season. Tall *Dieffenbachias*, cleverly arranged in clumps with *Anthuriums* and *Dracænas*, are dispersed here and there, while from the upper portion of the rockwork and roof hang masses of *Asparagus Sprengeri*, *Smilax*, &c., the soft green harmony of their foliage contrasting and toning down the more brilliant tints of their neighbours.

At the further end, immediately in front of the entrance to a house running at right angles to the one of which description is attempted, is a huge *Lantana-like Palm*, unfortunately now too large for its position. The leaves are crushed out of shape against the glass, yet they add greatly to the general effect, particularly as the huge stem bears in the axils of the previous leaves different small foliage plants, while looking through the fronds glimpses may be had of different *Crotons*, *Sanseveria zeylanica*, *Dieffenbachias*, groups of *Cyperus alternifolius*, *Curculigo recurvata*, &c. Clothing the ground and lower portions of the rockwork are masses of *Pittonia Verschaffeltii* and *argyoneura* relieved by well-grown plants of *Pandanus Veitchii*. On a narrow staging facing the rockwork stands a number of pot plants, *Arisema fimbriatum*, *Crotons*, *Dracænas*, &c. Separating this house from the one already mentioned is a veritable hedge of *Euphorbia splendens*, its straggling habit, brilliant flowers, and huge spines exactly in keeping with this interesting house. A charming effect is obtained by looking between the *Euphorbia* into the jungle house, particularly as the afternoon sun lights up the interior, rendering even more effectual the contrast of the brightly-coloured *Crotons* and *Dracænas*, with the different *Palms*, &c. But one class of plant seemed lacking. A house such as this is eminently suited to a few *Orchids*, such as the various *Saccolabiums*, *Arides*, *Angraecums*, &c. Suspended to the roof or attached to the rockwork or taller *Palms*, their irregular growths would add to the general effect at all times, and when in flower would make a scene the exact counterpart of a tropical jungle.

It is a matter of regret that the very nature of the house and the arrangement of the plants forbids the possibility of a good photograph being made, but both the proprietor, H. G. Norrell, Esq., and his clever head gardener, Mr. Singleton, are to be congratulated on the novel and striking

character of the house. The gardens at Headington Hill Hall are of considerable extent, and are particularly rich in different conifers, while near the mansion, in what is known as the *Araucaria Terrace*, are four specimens of *Araucaria imbricata*, which, though not so large as some other specimens in the country, are remarkable now from the curious appearance they present, the upper branches being crowded with cones still in a green state.

ARGUTUS.

A LAVENDER WALK.

THE illustration represents a homely Lavender walk in a Surrey garden. It is quite simple, but in happy association with the rough stone steps to the loft and the flowers around. A Lavender walk is not only beautiful in itself, but when the flower harvest is ready it is pleasant to gather the fragrant purple blooms and dry them for the house. On the right of the illustration and on the stone steps may be seen little tufts of flowering plants. These are of *Erinus alpinus*, seed of which had been sown, and now the little rosy-flowered alpine is quite established.

GARDENING OF THE WEEK.

INDOOR GARDEN.

DRACÆNAS of the section comprising *D. terminalis*, *Cooperii*, *Guilfoylei*, and the elegant variety named *The Queen*, propagated in the autumn, will now be ready for a shift into 5-inch pots. These, together with *D. goldieana* and *D. sanderiana*, prefer a compost largely consisting of peat, sand, and charcoal. One-fourth loam may be added to the older plants. They require general stove treatment, and will be much benefited by being plunged in fibre where a bottom heat of 75° can be maintained for a month or two. Then the pots will be nearly full of roots, and may be removed and placed on a stage. These *Dracænas*, when well coloured, are in constant demand by the decorator, and to obtain them thus a warm, moist house and a light canvas shading to protect them from bright sun are necessary. *D. Lindenii* and the finer coloured form *D. Victoriae* colour better when grown in an intermediate temperature, where moisture and a little shade can be given. In all cases it is desirable to keep the plants in as small pots as is practicable.

MARANTAS IN VARIETY.

There is nothing gained by potting these before the end of the month. They enjoy a warm, moist, shady corner in the stove, and require an open peaty soil with sand and charcoal and thorough drainage. They are choice plants for summer embellishment of the warmer show houses, but should not be placed in a draughty position or the leaves soon curl up and the health of the plant is affected.

HELICONIA STRIATA AUREA

and *H. illustris rubicaulis* are robust growing and very effective plants for summer decoration. They should be potted in equal parts fibrous sandy loam and peat. They require a hot, moist house and shade. Red spider quickly affects them. The recently propagated stock of furnishing plants, such as *Pilea*, *Cyperus*, *Carex*, *Isolepis*, *Panicum*, &c., should now be potted into 3-inch and 4-inch pots, which are usually large enough for plants for this purpose. If larger pots are used they are inconvenient to arrange. Where it is necessary to have a succession of these plants, cuttings and seeds must be put in. The seed-pods of *Acroclium*, *Rhodanthes*, *Torenia*, &c., must be gone over, and the plants thinned down to the number required to form good effective potfuls. These may now be placed on a shelf where a temperature of 50° to 55° can be maintained for a few weeks; afterwards a cold frame will afford sufficient protection for them, excepting the *Torenia*, which prefer a little more heat.

SEEDLING GLOXINIAS,

Streptocarpus, Gesneras, &c., that are large enough to handle must be pricked off, four or five round the inner edge of a pot, and no time should be lost with those required to flower during the coming summer.

CALADIUMS.

Successional batches of tubers must be introduced to the forcing house or pit. A good quantity of *C. argyrites* and *C. minor rubescens* will be most useful a little later, as well as the larger foliaged varieties.

Wendover.

J. JQUES.

THE FLOWER GARDEN.

ROSES.

ALL Roses, with the exception of Teas, should be pruned without delay. The mild weather we have experienced of late caused many of our Roses to make growth, and already some of the more forward sorts are now showing flower-buds. Should we have cutting winds in April and biting frosts early in May I am afraid our pets will suffer considerably. Tea Roses should not be pruned yet, but all winter protection should be carefully removed. It is a mistake to keep them covered up long; the growths made under protection will be weak and a likely prey to green-fly and other insect pests.

THE SALVIA.

This is one of the most valuable of half-hardy perennials, and no flower garden, however small, would be considered complete without some of these gems. The several varieties or species in cultivation become during the summer and autumn one of the chief attractions of the garden. The scarlet coloured ones are intensely brilliant and

most floriferous, while the blue *Salvia patens* has scarcely a rival in its rare and beautiful tint. *Salvia Blue Bear* is an elegant plant, with showy spikes of bright purple bracts. For massing in beds or borders I know of nothing more useful, especially where the colour will harmonise with other things. Seed sown now in heat and the plants grown on quickly in the same way as *Heliotrope* and *Ageratum* will make good plants for planting out by the end of May.

THE PENTSTEMON.

This useful herbaceous perennial is very hardy, and appears to adapt itself to almost any climate and soil, though apparently thriving best in rich loamy ground fairly moist. The named varieties are best propagated by cuttings taken from the tips in the autumn. With this plant as with many others it is always best when large clumps are formed from a single stool to lift it, and either replant with a rooted cutting or a healthy piece of the old plant, but before doing so the ground should be enriched with some fresh soil or old manure. The large-flowering varieties are the best. Seed sown now in heat and the plants grown on quickly will flower profusely this season.

PHLOXES.

For mixed borders and shrubberies these hardy perennial plants are very ornamental and effective. They are easily increased by division, and now is the best time to divide them. Cuttings also root freely under hand-lights, and if these were taken last August they will now be ready for planting out either in the borders or beds, the latter I prefer. The *Phlox* delights in a deep, rather heavy, rich soil. The flowers are much finer than when grown on light, dry soils. Where space can be given for beds they should be about 4 feet wide. They can be mulched and watered should the summer be

dry and hot. Due care should be taken both in the arrangement of colours and in the height of the plants. From a packet of seed may be had many pleasing varieties and colours, but it is far better to start with some good named varieties. These can be obtained at a trifling cost from any good nurseryman.

Ashwellthorpe, Norwich.

T. B. FIELD.

ORCHIDS.

WITH the advancing season and renewed activity of the plants it will be necessary in many of the houses to raise the temperature a few degrees. The following should now be maintained by fire-heat, and allowed to rise in the warm houses 10° or 15° or even more by sun-heat, providing all tender plants are shaded during the brightest part of the day: *Phalenopsis* and warm *Cypripedium* houses, 70° by night and 75° by day; *Cattleya*, 65° by night and 70° by day; Mexican, 60° by night and 70° by day; cool intermediate, 60° by night and 65° by day; cool *Cypripedium*, 60° by night and 65° to 70° by day; *Odontoglossum*, 55° by night and 60° by day. With higher temperatures and more sunlight it will be necessary to pour more water over the walls and paths of the houses and syringe in among the pots on bright days so as to increase humidity and bring about a more genial atmosphere.

VENTILATION OF THE HOUSES.

This and the manner in which it is carried out is important. It is frequently impressed upon us that Orchids must have air, and all cultivators know the value of fresh air for plants generally; but beginners in Orchid culture must bear in mind that for the greater part of the year air admitted in too great volume is prejudicial to the health of plants that are natives of tropical regions. If,



LAVENDER WALK IN A SURREY GARDEN (ON THE RIGHT STONE STEPS WITH ERINUS ALPINUS IN CREVICES).

therefore, cold chilly air is admitted too freely and allowed to circulate about the plants they will not thrive, and all the care otherwise bestowed upon them will be in vain. It is at this season of the year that beginners need their attention drawn to this all-important matter, for cold winds and bright sunshine often come together, and combined with a great amount of heat in the pipes, owing to the nights being cold, will cause the temperature to rise very high and tempt the inexperienced cultivator to admit far more air than is good for the plants. No hard and fast rule can in detail be laid down. The

PHALÆNOPSIS AND WARM CYPRIPEDIUM

houses should now be shaded and but little air admitted. The Cattleya and Mexican houses, being allowed more sunlight, will be warmer, and air must be carefully admitted on the leeward side. When cold winds and bright sunshine are prevalent it is best to lower the blinds rather than admit much air. The plants in the cool intermediate houses will need shading from direct sunshine, and though more air is needed there it must be admitted with care and more or less according to the outside conditions. In the *Odontoglossum* houses, though a free circulation of air is needed, and a close, stuffy atmosphere must always be avoided, the top ventilators should not be opened when it is cold and windy. The plants must now be well shaded from direct sunshine.

SHADING.

With regard to the material used for shading Orchids opinions vary; some cultivators are in favour of tiffany, while others prefer the lattice roller blinds. I prefer tiffany blinds for the *Cypripedium*, cool intermediate *Odontoglossum*, or *Masdevallia* houses, yet here the lattice blinds may be used in place of tiffany, but, owing to the lattice blinds admitting a greater amount of light, other shading will be necessary too. For the *Dendrobium*, *Cattleya*, and Mexican houses I prefer to use the lattice blinds, the extra amount of light being suitable to these plants. These blinds, too, are more convenient in many ways, are far cheaper in the long run, and with care they last a great number of years. About two years ago lattice blinds were fixed to some of our houses here by Mr. Farr of Laytonstone, the present manufacturer of these blinds, and the result has been a marked improvement in the plants.

DENDROBIUMS.

For the past month or more these Orchids have again adorned our Orchid houses and exhibitions. With the majority of *Dendrobiums* the season of rest will now be completed, and we are reminded by the renewed activity of the plants that the growing season is at hand. If the plants while in flower have been kept in a cooler temperature they should now be removed to the house where they are to be grown and a temperature of 70° by night and 75° by day maintained by fire-heat, rising 15° or more by sun-heat. The atmosphere should be kept well charged with moisture. However, too much moisture is apt to cause the young growths to decay, especially during sunless weather. Air should be admitted on very favourable occasions only. Any necessary repotting should be carried out as soon as the plants commence growing, for new roots are emitted when the growths are but a few inches long. It is unnecessary to disturb the plants if they have sufficient rooting space and the compost is in good condition. Top-dressing will alone suffice. Use Fern roots in place of crocks, and sphagnum moss with a little silver sand intermixed is a suitable compost. Press the same moderately firm and work a few crocks in the surface to allow the water to pass away freely. After repotting for a time the plants should be sparingly watered, but little if any shading will be needed for some time to come.

F. W. THURGOOD.

Roslyn Gardens, Stamford Hill, N.

CHRYSANTHEMUMS.

THE majority of the early-struck plants for producing large flowers should by now be strong

sturdy plants, and if treated as previously advised ought to be transferred to 5-inch or 6-inch pots. Before doing so, however, thoroughly determine how many can be conveniently looked after and comfortably housed when the time comes round. Having decided this carefully, go through the list and mark the number of each variety, and place in batches, selecting the strongest and most promising. It will be well to mention that the whole of the plants are rarely ready for shifting on at the same time, and in no case should undue haste be resorted to, as over-pottings are far more injurious to their future welfare than if allowed to become somewhat pot-bound, providing the plants are not allowed to suffer for want of moisture. The repotting of a large collection will generally occupy about three weeks, and the size of the pots should be either 5-inch or 6-inch, which the strength of the plants will determine. The

PREPARATION OF THE COMPOST

should be thoroughly done. Good fibrous loam of a medium texture should form the principal part. This should be pulled into small pieces with the hands when moderately dry. To every bushel add half a peck of finely sifted old Mushroom-bed manure and the same quantity of good leaf-soil, a 6-inch potful of bone-meal and wood ashes, and sufficient road grit to enable the water to pass away freely. The whole should be well mixed, and, if possible, several days before required it should be got in readiness and turned several times. The pots and crocks should be thoroughly washed and the drainage efficiently done, placing one good sized inverted crock over the hole of the pot. Use various sized crocks, beginning with the coarsest at the bottom, and the top layer should be quite fine. A few quarter-inch bones should be placed over this, and a small quantity of good fibre taken from the loam heap with the soil well rubbed out of it should be used to prevent the compost getting mixed with the drainage. This is a golden rule to observe at all stages and in all kinds of potting, and providing worms are excluded, as they certainly should be, there is no reason why this should not be as perfect at the end of several months as when first put in. Pot firmly, carefully label and stake each plant, and damp over the surface with a fine rose watering-can just sufficient to set the soil before leaving the potting shed.

The plants should then be arranged in cold frames facing south if possible, standing the pots on boards. Avoid overcrowding, allowing sufficient room for each to be thoroughly tested for watering. These will need keeping close for a few days, syringing them frequently, and when very bright drying days occur a light shading may be given for an hour or two, but the less of this the better. After about four days, but this of course will much depend on the kind of weather we experience, a thorough watering should be given, filling up the pots at least three or four times, thus making sure that every particle of the soil becomes moistened. Dust the points occasionally with Tobacco powder, gradually give air more liberally as the roots find their way into the new compost, and exercise great care in watering.

E. BECKETT.

Aldenham House Gardens, Elstree, Herts.

KITCHEN GARDEN.

SEAKALE.

Now is a suitable time to plant the required number of sets for providing strong crowns for forcing next winter. Assuming that the sets were laid in trenches on a spare plot of ground at the time of lifting last autumn, they will now be forming several shoots at the top; these should be rubbed off, with the exception of two of the strongest, as they are lifted for planting. The ground for this important crop must have been well manured and deeply dug, or, better still, bastard trenched beforehand, and when sufficiently dry well tread and rake over neatly. Draw shallow drills 18 inches apart either way, and dibble the sets in the angles thus formed. Allow

the soil to cover the crown of the set about 1 inch. Generally speaking, one or two shoots take the lead, and by leaving two at planting time it will quickly be seen which is the best; the remaining one may be rubbed or cut off. Should rain be unlikely a good watering in with a coarse rosed can should be given immediately after planting. Run the Dutch hoe frequently through the alleys to destroy small weeds and to aerate the soil. This remark also applies to all crops at this season when drying winds often prevail, which dry them up whilst they are yet small.

BRUSSELS SPROUTS

for main and late crops may now be sown. The old variety *Scrymger's Giant* is hardy and well suited for cold soils particularly, while for late pickings in any garden it is still one of the best. Prick out 4 inches apart on a warm and well-enriched border the early sown plants for transplanting when large and strong enough. Cauliflower and Lettuce plants raised under glass may also be pricked off at the same time and on the same plot. Sow for succession.

CELERY

plants should be pricked out before they become drawn in the seed-boxes. Delaying this operation is a fruitful source of bolting during summer. Old frames may be utilised for the purpose, or, failing these, a few rough boards may be set up on edge to receive any old lights not in use.

ONIONS AND LEEKS.

Plants raised in heat will now be sufficiently strong for gradual hardening preparatory to planting out as soon as the weather is warm enough. Provided the roots are not cramped for room the plants will be better for being kept under protection a few days longer. Gradual hardening of all vegetable plants prior to transplanting in the garden is absolutely essential to success. Another important point to bear in mind is to lift the plants with a good ball of earth attached, and replant carefully with a trowel.

BORAGE.

Flowering shoots of this herb are often in request for use in summer drinks, as claret cup, and, apart from this, bees are very partial to the flowers. Some seed should now be sown on the herb border proper or in the vicinity of bee-hives. The herb border should now be set in order by dividing the perennial kinds and replanting them, and by sowing seeds of others that are in request.

Stoneleigh Abbey Gardens. H. T. MARTIN.

FRUIT GARDEN.

WE may now expect sun and drying winds, therefore be prepared for the

MULCHING

of such trees as need it, especially those recently transplanted. Small trees on the shallow-rooting Quince and Paradise stocks are greatly benefited by a layer of half-rotted manure spread over the roots. It protects them effectually from cold and drought, and is nourishing at the same time. In shallow and poor soils mulchings are particularly serviceable. All small fruits are benefited by the same treatment. Ground between Currants, Raspberries, and Gooseberry bushes should never be dug, only top-dressed. If nothing better can be procured, fresh stable litter—the shortest of it—and horse manure, if possible, will answer well. It should be packed in deeply about the necks of the bushes, and extend 2 feet or 3 feet outwards, so as to cover all the roots, and should remain on during summer; such top-dressings help to bury caterpillars and other vermin, and the manurial properties of the dressings are washed down to the roots. Raspberries are particularly benefited by rich surfacings, which increase both the length and thickness of the canes and weight of the crop. Good Raspberry canes should be from 6 feet to 8 feet high, and almost as thick as one's finger at the base. For Strawberry plantations there is nothing better as a top-dressing than fresh horse manure mixed with short litter. This should be put on before the plants come into flower, and

2 inches or 3 inches deep, being spread evenly over the whole ground right up the collars of the plants. Such a dressing keeps the soil moist all the summer, helps the roots, encourages growth, increases the size of the fruit, and by the time the latter is fit to gather the litter is washed as clean as the cleanest straw, thus obviating the need of placing straw or anything else under the plants to keep the fruit clean. We have always adopted this practice with perfect success.

MELONS.

The first hatch of pot plants plunged in bottom-heat from fermenting leaves placed over hot-water pipes will now be making good progress. It was stated lately that confinement of the roots by means of pot culture causes some varieties to throw out side shoots and to produce plenty of female blossoms before the leaders reach the top of the trellis. Where this is the case and very early fruit is wanted, the points must be pinched out to throw strength into the side shoots when the blossoms begin to open; the atmosphere of the pit must be then kept drier by means of increased fire-heat to admit of a gentle circulation of air, and syringing may be discontinued for a few days until the fruit is set and begins to swell. When grown under the restrictive or pot system it rarely happens that the most wilful ramblers are not brought into bearing at an early age, and when a "set" of fruit has been secured the plants may be rammed and top-dressed with stiff loam, bone dust, and dry cow manure, into which a quantity of hungry feeders will soon find their way. These must be well supplied with good liquid a few degrees warmer than the house, which must now range from 70° at night and 80° by day, and 85° or even 90° after closing, with solar heat and moisture. The preservation of all the stem leaves is an important matter, and some of the succulent, hairy-stemmed varieties, which are subject to scalding, should never be syringed on bright mornings, as they hold the water and suffer when air is admitted. This danger disappears after the house is closed for the day, when overhead syringing will do no harm. If Strawberries occupy the shelves, keep them thoroughly syringed until they begin to change for ripening, and then move them to more airy and drier quarters in order to develop flavour. Attend to ventilation on bright mornings by opening the lights; when the temperature touches 65° run up to 75° with a free circulation. The minimum heat should not exceed 55° on mild nights and 50° will be sufficient in cold windy weather.

Madresfield Court.

WILLIAM CRUMP.

NOTES ON HARDY PLANTS

VARIETIES OF SAXIFRAGA OPPOSITIFOLIA.

MASSSES of these are among the most beautiful of early-flowering alpiners. It is not in every garden, however, that they thrive, for while delighting in moisture during growth the plants resent the moisture from clayey soils. That these to some extent prefer a cool rooting medium I discovered many years ago in large beds of plants in pots. The difference between the plunged and the unplunged examples was most marked. In the former the growth was dense and free, and in turn just as freely flowered. Not so the unplunged sets, for these were of straggling growth, and produced few flowers. Seeing, too, that both sets were in all respects equal at the start, it appeared conclusive that the cooling and uniform nature of the soil was largely responsible for the success of the better lot. Those planted out have also largely benefited by rubbing lightly into the tufts quite sandy loam and old manure, all finely sifted, and finally washed down into the soil. This dressing, if given each year in early autumn, adds much to the vigour of the plants or tufts, and during the winter many fresh roots are

issued into the new material. Formerly I plunged all such things in sand beds, and these again gave proof of the fondness of the plant for sand; indeed, the plants were most vigorous where having overrun the pot or its limits they rooted freely in the sand forming the plunging material. This was so distinctly marked that the lesson it conveyed could not be ignored. In potting all such things no special mixture of soil was given. The whole batch were potted in soil from the old potting soil heap, an invaluable accumulation of years from all departments, Heath, stove, soft-wooded, and so on. Crocks and rubbish were removed with a coarse sieve. The best time to repot or replant is just when flowering is over. In potting gather small tufts in the fingers of the left hand tightly, and never mind even if the plant is slightly buried when planted. It is best to grow a patch or colony in the rock garden, when a number of small plants are pricked out or planted over an area of 18 inches. In this way each small tuft may firmly be put into position, and if need be a bit of sandstone to wedge it down. Water during the season of growth, and, indeed, spring and summer watering generally are among the essentials to success in growing these plants, and should not be overlooked. A liberal depth of rich soil, too, is desirable. Apart from the type and the white-flowered form all the others are of larger size, distinguished by such names as major, rubra, pyrenaica, and maxima. There is not much to choose between the two first, but the others are large and showy, and are at their best in March or early April. E. J.

TWO VALUABLE WINTER FLOWERING PLANTS.

PLANTS that will produce flowers in the open during winter are valuable, particularly when they are of a striking appearance, and suitable for home decoration. They will be of value in the largest gardens, but they should also receive more careful notice from those who have no greenhouse. At the time of writing I have two distinct plants in my mind which I can strongly recommend for the above purpose. I am further reminded of the fact because it is just at this season that the plants should be introduced into gardens where they do not already exist, while, again, where they have been established for several years they should at once be lifted, divided, and transplanted. I allude first to the glorious winter-flowering

Iris stylosa.—Some of the Irises are often compared to Orchids owing to their curious forms, graceful habit, and very delicate shades of colouring. Undoubtedly, were it necessary to have to cultivate the Iris mentioned above in a hot-house, and much difficulty were experienced in flowering the plants, then it would be like many other of our hardy floral gems—thought more of and more sought after. It may not succeed in the open in very cold and exposed districts, but to show how persistent it is in flowering I may mention that a few years ago several clumps just outside my window were buried with snow (a most unusual thing for us, so near to the sea), which remained on the ground quite a fortnight. During this period it was most pleasing and interesting to watch how the delicate lavender flower-buds pushed their way through the white canopy. Owing to severe frost at the time there was little chance of the flowers lasting long, though at other times they have withstood a very low temperature, and it is more from high and rough winds that the flowers suffer than actual frost.

In the first instance our plants were sent from North Yorkshire, which proved too cold for them to succeed well. Here, in a warmer climate and soil, they grow like reeds and flower profusely. I was, however, somewhat disappointed, in spite of what may be termed a mild winter, to find the individual blooms not so fine as usual this season; but there is undoubtedly a reason for this, and which we are now taking steps to remedy. *Iris stylosa*, like many other plants one might mention, increases rapidly when it finds itself in suitable soil and surroundings. We have proved this,

because in our case what were single and weak specimens when first planted some six years ago, are now, or rather were recently, bold masses nearly 3 feet across. The freedom with which they extend, by throwing up side shoots, necessitates their division every third year, and it is at the present time that such work should be done, as the plants having gone out of bloom, and the young growths not yet commenced, dividing may be done without injury. The whole season is before them to become re-established, and they will flower with renewed vigour next winter. So much prized are the delicate blooms here that we are not going to be satisfied with a few isolated plants in the herbaceous border, but have adopted another plan by which we hope to reap a rich supply of flowers for many weeks in succession. All the old plants have just been lifted and divided, each offset being supplied with a nice lot of roots. These were graded according to size and strength, and planted in a Peach house, which has a portable roof. The offsets, several hundreds of them, were planted in rich light soil about 15 inches apart and then mulched with decayed leaves. Our method is to assist them to make strong growth during summer, and then, when the bad weather commences and the flowering season is with us, to draw the lights off the roof in such a way as to keep off heavy rains and snow and thus form a slight protection without in any way coddling what is really a hardy plant. Anyone who has seen this Iris in full beauty during the dull winter days cannot but be delighted with it, and those who have not should not fail now to plant it in their gardens. It is wrong to disturb this plant in the autumn, because that would interfere with its flowering, and, moreover, might lead to many of the offsets decaying before new roots were formed in the spring. We have referred at some length to this valuable plant, but really its merits deserve more than passing notice.

Schizostylis coccinea.—This flowers somewhat earlier perhaps than *I. stylosa*, but we have often had it in full beauty in the open in the middle of December. It has every appearance of a medium sized *Gladiolus*. The flowers are rich crimson, and are borne on graceful stems quite 3 feet high. Like the above Iris, it requires a warm soil and sheltered position, and is well worthy of temporary protection to shelter the flowers. Like the Iris, too, it is now dormant, and where large clumps exist they should be divided and transplanted. Where a cold retentive soil has to be dealt with it would be advisable to form stations or properly prepared borders for each of these winter-blooming plants by ensuring free drainage and using plenty of leaf-mould or soil from an old Cucumber or Melon bed, sand, and other porous material, then there will be no difficulty experienced in growing each to perfection. Few plants give greater pleasure when in bloom, because they practically have no rivals in the open during their season of flowering.

Goodwood.

RICHARD PARKER.

BOOKS.

"The Book of British Ferns."—Those who care for hybridising Ferns or are interested in finding fresh departures from normal forms will read with profit this well-written work by Mr. Druery, whose knowledge of Ferns is more extensive, perhaps, than that of any living authority. For years the author has searched the counties of these isles for wild "finds," and has succeeded in achieving his object. He is not a Fern hunter who spoils our beautiful flora by indiscriminate grubbing up of species to fill a back garden, but wisely and judiciously seeks those things that are interesting for their beauty or for their strange development. The present work has a decidedly

*"The Book of British Ferns." By C. T. Druery, F.L.S., V.M.H. Published at the offices of *Country Life*, 20, Tavistock Street; and George Newnes, Limited, 7 to 12, Southampton Street, London.

scientific flavour, in truth we may call it a mixture of the scientific and practical, and therefore has a twofold usefulness which adds to its value and interest. The following quotations from the preface will indicate the character of the work, which shows that it includes, besides general chapters, a list "embracing only the pick and rejecting all such faulty ones as may not possess some sufficiently redeeming character in another direction." Mr. Druery is president of the British Pteridological Society, which, in plain English, is a Fern society, and this list was determined upon at a meeting of the society in August of 1899, the committee being composed of such well known names as Dr. F. W. Stansfield, J. Edwards, W. Forster, W. H. Phillips, J. J. Smithies, W. Troughton, G. Whitwell, and J. A. Wilson, Mr. Druery undertaking the compilation and editorship. "Great pains," to quote a sentence from the preface, "have been taken by all concerned to confine the list as far as possible to really fine and symmetrical forms. . . . To render the list of greater general value it has been supplemented by a description of the various species and chapters upon culture and propagation, &c. . . . Where varieties have received more than one name from different authorities, the better or best descriptive one has been chosen." The book is a welcome addition to the treatises and works already in existence upon British Ferns, which of late years seem to have been forgotten; but only, we feel assured, to once again become garden favourites for rock and wall garden and moist shady corners in which they revel. Many of them are of extreme beauty, and should be grown in a cold house devoted to them alone, where the fronds have space to develop their true character. There are chapters upon Ferns for shady gardens, in rooms, Fern hunting, and Fern crossing and hybridisation. For the benefit of those who may desire to pursue the study of Ferns beyond the popular limits, an appendix has been added treating of the reproductive phenomena, normal and abnormal, with reprints of papers given before the Linnean Society. The lists are invaluable as showing where the varieties were found, name of the finder or raiser and date, and description. The book is freely illustrated, and thoroughly well printed.

Bulletin of Miscellaneous Information (Appendix II, 1903).—This is a list of the additions made to the Kew Library during 1902. A glance through the pages shows that many works of extreme value have been acquired. It may be obtained from Messrs. Eyre and Spottiswoode, East Harding Street, Fleet Street, London. Price 4d.

"Alpine Flowers for Gardens."—A new edition of this book, long out of print, will shortly be published by Mr. John Murray, and may be obtained from all booksellers. It is revised, considerable additions have been made, and many alpine and mountain shrubs added, the author thinking these give the best and most enduring of rock gardens for many situations.

SOCIETIES.

ROYAL BOTANIC SOCIETY OF LONDON.

A MEETING of the Fellows of this society was held in the Museum in the Gardens, Regent's Park, on Saturday, the 14th inst., at which the Earl of Aberdeen, Sir John Hutton, Sir William Collins, and others were present, Mr. Pembroke Stephens, K.C., presiding. Attention was called to the remarks of Sir Trevor Lawrence, who was reported to have said in presiding at the annual general meeting of the Royal Horticultural Society, on February 10, that they could not combine with the Royal Botanic Society owing to the large debt with which the society was burdened. Mr. E. A. Sayers said Sir Trevor Lawrence had certainly gone out of his way to make a most uncalculated attack on the Royal Botanic Society, and he would ask (1) whether any rejoinder had been sent to the press in connexion with Sir John Hutton's letter to the *Times*, (2) whether any other communication had passed between the two societies, and (3) whether the council would take the matter into their most serious consideration with a view to contradicting Sir Trevor Lawrence's statements, which were inaccurate and unnecessary. Sir John Hutton, chairman of the finance committee of the Royal Botanic Society, said that no communication had been made, either directly or indirectly, by the Royal Horticultural Society to the Royal Botanic Society, and there was no doubt that the statement had

been highly prejudicial to their interests. It was strange that, although Sir Trevor Lawrence had said that the Botanic Society had taken to methods of raising money which were different to those by the Royal Horticultural Society, yet the following notice had appeared on the society's site at Westminster: "Royal Horticultural Society. The society proposes to use the new Hall for public exhibitions, concerts, meetings, and entertainment of the like kind, and will apply to the London County Council for a licence for music and dancing." Horticulturists were people who evidently lived in glass houses, and they should not throw stones. The Horticultural Society certainly should not cast stones at those who were using honest and legitimate means to raise funds for horticultural purposes and the study of botany. Then as to the Royal Botanic Society being heavily involved; they were not at all afraid of their debenture debt, which would be honestly met, and their new lease should put them in a sound financial position. If the statement was made ignorantly it was reprehensible, and if made maliciously it would be open to more serious consideration. Still, possibly the reason Sir Trevor had not answered his (Sir John's) letter was that he had no reply to make. (Cheers.)

Mr. Stephens, K.C., on behalf of the council of the Royal Botanic Society, said the matter had arisen out of a letter written by Lord Lister on their behalf, offering the use of their beautiful gardens for the exhibitions of the Horticultural Society, whose site of operations had been for a great many years the Drill Hall at Westminster and the Temple Gardens. No one interested in horticulture would deny that the Drill Hall was not an ideal place for shows, and their position in the Temple was, as he knew, not a very secure one. There had always been two views in the Temple itself as to the desirability of having the shows there in a place which was primarily for law and lawyers, and a change of Lord Chancellor might mean that the shows might not again be held in the Temple. That was in their minds when Lord Lister communicated their resolution to the Horticultural Society. They had not had a direct reply as to whether the proposal would be entertained, but someone at the meeting of the Horticultural Society having said it was to be regretted that they had not entered into closer relationship with the Botanic Society, so as to avail themselves of advantages which that society possessed, the chairman's remarks had come like a bolt out of the blue. He (Mr. Stephens) ventured to think that a more unlooked for and uncalculated answer to Lord Lister's letter on behalf of their society it was difficult to conceive. Sir Trevor Lawrence had said he found that any amalgamation would be financially impossible, but no one had ever breathed the idea of amalgamation. Then he said that "the Botanic was deeply in debt." The Royal Botanic Society, like the Horticultural Society, had spent a great deal of money, and the Botanic had been put to great expense in laying out their gardens, but their debt had never been repudiated. Some of the Fellows had voluntarily increased their subscriptions by refraining from drawing the interest to which they were entitled on their bonds, and they could hold up their heads in the face of everybody, including the Royal Horticultural Society. The next point was that the Botanic Society had taken to methods of raising money which were different to those followed by the Horticultural Society, but, as Sir John Hutton had pointed out, they had only to go to Westminster to see the Royal Horticultural Society's own notice board. The Royal Botanic Society would certainly not apply to the County Council for a promiscuous licence for music and dancing. They were chided for having clubs, bazaars, and dancing. What they had done was to open a club composed exclusively of members of the society, and he failed to see the enormity of that.

They had had bazaars, one in aid of Great Ormond Street Hospital, and the Queen herself had been present. That had been a great advantage to the hospital, and there was certainly nothing wrong about it. Then the dances they had had were in connexion with private parties in their own grounds, and everyone would admit that one of the greatest developments of horticulture in recent days was the floral decoration of tables and the interiors of houses. He took his stand on every item referred to by Sir Trevor Lawrence, and would assert that they had been doing their duty and nothing more. Sir John Hutton had told them what these arbiters of taste had done, but there were on the council of the Horticultural Society men of enlightenment and earnest men in matters of horticulture, and he would appeal to them to read over the letter signed, on behalf of the Botanic Society, by Lord Lister. He asked them to deal with it in a spirit more worthy and dignified, in a way they would expect from a "Royal" society, and not with the attitude assumed by their chairman. (Cheers.) On the motion of the Earl of Aberdeen, a vote of thanks was given to the chairman for presiding.

GRASSDALE HORTICULTURAL SOCIETY.

The thirteenth spring exhibition of the above was held at the Parish Rooms on the 21st inst., the entries being about the usual number, and the quality up to the usual standard.

Twelve Hyacinths, the first prize given by Mr. W. Rowlands, was won by Mr. T. Ankers, gardener to W. B. Bowring, Esq.; second, Mr. J. Madeley, gardener to W. W. C. Atkinson, Esq. For six pots, Mr. Madeley took the lead; and for six pots, three bulbs in each, Mr. R. Dickenson, gardener to H. A. Sanderson, Esq. The first and second prizes, given by Messrs. T. Davies and Co., for three pots were won by the same exhibitor. For six pots of Narcissi, Mr. T. Johnson, gardener to G. W. Moss, Esq., won; second, Mr. F. C. Keightley, gardener to Mrs. Duncan. For six pots of single Tulips, Mr. G. Barker, gardener to H. Rotherham, Esq., had the best; and of double varieties, Mr. Dickenson won. Four pots of Amaryllis: First, Mr. T. Johnson (prizes given by Messrs. R. P. Ker and Sons). One stove plant in flower: First, Mr. W. Evans, gardener to Mrs. Lockett. One greenhouse plant in bloom: First, Mr. F. C. Keightley. Two Orchids: First, Mr. F. C. Keightley. For one plant, Messrs. John Cowan and Co. giving the

prizes, Mr. J. Madeley was first. One Fern: First, Mr. W. Evans. One Azalea: First, Mr. F. C. Keightley, S inchea, Mr. W. Hill giving the first prize. One hardy Rhododendron: First, Mr. W. Bustard; and for a greenhouse one Mr. W. Evans won. One Rose: First, Mr. C. Osborne, gardener to A. Cook, Esq. Three hardy forced plants: First, Mr. W. Wills, gardener to W. J. Ridler, Esq. One Palm: First, Mr. C. Osborne; and for two, Mr. T. Lathom, gardener to W. Truesdale, Esq., won. Four Cinerarias: First, Mr. Ankers. Primulas: First, Mr. T. Johnson. Cyclamens: First, Mr. W. Evans. Lily of the Valley: First, Mr. F. C. Keightley. Three Spiraeas: First, Mr. Madeley. Five table plants: First, Mr. F. C. Keightley. One hardy Azalea: First, Mr. J. Madeley. Four pots of herbaceous plants: First, Mr. W. Evans. The arrangements were under the supervision of the chairman, Mr. E. Evans, and the secretarial work was ably done by Mr. T. Johnson.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.

THE committee of the Liverpool Auxiliary are to be congratulated upon their successful festival and smoking concert held at the Bear's Paw on the 20th inst., E. J. Harvey Gibson, Esq., M.A., F.L.S., Professor of Botany, University College, occupied the chair in the absence of the Lord Mayor of Liverpool, who had promised to be present. The hall was beautified for the occasion by flowering and foliage plants kindly lent by Messrs. R. P. Ker and Sons and Mr. Chas. Young, and cut flowers by Messrs. T. Davies and Co. and members of the committee. The report read by the secretary (Mr. R. G. Waterman) showed that success has attended the efforts of the committee, the income amounting to £68 2s. 6d., of which £19 4s. resulted from the last concert. In moving the adoption of the report the chairman referred to the excellent work of the institution and the support given to the Liverpool Auxiliary, and would urge upon all present to support it, and so provide against the time when they were past labour. Mr. R. P. Ker seconded the motion in laudatory terms, which was carried with applause. In replying to a vote of thanks to the chairman, Mr. Harvey Gibson referred to the splendid laboratory now completed by the great kindness of two generous donors, which was equal to anything in the kingdom. He should be pleased to receive them on some future occasions, so that they might inspect the building and its contents; the invitation was greeted with applause. The musical arrangements proved highly satisfactory and was thoroughly enjoyed by the large audience.

READING AND DISTRICT GARDENERS' ASSOCIATION.

AT the fortnightly meeting of this association, held on the 9th inst., two subjects were arranged for discussion, viz., *Cineraria stellata* and Roman Hyacinths, introduced respectively by Mr. C. P. Cretchley, of the Gardens, the Honeys, Twyford, and Mr. R. Bassil of Reading. Although the papers in each case were short, the discussions which followed were exceedingly interesting and brought out many profitable points. Those taking part were the President, Messrs. Powell, Lever, Tunbridge, Townsend, Neve, Wicks, E. J. Dore, Hinton, Wilson, Cox, Judd, Burfitt, and W. F. Dore. A feature of the meeting were the splendid exhibits made by the following members: Honorary, Mr. W. Townsend, the Gardens, Sandhurst Lodge, four splendid plants with highly-coloured flowers of *Dendrobium nobile*; Mr. T. Butcher, the Gardens, Greenbank, Reading, a beautiful specimen of *Cologne cristata*. For the association's certificate, Mr. Cretchley, a group of *Cineraria stellata*; Mr. G. Wicks, the Gardens, Broad Oak, Reading, a group of flowering bulbs; and Mr. F. Alexander, the Gardens, St. Mary's Hill, Reading, a well-flowered *Dendrobium nobile*. A certificate was awarded in each case. Several new members were elected.

MANCHESTER AND NORTH OF ENGLAND ORCHID SOCIETY.

THE usual meeting was held in the Coal Exchange, Market Place, Manchester, on Thursday, the 19th inst. The exhibits were not so numerous as usual.

O. O. Wrigley, Esq., Bridge Hall, Bury, was awarded a silver medal for a group, in which were fine forms of *Dendrobium Luna*, *D. brymerianum*, *D. pinulium*, *Laelia joughiana*, *Laelia Cowan*, &c.

A. Wallburton, Esq., Hasligoden, had a grand plant of *Odontoglossum crispum Victoria Regina*, with thirteen flowers. This plant had already received a certificate.

Mr. Cypher, Cheltenham, gained a silver medal for a group, principally of choice *Dendrobiums*.

Messrs. Charlesworth and Co., Bradford, were given a silver medal for a group, which included *Laelia purpurata* × *digbyana*, *Laelio-Cattleya Myra*, *L. C. luminosa aurifera*, and *Odontoglossum harrayanum* × triumphans, the sepals and petals distinctly showing triumphans and the lip the influence of *harrayanum*.

AWARDS.

An award of merit was given to Dr. Hodgkinson, Wilmslow, for *Laelio-Cattleya Noel* (*Cattleya Trianae* alba × *Laelia harpophylla*).

A first-class certificate was awarded to Messrs. Cowan and Co., Gateacre, for *Dendrobium wardianum ochroleucum*, with seven flowers, pure white sepals and petals, and deep yellow throat; and an award of merit for *Dendrobium wiganianum album*.

Messrs. Charlesworth and Co., Bradford, were awarded first-class certificates for *Laelia purpurata* × *digbyana*, *Odontoglossum harrayanum* × triumphans, and *Laelio-Cattleya Myra*; and awards of merit for *Laelio-Cattleya luminosa aurifera* and *Odontoglossum crispum* (a fine light variety).

Mr. P. Weathers, Old Trafford Botanic Gardens, gained an award of merit for a light form of *Odontoglossum crispum*.

Mr. Robson, Altrincham, showed *Odontoglossum triumphans grande*. Award of merit.

Mr. Cypher, Cheltenham, was given awards for merit for *Dendrobium nobile* Heathii and *D. n. lutywichianum*.

Messrs. Keeling, Bradford, gained an award of merit for *Dendrobium Anaworthii amonum*.

ROYAL HORTICULTURAL SOCIETY.

THE Drill Hall was again very crowded on Tuesday last, and there was a splendid display of flowers, both hardy and indoor. Orchids, too, were well represented. Each of the four committees granted certificates to new plants.

ORCHID COMMITTEE.

Present: Harry J. Veitch, Esq. (chairman), Messrs. James O'Brien, de B. Crawshaw, Jeremiah Colman, H. Little, H. A. Tracy, J. G. Fowler, Francis Wellesley, F. W. Ashton, H. T. Pitt, J. Wilson Potter, W. A. Bileo, E. Hill, H. J. Chapman, A. A. McBean, T. W. Bond, H. Ballantine, John W. Odell, W. Boxall, F. J. Thorne, W. H. Young, W. H. White, Norman C. Cookson, James Douglas, Walter Cobb, and Frank A. Rehder.

Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne, had a splendid group of Phaius hybrids in great variety of colour, many of them very beautiful, some very light, others very dark in colour. The plants evidenced splendid culture; several of them bearing three and four racemes of flower; one had twelve. Besides the Phaius, *Odontoglossum excelens* Cooksonie, *O. rufae* Oakwood variety, *O. anderssonianum* Cooksonie, and *Dendrobium Asptata* Oakwood var. were also shown. Silver-gilt Flora medal.

Messrs. James Veitch and Sons, Limited, Chelsea, showed *Dendrobium wiganianum*, *D. crassinode*, *D. Euryalus*, *D. Sosius*, *D. enosum* roseum, *Lelio-Cattleya highburiensis*, *L. C. Tyra*, *Epidendrum elegantulum*, *L. C. diglyano*-Schrodere, and *Masdevallia Ajax*.

H. T. Pitt, Esq., Rosslyn, Stamford Hill, N. (gardener, Mr. F. W. Thurgood), contributed an interesting group of orchids that contained several good *Odontoglossum*s, viz., *O. wilckeanum* pittianum, *O. Adriane* cobbianum, *O. crispum* Abner Wassell, and others. *Miltonias*, *Epidendrum Endresio-Wallisii*, *Chondrorhyncha Chestertonii* (a crissum yellow flower with beautifully fringed lip), *Cymbidium eburneum*, *C. lowianum*, *Cypripedium*s, and *Dendrobium*s were also included. Silver Flora medal.

Mr. James Cypher, Cheltenham, had a good display, chiefly formed by *Dendrobium*s, *D. crassinode*, *D. nobile* giganteum, *D. n. nobiliss*, *D. n. Fisherii*, *D. n. pendulum*, *D. aureum* sulphureum, *D. brymerianum*, *D. primulinum*, *D. wadianum*, and *D. schneiderianum* were among the best, while *Epiphronitis Veitchii*, *Sophrontis grandiflora*, *Lelia jongheana*, *Trichopilia suavii*, and *Miltonia Rozelii* were also prominent in Mr. Cypher's group. Silver Flora medal.

Captain Holford, C.I.E., Westombirt, Tetbury (Orchid grower, Mr. Alexander), exhibited a group of orchids which though small contained many choice flowers; *Odontoglossum baryano-crispum* giganteum, bearing eight splendid flowers; *O. crispum* var. Mme. Lindsay with pure white broad sepals and petals and spotted lip, *O. Adriane*, *O. A. var. Mrs. Menzies*, *O. elegans*, and *Cymbidium eburneo-Lowi* concolor, which was given a first-class certificate. Silver Flora medal.

Messrs. Sander and Sons, St. Albans, showed *Odontoglossum loochristiense flavum*, a new yellow variety, *O. Adriane* var. gemma, *O. wilckeanum* (four different forms and all good), *Phaius* Norman var. nigrescens, *Trichopilia suavii*, *Cymbidium lowianum* var. concolor, with sepals and petals of a good green and white and yellow lip, a striking flower; a plant of *Miltoniopsis hibernica* var. nobilior bore several racemes of splendid large flowers, and *Cymbidium eburneo-lowianum* was also well represented. Silver Banksian medal.

M. Otto Beyrodt, Berlin, showed a small group of orchids consisting of heavily spotted forms of *Adriane*. *O. Adriane* var. Swoboda, a small roundish flower heavily marked with chocolate upon a yellow ground; *O. beyrodtianum*, bearing a raceme of fifteen pretty flowers, with somewhat narrow sulphur-coloured sepals and petals marked with brown were most noticeable. *Cattleya Triana* var. cœrulea was also shown by M. Beyrodt. Silver Banksian medal.

Mr. James Douglas, Edenside, Great Bookham, showed *Lelio-Cattleya Sedeni* var. *Phœbus* and two *Odontoglossum*s.

De Barri Crawshaw, Esq., Rosefield, Sevenoaks, (gardener, Mr. Stables), sent several *Odontoglossum*s, among which were *O. loochristiense* Venus, finely tinged with deep yellow and marked with dull red; and *O. triumphans* regina, a richly coloured and well marked form.

Sir Fred Wigan, Bart., Clare Lawn, East Sheen (Orchid grower, Mr. W. H. Young), sent *Megacalinum falcatum* with the flowers springing from both sides of a curiously abnormal petiole, like the blade of a sword, and *Cattleya Triana* Katie Wigan.

Part of a raceme of *Eulophiella peetersiana* was shown from the Royal Botanic Gardens, Dublin. The raceme had been 5 feet 6 inches long, and had carried twenty-eight flowers. The plant had ten leaves, the largest being 5 1/2 inches across and 4 feet 1 inch long.

F. Wellesley, Esq., Westfield, showed *Lycaste Skinneri* Westfield var. with lovely deep rose-coloured petals.

A cultural commendation was given to M. L. Fournier, Marseilles, for a plant of *Cymbidium eburneo-lowianum* bearing two racemes of flowers.

Dendrobium x wiganianum Cambridge Lodge var. (*D. nobile x D. Hildebrandtii*) and *Odontoglossum triumphans superbum* were shown by R. I. Measures, Esq., Cambewell (Orchid grower, Mr. Smith).

Lelio-Cattleya diglyano-Mendelii, Tring Park variety, was shown by Mr. Hill, gardener to the Hon. Walter Rothschild, Tring Park, Herts.

CERTIFICATED ORCHIDS.

Cymbidium eburneo-Lowi concolor.—This is a large and attractive flower with broad soft creamy-yellow or pale primrose coloured sepals and narrower petals of the same shade. Along the centre they are tinged with green. The lip also is pale primrose marked with yellowish brown towards the front. One of the most distinct and pleasing

of the hybrid *Cymbidium*s. Exhibited by Captain Holford, Westombirt, Tetbury, Gloucestershire (Orchid grower, Mr. Alexander). First-class certificate.

Odontoglossum Adriane var. *Swoboda*.—A small, symmetrical flower with roundish sepals and petals: these are heavily marked with chocolate-red upon a yellow ground. The pretty white lip is fringed and lightly marked with red. Shown by M. Otto Beyrodt, Marienfelde, Berlin. Award of merit.

Cymbidium x lowyrianum.—*Cymbidium tigrinum* and *C. lowianum* are the parents of this hybrid. The sepals and petals are greenish yellow tinged with brown around the edges, the lip is white, marked at the base with dark velvety red. From R. I. Measures, Esq., Flodden Road, Cambewell. Award of merit.

Phaius x Haroldi.—A finely coloured hybrid Phaius exhibited among many more by Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne (gardener, Mr. H. J. Chapman).

FRUIT AND VEGETABLE COMMITTEE.

Present: Messrs. George Bunyard (chairman), Joseph Cheal, Owen Thomas, A. H. Pearson, A. Melville, T. W. Bates, S. Mortimer, Alex. Dean, Edwin Beckett, W. Pope, Horace J. Wright, George Kelf, Henry Essing, P. C. M. Veitch, F. L. Lane, J. Jaques, G. Reynolds, James Smith, W. Crump, G. Norman, C. G. A. Nix, and George T. Miles.

A box of splendid Strawberry Royal Sovereign was shown by the Right Hon. Lord Aldenham, Aldenham House (gardener, Mr. E. Beckett).

From the Horticultural College, Swanley, Kent, were shown Cabbage Lettuces Paris White and Tom Thumb.

NEW FRUIT.

Apple King Edward VII.—This is an excellent late Apple, the result of a cross between Blenheim Orange and Golden Noble. It may be used for dessert, but it is chiefly valuable as a late cooking variety. It is of a pale golden colour very similar to Golden Noble, but in general outline it partakes more of Blenheim Orange, and is said to have its flavour. The raiser's description is as follows: Great and irregular beaver, upright grower, short-jointed, very late bloomer, escaping many frosts: fruit solid, heavy, and keeps well till June; excellent for dessert and cooking. Exhibited by Messrs. W. B. Rowe and Sons, Barbourne Nurseries, Worcester. Award of merit.

FLORAL COMMITTEE.

Present: W. Marshall, Esq. (chairman), Messrs. C. T. Druery, G. Nicholson, R. Dean, John Green, J. F. McLeod, J. Jennings, James Hudson, Amos Perry, W. Howe, J. A. Nix, C. R. Fielder, Charles Dixon, W. Bain, C. Jefferies, R. W. Wallace, E. T. Cook, G. Gordon, C. E. Shea, W. P. Thompson, E. H. Jenkins, W. J. James, Charles Blick, Harry Turner, George Paul, and J. W. Barr.

Mr. H. B. May, Edmonton, again showed a mixed group of flowering and foliage plants. *Clematiss* were seen in company with *Spiræas*, *Boronia heterophylla*, finely grown; *Hydrangeas*, *Gardonia florida* in pots, were flowered and in perfect health; *Clematis indivisa lobata*, and a set of tree *Carnations* that included *America* and *Prince of Wales*, crimson. Ferns were very beautiful, and *Draacenas*, *Palms*, &c., were also included. Silver Banksian medal.

Messrs. William Bull and Sons, Chelsea, set up an excellent group of well-grown greenhouse and stove plants. We noted *Aralias* *leptophylla* and *Veitchii*, a splendid plant magnificent in colour of *Draacena Victoriae*, that which it is doubtful if a finer exists. *Thrinax elegans* was good, and very interesting in flower *Tillandsia Zalmii*. To these may be added many *Crotoms*, *Draacenas*, Ferns, and the decorative-leaved *Begonias*, all of which were in very fine condition, reflecting excellent cultivation throughout.

Messrs. H. Cannell and Sons, Swanley, staged stately *Cinerarias* in variety, many colours were represented in plants varying from 2 feet to 3 1/2 feet in height. In the decoration of the conservatory these plants should be of much service.

Messrs. Hugh Low and Co., Bush Hill Park, had a fine exhibit of Tree *Pæonies* in excellent condition and flowers of large size. These, in company with *Acacias*, *Rose* *Crimson Rambler*, *Azaleas*, and *Palms*, made quite a display.

Some excellent *Clivias* were shown by M. O. Wrigley, Esq., Bridge Hall, Bury (gardener, Mr. E. Rodgers). These were shown in the cut state and also in fine plants, some of the examples being particularly good. One variety, *Triumph*, was notable for the deep colour and fine form. *Monarch* was a wonderful head of bloom with some three dozen flowers. Silver Banksian medal.

Messrs. W. Cutbush and Sons, Highgate, N., staged a large semi-circular group of forced shrubs and other plants. In the shrubs we noted *Laburnums*, *Lilacs* in variety, *Ribes albidum*, *Spiræa confusa*, and *Magnolia amabilis*, a fine plant full of buds even on quite small plants. The flowers are white, slightly red stained in the centre of the inner sepals. Tree *Carnations* *Melba* (pink) and *Mrs. S. T. Brooks* (white) were also shown in the cut state, other *Carnations* were *Winter Beauty* (scarlet) and *General Macer*.

Messrs. R. and G. Cutbert, Southgate, staged near the entrance a very fine exhibit of forced trees and shrubs. These included magnificent examples of *Azalea mollis*, full of bloom on plants 3 feet through. *Lilacs*, both white and coloured, were also fine. *Genista alba præcox*, *Ribes*, *Laburnum*, *Guelder* *Rose* and others were also included, thus making it a most effective group. Silver-gilt Banksian medal.

Messrs. Thomas Cripps and Son, Tunbridge Wells, showed a dainty group of *Acers*, *Palms*, and the fragrant flowering *Rondeletia* (*Rogeria*) *cordata*, the latter very beautiful and free flowering. In the *Acers* we noticed *A. palmatum* atropurpureum, *tunbridgeense* (a fine dark leaved sort), *A. p. dissectum*, &c. A very beautiful group of useful plants.

Rhododendron argenteum was finely shown by Graham Vivian, Esq., Clyne Castle, South Wales. Vote of thanks.

Retiospora Sanderi is a dwarf, dense plant suited for bedding arrangements, the bushes very distinct in their deep glaucous tone. From Messrs. Sander and Co., St. Albans.

Colonel Rogers, Franklands, Burgess Hill (gardener, Mr. Murrell), showed quite an unique set of *Cyclamen*s of many shades of colour. Purest white, dusky crimson, pink, carmine, and white with crimson base were all, in magnificent condition, reflecting credit and cultural skill of the highest order; indeed, it is not possible to surpass these examples.

Messrs. W. Balchin and Son, Hassocks, showed beautifully grown plants of *Boronia megastigma*, *Tetratheca ericoides*, *Brunfelsia grandiflora*, and such things, all grown in the inimitable way of this firm, who have a notoriety for these plants.

Messrs. Peed and Sons, Norwood, had a group of *Azaleas*, *Lily of the Valley*, *Lilacs*, &c., with a few *Orchids* and *Lilium longiflorum* in the midst.

Hardy plants were shown by H. C. Fulham, Esq., Elsenham, Essex. The group included *Saxifragas*, *Primulas*, *Hepaticas*, *Ranunculids*, and such things set up in boxes with shrubs.

Carnation America, as shown by Mrs. Burns, North Mymsms Park, Hatfield (gardener, Mr. C. R. Fielder), is a grand thing; magnificent flowers of the largest size, beautifully fragrant, and finely formed. There were about 100 plants shown, and these were as good as could be desired.

Messrs. W. Cutbush and Sons showed *Tulips* in pots in great variety, singles and doubles being about equally divided, and in all the best sorts. *Hyacinths*, too, were also finely shown.

Primula obconica, of a much whiter tone than usual, came from Frank Lloyd, Esq., Combe House, Croydon, the plants well grown and most profusely flowered.

The Guildford Hardy Plant Company had a very pretty lot of the dwarf early alpine and allied plants. In this way, *Acemolae Pulsatilla*, *Aubrietia Fire King*, *Trollius laxus*, *Omphalodes verna* and *alba*, *Primula viscosa nivea*, *Draba bruncheifolia*, *Megasea Stracheji*, *Thalictrum anemoneoides*, *Anemone ranunculoides*, *A. intermedia*, *Primula rosea grandiflora*, *Saxifraga valdensis*, *S. himdiesiana* (white), *Megasea Stracheji* var. *dubia* (white, very fine), &c., were among the most beautiful in this choice and well-arranged lot.

Narcissi from Miss F. W. Currey, Lisimore, Ireland, were well shown. The collection embraced not a few of the leading ones in all sections. *King Alfred* with fine flowers was grand; *Flambeau*, very striking; *Duke of Bedford* and *General Gordon* being also notable. Independently of these there was a large array of the best known sorts all in good condition.

Roses and *Anemones* were shown by Mr. E. Potten, Cranbrook, Kent, the latter very bright and good.

Messrs. Wallace and Co., Colchester, showed pans of many good things. *Hepaticas*, *Tritelarias*, *Erythroniums*, *Trillium sessile*, *Tulipa pulchella*, *Iris reticulata*, *Narcissus cernuus*, *Anemone fulgens*, double white *Arabis*, the handsome *Tulipa kaufmanniana*, a mass of *Narcissus bicolor Empress* (very fine), and a very telling *Tulipa T. prestans*, a rich vermilion-scarlet, with almost pubescent ovate foliage. Silver Banksian medal.

Messrs. Veitch and Sons, Limited, Chelsea, again showed *Primula kewensis* very fine indeed; these are the same plants as were shown some weeks ago, and still the flowering continues. *Rhododendron veitchianum* (very pure and chaste), *Jasminum primulinum* (the new climber), and a large array of *Cineraria Feltham Beauty* in many shades of colour. Silver Flora medal.

The *Roses* from Mr. George Mount of Canterbury were a feast alone; indeed, fierer *Roses* could not be wished for even if possible. *Captain Hayward* and *Mrs. J. Laing* were superb, and equally good *La France*. Very fine, too, was *Catherine Mermet*, and *Mrs. J. Grant* was rich and remarkable in colour; indeed, a glorious group. Those shown on the tall stems were most imposing, and not unnaturally the group was thronged with admirers all the day. A gold medal was deservedly awarded.

Mr. J. R. Box, Croydon, showed a grouping of *Saxifragas*, *Sempervivums*, and others of this character in boxes, while from Misses Hopkins, Cheshire, came a group of *Primroses* and other things of a like character. In this group we noted some of the laced forms of *Polyanthus*, together with the green-flowered form—a rarity somewhat.

Mr. R. Anker, Baker Street, showed a large array of cactaceous plants in small examples in pots and in small greenhouses.

Mr. George Reuthe, Keston, Kent, showed alpine and other early hardy flowers in good condition. Of the principal we noted *Anemone blanda*, *Ranondia Nathalie*, *Primula frondosa*, *Shortia galacifolia* (very fine), *Saxifraga Grisebachii* (very good), *Rhododendrum cilatum*, and many others backed up with choice and good *Daiffodils* in flower. Silver Banksian medal.

Yet another group of alpine, and this by no means the least worthy, came from an amateur, E. A. Hambro, Esq., Hayes, Kent. In this were many charming plants, and these in goodly examples. For instance, the single crimson *Primrose* *Miss Massey*, *Primula frondosa* (very fine), *P. Allioni*, together with *P. verticillata* and *P. floribunda*. *P. viscosa nivea* was also fine. Of other interesting things *Saxifraga Grisebachii*, *S. Boydii*, *S. B. alba* (all in capital form and in splendid flower), *S. bursaria*, the minute *S. aretioides* were also noticeable. Silver Flora medal.

Next came Messrs. George Jackman and Son, Woking, also with an excellent lot of things. Of good and notable plants in this lot the handsome *Incarvillea grandiflora* (see novelties) stood out most conspicuous, truly a notable addition to this small genus. Another gem of the first water is *Onosma alba*—not *O. alba rosea*—but a pure alabaster-white flower of perfect hardiness and much promise; the very charming (*Ethiopia ovata*, with yellow flowers) (a strong trio of good things). Of the general assembly such things as *Gerbera Jamesoni*, *Iris Eucharica*, *Erodium pelargonifolium*, &c., Silver Banksian medal.

Messrs. B. S. Williams, Holloway, had *Azalea mollis*, together with *Palms*, well-flowered *Lilacs* in plenty, and other forced shrubs usual at this time.

Messrs. E. Cant and Co., Colchester, had a group of plants of *Rose Blush Rambler*. The colour is a dainty Apple

blossom-tinted shade or pinkish blush, and the flowers almost purely single. It is, we think, the most delicately tinted of this class yet seen, and is obviously very profuse in flowering.

NARCISSUS COMMITTEE.

Present: Messrs. H. B. May (chairman), Walter T. Ware, Robert Sydenham, J. Pope, W. H. de Graaf, G. Reuthe, Arthur R. Goodwin, George Titheradge, C. H. Curtis, E. Willmott, James Walker, W. Poupert, P. R. Barr, W. F. M. Copeland, J. D. Pearson, Revs. Eugene Bourne and G. H. Engleheart.

Messrs. Barr and Sons, Covent Garden, had a notable arrangement of forced Daffodils, particularly of the newer sorts, and these were displayed in a decidedly easy and graceful manner by the aid of wire frames and moss. The varieties were all represented by good numbers of blooms, and in this way a good idea of the relative value of each was obtained. Of the best sorts we noted Mrs. Moorland Crossfield, Gloria Mundi, Almira (a fine Poeticus), Monarch, the renamed white Ajax Peter Barr, Apricot, Lucifer, Maggie May, Duke of Bedford, and Mountain Maid (a drooping white and very distinct sort). Of the general collection there were many, but the foregoing are novelties of the first order in their respective sets. Many more plants were noted in the miscellaneous groups. Silver Flora medal.

Mr. R. Sydenham, Birmingham, showed Tulips and Daffodils in bowls as grown in the fibre prepared by him for this purpose, and the excellence and suitability of the arrangement was well exemplified in the flowers, which were quite the equal of those grown in soil. Silver Banksian medal.

M. Guldemond and Son, Holland, who obtained the first prize in the competition for Hyacinths, had a fine display of these plants, which bore sturdy and good and finely proportioned flowers. A few of the best are appended: Mme. Van der Hoop (white), King of the Yellows, Mme. Bistonie (yellow), Queen of the Blues, Alexander (orange), Potgieter (light blue), Hammer (yellow), King of Reds, Lady Derby (white), La Grandesse (white), Canary Bird, and Marquis of Lorne (orange-yellow). These were the finest in the group, the plants being of uniform size throughout.

Amaryllis Empress of India was well shown with a dozen scapes of its flowers and presented a fine picture. This fine example came from J. Collard Vicary, Esq., Leigh Holme, Streatham, S.W.

Messrs. Gilbert and Sons, Bourne, Lincolnshire, sent cut flowers of their fine strains of Anemones, all very showy and good, while Mr. Martin S. Smith exhibited Carnation Yellow Gal, obviously the first yellow Malmaison yet seen. The plants were small and dwarf, and doubtless we shall yet see much finer flowers of this decided break in colour. The colour is soft yellow throughout, and very pleasing in tone.

NEW PLANTS.

First-class certificates were awarded to the following:—*Incarvillea grandiflora*.—A fine addition to this small

group. The flowers are larger than in the older one, of a rich intense carmine tone with magenta. Internally the flower is conspicuous by a twice or thrice-repeated twin white line slightly feathered at the mouth and merging into the palest yellow low down in the tube. The handsome flowers appear first as a solitary bloom, and with this fading is replaced by several others on the same stem. The species is altogether dwarfer than *I. Delavayi*, and 1 foot appears its height so far as known. The leaves are also distinct and composed of somewhat ovate oppositely placed leaflets or lobes with sinuate margins. This plant may be employed with excellent results in the rockery in deep sandy soil. From Messrs. George Jackman and Son, Woking.

Anemone (Hepatica) triloba alba plena.—This is nothing more and certainly nothing less than a double white Hepatica, long talked of but never before seen except by few. The examples shown were not bits but good tufts in pans, so that there is hope of the plant having come to stay. Quite a gem in its way, and a pure white flower of large size. From Miss Willmott, Warley Place, Essex.

The following received the award of merit:—

Boronia megastigma aurea.—A charming plant that well merited the higher award, so distinct is it and so much a gain to good flowering plants. It is a yellow flowered sport from the type with all the attributes of this fine plant. Shown by Messrs. W. Balchin and Son, Hassocks, Sussex.

Narcissus Leedsii Janet Image.—Though there is much of the *N. Leedsii* in the purity of this one, there is also a leaning to the *Incomparabilis* section in the form, and broad well imbricated segments. The cup, too, is large and well formed, with a uniform lemon-yellow tone throughout. It is a good and shapely blossom. From Messrs. Barr and Sons, Covent Garden.

A lecture on photo-micrography in connexion with horticulture was given by Mr. F. M. Duncan.

* * * "Answers to Correspondents" are unavoidably held over until next week.

TRADE NOTE.

LAWN MOWERS.

MESSRS. RANSOMES, SIMS AND JEFFERIES, LIMITED, Orwell Works, Ipswich, have had long experience in the manufacture of lawn mowers. The original Budding's Lawn Mower was made in 1837, nearly seventy years ago. Since then they have made many thousands of machines, and have acquired an exhaustive knowledge of them, so that they are fully prepared to supply machines for every purpose where lawn mowers are available. In a booklet that Messrs. Ransomes, Sims and Jefferies issue, many different makes of lawn mowers are described and illustrated. Special attention is drawn to the many improve-

ments introduced in their celebrated Gear and Chain Automaton Mowers. As a proof of their confidence in the excellence of their lawn mowers, this firm allow a month's free trial. Those interested in the appearance of their lawns need a good lawn mower, and cannot do better than consult the booklet issued by Messrs. Ransomes, Sims and Jefferies, for their lawn mowers are used in the principal parks and gardens throughout the country.

PUBLICATIONS RECEIVED.

Reports of Hampstead Heath Protection Society; Woking Horticultural Association; National Amateur Gardeners' Association; Schedule of Hanley Horticultural Fête; Le Chrysanthème; The Naturalists' Library Guide; The Forest Flora of New South Wales; Hobbies' Photographic Catalogue; Boletín da Agricultura Portuguesa; Schedule of Croydon Chrysanthemum Exhibition to be held on November 3 and 4.

CATALOGUES RECEIVED.

Hardy Plants.—Mr. G. Reuthe, Keston, Kent.
Dahlias, Chrysanthemums, Cannas, &c.—Mr. E. F. Such, Maidenhead.

Stove and Greenhouse Plants.—Messrs. John Peed and Son, Roupell Park Nurseries, West Norwood, S.E.

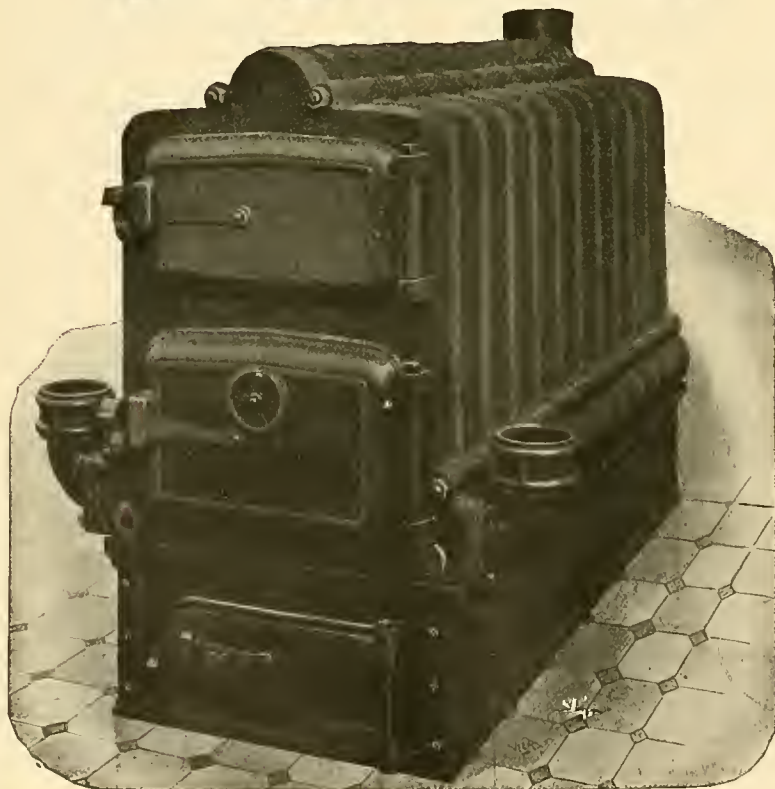
Farm Seeds.—Messrs. Ben. Reid and Co., Limited, Aberdeen.

* * * *The Yearly Subscription to THE GARDEN is: Inland, 15s.; Foreign, 17s. 6d.*

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ECONOMY IN FUEL.



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THE GARDEN

No. 1637.—Vol. LXIII.]

[APRIL 4, 1903.

CARNATIONS FOR THE GARDEN.

FEW flowers of the garden arouse greater enthusiasm than a good self-coloured Carnation, that does not burst its calyx and let out the petals to fall over in a bedraggled and unwholesome-looking mass. We were not surprised to find from several letters received that the beginning of a short series of articles upon the Carnation last week for the garden—apart from the greenhouse—is regarded as most helpful at this season, when Carnations may be planted with every prospect of a free summer display. But the time is quickly passing away for planting, and there must be no delay after this date.

SELECTION OF VARIETIES.

I will now mention a few good varieties, but must say that quite half my collection is composed of layers from plants which I have raised from seed, and these I find, with few exceptions, are more satisfactory than plants procured elsewhere. Of the latter, however, taking the colours separately, I will commence with white.

George Maquay.—This I have found without equal (readers of *THE GARDEN* will perhaps remember a photograph of this variety, which was reproduced in the number of September 13 last). I have tried many other whites with the highest reputations and have discarded them all in its favour.

Next I will mention the Countess of Paris, a lovely blush-white suffused with delicate rosy lilac. These are two of my best varieties; with me they have never failed, they are excellent in every way. The yellow varieties I find rather troublesome, especially in a wet season like last, as the blooms in wet weather soon become sodden and brown, and seem to hold the rain much more than the flowers of other colours. A yellow seedling has driven all others from the field. I have tried such good varieties as Germania, Miss Alley, The Naiad, Pandell Ralli and others, but have not had good results from any one of them; probably the soil, which is rather a heavy loam over clay, does not suit them.

Duchess of Fife is a very nice flower of a most delightful pink, but is weak in the stem. Bella Donna has a large red flower, but is rather inclined for this reason to burst. Haye's Scarlet is very good. Of the heliotrope-coloured flowers I consider Garvel Gem to be the best. Many of the fancy and yellow ground Carnations can be grown successfully in the open, and Tenella is one that I find does well. Raby Castle, so well known, is a good hardy salmon-pink, most useful for cutting, but it bursts rather badly, and I must not forget the Old Clove and Uriah Pike, both

dark crimson, although the latter is, strictly speaking, a Tree Carnation; it nevertheless does well as a border plant, but there are so many varieties, and it is so easy to give a long list of names but so difficult, in making that list, to confine one's self only to those which are known to thrive under varying conditions of soil and climate, that I will only mention the above few, which are some of the best; the great thing is to procure robust, strong growers, which will flourish in your own particular district, and get them from a colder rather than a warmer climate.

It is a great mistake to grow too many varieties, one or two of each colour being, I think, sufficient, except, of course, for the purpose of trial.

BORDER CARNATIONS FROM SEED.

I will first of all say a few words about hybridising in the open. Carnations can be hybridised in the open, although results are more certain with plants grown under glass, so if you wish to try hybridising amongst your border plants do not expect too much, as in an unfavourable season and a late district it is almost impossible to ripen the seed. I was able to save very little seed last year after spending much time in crossing some of my best varieties. If, however, the seed-pods do ripen the seed will be as good or better than that produced under glass, as the conditions under which it is ripened are more natural.

The first thing will be to decide upon the varieties to use, and endeavour to select as seed parents only the strong, healthy, free-growing, and free-blooming plants which are of compact growth, with flowers that do not burst, carried on stout, erect stems; in fact, choose those which not only give blooms of good colour and form, but which also are satisfactory as far as possible in other respects, and try and supply the shortcomings of one by crossing it with another which possesses those good qualities which itself lacks.

When the flowers of the plant intended to bear the seeds open, wait until the stigmas, which rise from the top of the ovary (the ovary is at the base of the flower, and contains the embryo seeds), usually two in number, but sometimes more, are fully grown and show themselves well beyond the petals; they then resemble the antennae of a moth, and are covered on the outer edge with soft down. Now the pollen must be searched for in the other flower selected for crossing with; some varieties give very little pollen, and others plenty. However, you must look amongst the petals for the stamens, which are slender, thread-like stems rising from the ovary and terminating in small curved caps, lightly poised on the ends. These are the anthers, which it is hoped will be covered with very fine dust (pollen).

Either collect this dust on the point of a fine camel's hair brush, and apply it to the stigma of the flower first selected (this should

be done about midday when the weather is dry and sunny), or pull out the stamens carefully with a forceps and apply the anthers directly to the stigma, rubbing the pollen off one on to the other. This is, perhaps, the better way, as when crossing several varieties the pollen would probably get mixed on a brush. After having thus fertilised the blooms they should be marked, and for this purpose I use some red string or tape, which serves as a danger signal to anyone who may be gathering flowers, and it is as well to acquaint the members of the family with the meaning of such marks. I have had seed-pods which I had carefully hybridised picked off with intentions which, under different circumstances, would have been most laudable—that is to say, of concentrating the strength of the plants into the remaining buds which were showing.

Make careful notes of each cross and watch the flowers which have been hybridised; if on the following day the blooms show signs of drooping the work has not been in vain, if they are still fresh repeat the process of fertilisation.

Bronwyfya, St. Asaph. W. A. WATTS.
(To be continued.)

NOTES OF THE WEEK.

FORTHCOMING EVENTS.

April 7.—Royal Horticultural Society, meeting of committees; Horticultural Club, paper by Mr. F. W. Burbidge, M.A., F.L.S., V.M.H., on "Horticultural Progress," 6 p.m.

April 8.—East Anglian Horticultural Club meeting.

April 15.—Shrewsbury Spring Show.

April 16 and 17.—Midland Daffodil Society. (Two days' exhibition).

April 18.—Ghent Quinquennial Show (opening day).

Horticultural Club.—At the meeting of the Club on Tuesday next, the 7th inst., Mr. Burbidge, M.A., F.L.S., V.M.H., will open a discussion upon "Horticultural Progress." The meeting is at 6 p.m.

Royal Horticultural Society.—The next fruit and flower show of the Royal Horticultural Society will be held on Tuesday, April 7, in the Drill Hall, Buckingham Gate, Westminster, 1—3 p.m. A lecture on "New or Little-known Shrubs and Trees" will be given by Mr. George Nicholson, A.L.S., V.M.H., at three o'clock. At a general meeting of the society held on Tuesday, March 24, sixty-three new Fellows were elected, among them being Lady Knutsford, Lady Meysey-Thompson, Lady Mary Currie, and the Hon. Kenelm P. Bouverie, making a total of 468 elected since the beginning of the present year.

The great Jargonelle Pear tree in Merriion Square, Dublin.—One of the finest sights possible in a city is that just now afforded by this celebrated tree. It is growing and flowering most profusely on the front of No. 14, formerly the residence of the late Sir Philip Crampton, who planted it in the year 1814, or just before the battle of Waterloo. The tree has often

been illustrated and described in THE GARDEN, but no illustration can do full justice to its beauty as now seen snow-white with its bouquet-like clusters of flowers. Not only does it flower well but fruits also profusely, some years bearing from 1,000 to over 2,000 Pears. The tree is planted in an area, and is protected by railings, so that while the fruit is temptingly near the Dublinstreet arabs it is quite safely protected. Its present owner, Mrs. Hamilton, is very justly proud of this remarkable tree, alike for its age, its position, its beauty, and its fertility. This noble tree is not alone a private possession, it is also public property, and well known and referred to by residents and visitors alike as one of the most beautiful of natural attractions to be seen in the city at this season of the year. Merrion Square is to Dublin what Harley Street is to London, the abode of doctors and surgeons, and it is to be hoped that the tree may long exist as a landmark and a memorial of one of the most expert surgeons of his day, despite the cutting and tunnelling for main drainage, gas, and electric light now going on in its vicinity.—F. W. B.

Daffodils at Surbiton.—It is now Daffodil time in the nurseries of Messrs. Barr and Sons at Surbiton, and all who wish to see these flowers at their very best should not delay. There are fields of nodding Daffodils in immense variety, and many other early flowers also, and they combine to make a picture of spring beauty such as is rarely seen.

Cineraria stellata.—From a decorative point of view this *Cineraria* is a great advance on the large flowered variety; this is now much less cared for, and is gradually being discarded for the more beautiful and more varied *C. stellata*. From a packet of seed sown in May, 1902, I have had plants from 2 feet to nearly 5 feet high crowned with lovely trusses of bloom of the most delicate tints, and invaluable for grouping in the conservatory. During the winter months when we are compelled to a great extent to rely upon forced bulbs in variety for table decoration these flowers are most welcome and attractive. Used in a cut state with Maidenhair Fern or other ornamental foliage they make a lovely table, and in artificial light the colours show to perfection, and cannot fail to please the most fastidious. It is surprising how much bloom can be cut from a well-developed plant; the long stems make them useful for room as well as table decoration. We have found that the flowers last a long time in water, which is a great advantage. The soft and varied colours of *C. stellata* are so much more pleasing to the eye than the hard colours so frequently found in the large type.—F. CLIPSTONE, *Dingley*.

Pruning Roses—a timely hint.—We are now cutting back our Teas, and I think that perhaps your readers would like a bit of advice on this subject. Although we have had a mild winter on the whole, I am surprised to find that our plants of Marie Van Houtte, Maman Cochet, and White Cochet require very hard pruning. I am sending you a piece of wood, and you will notice that although the top part is apparently all right and healthy, the last year's wood is all discoloured, and the pith a dark brown colour, therefore all this must necessarily be cut off, even if the plant is cut right down to the ground. As the top wood and shoots would be useless, and the buds if they were left would not develop, all this discoloured wood must be cut away from the plant. Dwarf Teas can hardly be cut down too much. Use the knife freely this time is our motto.—ALFRED PRINCE, Rose Grower, *Longworth*. [Rose growers should note this from so practical and excellent a rosarian as Mr. Prince. The top growth of the shoots sent was strong and deep green, but, as Mr. Prince says, "the last year's wood is discoloured," so that this must be cut away.—ED.]

Flowers in Kensington Gardens. At no period of the year does this resort look better than in the freshness and beauty of spring with its wealth of foliage and flowers. Bulbous flowers just now constitute a charming display. In the neighbourhood of the Queen's statue, and also between the broad walk and the Royal Palace Hotel, fine mixed masses of Daffodils and Hyacinths at once arrest attention. Tulips will

be in beauty shortly. The beds at Kensington Palace are just coming on. Looking now at its best is a good bed of that fine early single Tulip Vermilion Brilliant, dazzling colour. There have been some splendid groups of Crocuses, but they are over now. In the well-known flower walk are some good patches of the charming Grape Hyacinth, *Muscari botryoides*, very noticeable with its lovely deep sky-blue flowers, Jonquils, *Scilla sibirica*, *Chionodoxa Lucilie*, and Daffodils and Hyacinths appreciably add to the floral display. Of flowering shrubs looking well when these notes were taken may be mentioned *Ribes sanguinea*, *Forsythia suspensa*, *F. viridissima*, *Pyrus japonica*, and *Prunus triloba*.—*QRO.*

Royal Botanic Society.—On the 1st inst. the spring show of this society was held in the Botanic Gardens, Regent's Park, in very wet weather. It was a larger and brighter display than usual, although on account of the bad weather there were few visitors. The chief exhibits were from Messrs. Barr and Son, T. S. Ware, Limited, John Odell, W. J. Caparne, B. S. Williams, Richard Anker, William Bull and Sons, R. and G. Cuthbert, J. Hill and Son, Hogg and Robertson, William Cutbush and Son, R. H. Bath, Limited, Frank Cant, L. H. Calcutt, John Russell, Carter and Co., Hugh Low and Co., H. T. Pitt, Esq., L. H. Campbell Newington, Esq., Miss Adams, and Miss Annie Green. A full report of the show and the opening of the laboratory is held over through pressure on space.

School gardening at Norwich.—A delightful spring flower show was recently held in the Nelson Street Board Schools. The exhibits, which comprised Daffodils, Hyacinths, Tulips, and other flowers, were arranged on three long tables. It is interesting to know that the bulbs are supplied by Messrs. Daniels Bros., and the scholars, for the sum of 3d., are supplied with the bulbs, soil, and pots, the process of cultivation being carried on at home. There was a large gathering of parents, scholars, and others interested in the school to view the collection. The chair was taken by Mr. S. A. Scarlett, and there were also present Miss Page, Mrs. Peake, Messrs. W. H. Dakin, F. Henderson, J. G. Tennant, J. S. Churchyard, B. Harcourt, W. Field, C. Hubbard (head master), Mrs. Stone, Miss Richardson, Miss Austen (head mistress), and others. The chairman said that the school was the first to adopt the idea of cultivating gardens, and their success had caused other schools to follow the example. He hoped, whatever the new management might be, that the gardens would be kept up. They formed a nice change to the work of the school, and it was much better for the boys in their play time to be working in gardens than always running about the playground. They were taking physical exercise as well as learning lessons that would stand by them throughout life, for when they had gardens of their own they would know how to keep them. Mr. Field said it had afforded Mr. Clayton and himself great pleasure to adjudicate upon the exhibition. Last year was the first time a spring show was held, and on that occasion the boys did remarkably well, but this year they had surpassed themselves. Amongst the exhibits were some that would be no disgrace to the Norfolk and Norwich Horticultural Society.

Ranunculus Lingua and other notes.—Fresh from a struggle with *Ranunculus Lingua*, I would warn my dearest foe to give a wide berth to the plant unless it can have a position from which it cannot escape. In my own case it was planted by the side of a small pond devoted to Water Lilies. Here it has not only permeated the whole bed, establishing itself securely in the heart of the stools of *Osmunda regalis*, *Iris Kämpferi*, and *Gentiana asclepiadea*, but it has also spread far into the pond, from which it is even more difficult to eradicate it than from the bed. But there are generally compensations to be found, and the accidental removal of a stone by the side of the pond to get at the roots of the Buttercup has suggested a great improvement for the outline of the bed. In reference to your note as to the proliferous *Armeria*, there can be no manner of doubt that it is a genuine instance, for the gar-

dener picked the stem off the plant with the green growths on it; they are doing well, and will have to be separated. One is, unless methodical enough to enter dates in a note-book, a little hazy as to whether the season is a backward one or not, but, subject to correction, it was a surprise to find *Rhododendron racemosum* and *Iris iberica* in blossom to-day (March 23); the *Iris* is in the open, but has had glass over it most of the winter. A near neighbour of it in this garden, *Tecophylea cyanocrocus*, is in full flower, of a more than gentian-blue. Here is a case in which any so-called improvement must be a step in the wrong direction, unless, indeed, it were possible to increase the stature of the plant. Curiously enough, bulbs grown in an alpine house are not nearly as strong as those which have been left in the open ground without any protection whatever. One does not like to dogmatise, but experience here seems to point to a position in which *Omphalodes Lucilia* gets no sun after midday as being most to its liking. There are two plants here which are now and have been in robust health for at least ten years. Seedlings, at all events, much prefer to be stood in the shade. It is a great pity that so many are without the beautiful glaucous hue of the foliage of their parent. It is tantalising to read "grow *Lilium tenuifolium* from fresh seed," for at the time when the seed is ripe one probably forgets to secure it, nor do I remember ever seeing it offered in the papers, and you may certainly search many catalogues without discovering it. One would be grateful to any nurseryman who would jog one's memory at the right time. An alpine collector of great knowledge and experience was expatiating on the merits of *Gentiana aestiva*, as he said "a glorified *G. verna*," much larger in size and equally beautiful in colour, and I gathered requiring the same treatment, for they grow in company. The name occurs in the Kew "Hand-List of Herbaceous Plants" (1895), but has disappeared from the new edition, nor is it mentioned in Nicholson's Dictionary nor in the Century Supplement. Can any correspondent suggest where it could be obtained? It is not in Froebel's catalogue. While on *Gentians*, might I ask if it is a common experience to be able to grow *G. Kurroo* permanently in the open without protection? One instance I know of in Gloucestershire. It is such a beautiful plant that to be able to add it to the list of really hardy things would be a great gain. To return to *Iris iberica*, the addition of lime or its equivalent to the soil, at the suggestion of the late Mr. Ewbank, has had a most beneficial effect as far as this *Iris* is concerned, and in a less marked degree in the case of others, such as *bismarckiana*, *Gatesi*, *Leichtlini*, *lupina*, *l. var. Schadach*, *Suworowi*, and others, but *urmiensis* has refused to exist, and *paradoxa* has come through much lessened in size. *I. susiana*, after making vigorous growth all through the winter, is now beginning to betray signs of going off; the leaves begin turning yellow just at the ground line, and from that time the decay advances very rapidly. If the experience of others is the same, any suggestions as to the best way of combating the evil would probably be widely welcome. Can anyone suggest where these Crocuses may be obtained? *Caspicus*, *Boryi*, *Biliottii*, and *aerius*?—A. C. B., *Reading*.

A note on Hepaticas.—Hepaticas when well grown are so universally admired, and at the same time so many people seem to find some difficulty with them, that I do not think the following note will come amiss. I fancy that the chief reason of failure is that they are planted at wrong times, either too early or too late. My own experience is that the best time for dividing or transplanting is when they are in full flower, at which time leaf growth is just commencing. I have shifted many old-established clumps in this way, and have also lifted old clumps and cut them up fairly small, and in neither case have I ever found the plants receive the least check, or that their removal has been prejudicial to their flowering the following season. As to position, they prefer (even here in North-Eastern Scotland) a northern exposure and a fairly moist soil. My soil here is a light sandy loam. A little old leaf soil dug in before planting is beneficial.—N. B.

New Horticultural Hall.—The council have accepted a tender from Messrs. Mowlem and Co. for £2,340 for the excavation and foundations of the hall. The contract has been signed and sealed.—W. WILKS, *Secretary*.

Recent contributions to the hall have been received from Sir John T. D. Llewelyn, £105; Lady Wantage, £100; and W. E. Gumbleton, Esq., £50.

Midland Daffodil Society.—The show of this society, which is always looked forward to in the Midlands and elsewhere, will take place on Thursday and Friday, April 16 and 17, owing to the earliness of the season, and not on April 23 and 24, the original dates.

Rondeletia cordata.—This stove or intermediate house shrub, which was shown in good condition at a recent meeting of the Royal Horticultural Society, might be more grown than it is, for its cultural requirements are not exacting, and bearing as it does its pretty flowers early in the spring they are sure to gain many admirers. It is a near relative of the Bouvardias, but is altogether a larger growing plant. It forms a bold growing shrub, clothed with stout leaves, the largest being about 6 inches long and half as much in width. The flowers, which are borne in terminal clusters, somewhat resemble those of the Laurustinus, but they are larger. In the bud state the colour is deep pink, but the interior of the flower shown after expansion is bluish, with yellow hairs in the centre. It may in some old-fashioned gardens be met with as *Rogiera cordata*. Cuttings of the half ripened shoots strike root without any difficulty, and the plant grows well in a mixture of peat, loam, and sand. It is a native of Guatemala, from whence it was introduced in 1844.—T.

Sinningia (Stenogastra) concinna.—This is the latest name for this charming little Gesneriad, though it is far better known as *Stenogastra concinna*. It will certainly not appeal to the lover of huge flowers, yet it is quite a little gem. Like many of its allies it forms small tubers, which pass the winter in a dormant state, then with the return of spring and additional moisture the little roundish deep green leaves are pushed up just clear of the soil, and are well overtopped by the slender flower-stems, which reach a height of about a couple of inches. The individual flowers are tubular, less than 1 inch long, and with a widely expanded five-lobed mouth, the two upper lobes being purple, and the remainder, which are white, are dotted with purple towards the centre. Being a shallow rooting plant it is seen to the best advantage when grown in a pan, as this admits of grouping several of the little plants together. A good open soil is necessary, such as equal parts of peat and loam with an admixture of rough sand and nodules of charcoal. During winter the soil must not be allowed to become too dry. It is a native of Brazil, from whence it was introduced by Messrs. Veitch in 1860. A stove temperature is necessary.—H. P.

Late dessert Apples.—Notwithstanding that late varieties of dessert Apples are keeping fairly well there is certainly in our case a want of flavour, and this is especially pronounced in such varieties as Brownlee's Russet, Court Pendu Plat, Ross Nonpareil, and Sturmer Pippin. The defect without doubt results from the lack of warmth during the growing and ripening seasons, and was enhanced by the cold nature of our soil. Sturmer Pippin is invariably our best late-keeping dessert Apple, and is usually a heavy cropper, but requires a warm season to fully develop its rich flavour, size, and bronzed cheek, and without the latter attribute its appearance is uninviting. It succeeds well here as a bush or pyramid upon cultivated land, but some of the best fruits of it that we have grown have been derived from standards in a grass orchard. It does remarkably well under this condition, and attains its largest size, but under any condition its fruit must be allowed to hang very late upon the trees, for if gathered before it is quite fit it shrivels and fails to reach, even in favourable seasons, its highest degree of flavour. Lord Burghley is sometimes deservedly highly recommended, but with us, grown as a bush, which is

our only mode of treating it, it is an extremely shy bearer, in fact the trees, three in number, are not worth the space they occupy. Newton Wonder has again proved a valuable late keeper, and lately, when wanting some handsome dishes of Apples for dessert, we dished some medium-sized fruits of it, and were pleased to find that they were appreciated and freely partaken of. In future we shall certainly select suitable sized fruits of this grand variety and keep them expressly for dessert. Although it is correctly classed amongst culinary kinds its appearance and flavour at this season of the year justify a place being found for it on the table.—T. COOMBER, *Hendre Gardens*.

Saxifraga oppositifolia at Grasmere.—During a recent week-end visit to Grasmere I was very much interested in the plants in flower upon Mr. Robert Hayes' garden wall. The rainfall in the Lake District is a very great advantage for those who are interested in wall gardening. What struck me most were some fine patches of *Saxifraga oppositifolia* in full bloom. This is a most charming wall plant; indeed, whether grown as a wall plant or in the open border, it is one of the choicest plants to be found in the British flora. What is more interesting still is that it is one of our native plants of the Lake District mountains. It is found upon the rocks near the highest points of Helvellyn and Scawfell. It is also fairly abundant up the western summits of Ingleborough and Pennyghent, where this plant finds its most southern limit in this country. In Scotland it is fairly common upon all the western slopes of the Breadalbane, at an elevation of from 3,000 feet to 4,000 feet above the level of the sea. It is also found upon the Clova Mountains, and last year the present writer found it upon all the mountains of Inchnadamph, in West Sutherlandshire. It must have a little piece of ground to itself: given this on a little bit of specially prepared rockwork or a suitable wall and it will repay one for all the trouble.—W. H. STANSFIELD, in the *Lakes Herald*.

To make Hydrangea flowers blue.—If Hydrangeas are grown in a tolerably strong maiden loam which contains a portion of oxide of iron the flowers will come blue without further trouble: but the plants will require to be potted into this said compost and continually grown in the same from the cutting pot. Watering with a solution of alum for some time previous to flowering will benefit them greatly. The solution may be made by mixing at the rate of 1oz. of alum to a gallon of rain water. Plants should be struck from cuttings of the soft wood from February to May that are required to bloom in those months the following year. It is advisable to flower them in 7-inch pots, allowing the plants to produce one cluster of flowers, removing side shoots to strike, as the old plants are not to be depended upon to produce blue flowers the second year.—F. J., in the *Florist's Exchange*.

THE ROSE GARDEN.

NEW ROSES FOR 1902-3.

CAPITAINE SOUPA (Hybrid Tea).—Vigorous, with thick, upright growth; foliage deep green; flowers bright red, very large and double, borne on strong, straight stems; opens well; neither moisture nor great heat affects it; will be in request both for cut flowers and for grouping; the result of a cross between *Mme. Caroline Testout* and *Victor Verdier*. Shown at the Bureau of the Association Horticole Lyonnaise, obtained a first-class certificate of merit and silver medal, also obtained a similar award from the Société d'Horticulture Pratique du Rhône. This variety will be sent out by M. Laperrière, Rose grower, Champagne-au-Mont d'Or (Rhône).

Mme. Jean Bonnet (Tea).—Vigorous, bushy, with deep green foliage; elongated buds; medium-sized, full, well-opened flower; in the spring pink, sometimes almost white; in summer and autumn

a beautiful deep pink, shaded with violet. Sometimes on the same stem there are flowers of quite different shades.

Mme. Jean Chevillon (Tea).—Vigorous, with few thorns; foliage deep purple; long buds; large flower, full, well-opened; colour white, slightly tinted with pink, the centre carnation-pink, shaded golden; free-flowering; good for cutting.

Mme. Eugénie Giat (Hybrid Tea).—Vigorous, much branched, few thorns; compact foliage of a pretty clear green; buds round and very large; flowers cup-shaped, large, and full, sometimes enormous; colour white or cream-coloured, centre shaded with salmon and gold; very floriferous; preserves its foliage till late in the season, rather rare with Hybrid Teas; to be recommended for grouping and cutting.

Mme. Elisa Robin (Hybrid Tea of the Antoine Rivoire class).—Vigorous, almost without thorns; foliage of a beautiful deep shining green; large, full flower, white, slightly salmon tinted, and shaded with carmine when fully open; flowers last long, petals symmetrically arranged and lanceolate, which give the flower the appearance of a Cactus Dahlia; a beautiful variety. The above four varieties are being sent out by M. Ant. Godard, Rose grower, Saint Didier, near Thoissey (Ain).

Lilly et Margot (Multiflora).—Flower magenta-red, middle petals lined with white; fairly large flower, full; a cross between *Petit-Constant* and *Fran Syndica Røeloffs*.

Frau Louise Humbser (Tea).—Flower orange-salmon, tinted with vermilion, pinkish white, large, full, very fragrant; elongated bud; plant vigorous, very floriferous; a hybrid between *La Sylphide* × *President Constant*.

Léon Leroux (Tea).—Flower rose, tinted with copper, shaded carmine, carmine-yellow at base of petals, very large and open, fragrant; long bud on strong stalk; very free-flowering; product of *Gloire de Dijon* × *Luciole*.

Mme. Adèle Hamcau (Tea).—Flower carmine-apricot, with yellow tinge, large, cup-shaped; elongated bud, opening well; moderately vigorous, very floriferous; a cross between *Mme. Caro* × *Luciole*.

Edmée et Roger (Hybrid Tea).—Flower flesh-white colour, centre salmon-pink, large, full; long bud, which opens well on strong stalk; vigorous and floriferous; product of *Safrano* × *Caroline Testout*.

Isabelle Lejeune (Hybrid Tea).—Whitish pink, sometimes orange-pink, large, cup-shaped; long bud; vigorous and free-flowering; *Marie Louise Poiret* × *Mme. Ravary*.

Souvenir d'Anne Marie (Hybrid Tea).—A yellowish salmon flower with cream-white border, large, full, and fragrant; long bud on erect stem; vigorous and free blooming; product of *Safrano* × *Caroline Testout*. The above seven varieties have been sent out by MM. Ketten frères, Rose growers, Luxembourg (Grand-Duché).

Marguerite Gigandet (Tea).—Very large coppery yellow flower of many tints; well-formed bud, tinged with red on opening; very beautiful foliage; vigorous and very floriferous, fragrant; *Franciska Kruger* × *Reine Emma des Pays-Bas*.

Marie Segond (Tea).—Medium-sized, full, well-formed flower, clear or bright pink, tinged coppery carmine; pretty buds and foliage; a bushy and vigorous plant, continuous bloomer, and fragrant; *Comtesse de Lense* × *Lazarine Poiseau*.

Professeur d'André (Tea).—Very large flower, thick petals of perfect form, deep carmine-pink, marbled with white; beautiful bud; vigorous and floriferous; *Papa Gontier* × *Gloire de Dijon*.

Yvonne des Buffards (Tea).—Large, full flower, thick porcelain-pink petals, the edges carmine, the centre amber-tinted; very elegant bud; beautiful foliage; *Homère* × *Papa Gontier*.

Lady Waterlow (Hybrid Tea).—A very large and elegant flower of a clear salmon-pink colour, with large crimson-edged petals, the centre golden; well-formed bud; large and beautiful foliage; vigorous and free-blooming; France '89 × *Marie Lavalley*. The five preceding varieties are sent out by MM. P. et G. Nabonnand, horticulturists, Golfe-Juan (Alpes-Maritimes).

Jules Vacherot (Tea).—A vigorous plant, deep green foliage; large, well-made flowers, red, shaded with brown, sometimes with white; one of the best dark-coloured varieties in the Tea section.

Mlle. Aino Aoké (Hybrid Tea).—Vigorous shrub; clear green foliage; large, full, well-shaped flowers of a beautiful carmine-pink of the Grace Darling type, but much clearer and more beautiful.

Arsène Lefebvre (Climber).—A very vigorous plant; deep green foliage; large, full flowers of perfect shape of a fine brilliant vermilion-red; very beautiful.

Marthe Dupuis (Climber).—Vigorous, light green foliage, good shape, fine appearance; full flowers of a beautiful bright pink; very floriferous.

Vicente Peluffo (Climber).—Very vigorous shrub; beautiful glaucous green foliage; very large, full, and well-formed blossoms of a clear cerise-pink, shaded with deeper colour; good climber. The five preceding varieties are to be distributed by MM. Leveque and fils, horticulturists, Ivry-sur-Seine (Seine).—*Les Roses*.

NEW PLANTS IN 1902.

GREENHOUSE AND STOVE PLANTS, FERNS, &c.
In the following list "F.C.C." indicates first-class certificate; "A.M." award of merit.

Acacia cultriformis.—This is one of the most beautiful and graceful of all the Acacias.

flowers approach to whiteness, and are then freely dotted with brownish spots. It is, we believe, a Brazilian plant, and rarely seen in bloom. A.M., January 14. From Sir Trevor Lawrence (gardener, Mr. W. Bain).

Asparagus japonicus.—Some doubt was expressed about the specific name here given, but the plant with its dense dark green foliage is distinct. A.M., January 14. From Messrs. H. and J. Elliott, Hurstpierpoint, Sussex.

A. myriocladus.—This is also distinct, and of much value either cut or in general decoration. The plants are furnished with densely clothed fronds, and the general appearance of a dark green colour is very pleasing. F.C.C., June 24. From Mr. R. Greenfield, jun., Leamington Spa.

Begonia alba grandiflora.—This is one of the white sports from Gloire de Lorraine; the flowers are of large size and delicately tinted with palest Apple blossom on the outside. The variety most closely approaches that known as Turnford Hall, and in all probability the difference would be slight were the two grown under similar conditions. A.M., January 28. From Mr. Lange, Hampton, Middlesex.

Cordylone Mayi.—A pretty compact and

about 12 inches high, as growing in the pots as shown. The nearly triangular leafage is neat and glossy, and at its widest part about 1½ inches broad. The flowers are of medium size, produced freely in terminal racemes, and purplish with violet shading, the golden anthers in their prominence being quite effective. A good plant for a greenhouse in winter. A.M., January 14. From Messrs. James Veitch and Sons, Limited, Chelsea.

Ercezia aurea.—This is very charming. The flowers are of a rich golden-yellow and freely produced; indeed, with regard to flowering it is equal to any member of this justly prized race of greenhouse flowering plants. Whether as a pot plant or in the cut state it is most beautiful. We note with pleasure its robust growth. A.M., May 28. From Messrs. Wallace and Co., Colchester.

Fuchsia triphylla superba.—A very fine addition to good flowering greenhouse plants. The species involved in this instance was always regarded as a good plant by those capable of growing it to perfection. A tendency to red spider and thrip often prevented so desirable a plant being seen at its best. In the new comer the intense colouring of the flowers is quite a remarkable feature, to say nothing of the great profusion in which they are produced. The colour is of the richest and deepest crimson. Combined with this richness and intensity of colouring, the drooping character of *F. corymbiflora*, so well seen in the plant, only enhances its value from a decorative standpoint. We believe it was set up as *F. t. hybrida*, which is perhaps not quite obvious. The varietal name *superba* was therefore substituted. We think it right to place this on record, as this fine plant has been reported under the two names "hybrida" and "superba." A.M., June 10. From Mr. Leopold de Rothschild, Gunnersbury, and Mr. J. T. Bennett-Poë, Cheshunt.

Hamantus imperialis.—This is perhaps one of the finest of the genus. As a winter flower it is of great value. It is one of the set of which *H. mirabilis* is a conspicuous feature. The colour of the flowers is salmon-red, the segments of the flowers about half an inch wide and probably twice this in length. Such brilliant colour as this in a large conglomerate head is naturally most effective in winter. A valuable characteristic is that the flowering is accompanied by the foliage. F.C.C., January 28. From M. Linden, Brussels.

Jacobinia (Cyrtanthera) chrysocephala.—A first-rate winter-flowering plant, suitable for the warm greenhouse. It is a comparatively recent introduction from Mexico, and perhaps one of the most brilliantly attractive of its race. This showy Acanthad attracted a good deal of attention when exhibited in the late autumn months, when it would appear that only the *Chrysanthemum* held sway. The flowers, which are of a bright orange-golden hue and disposed in a terminal clustered corymb, stand fully clear of the leafage. The ovate acuminate leaves are characterised by the vivid colouring of the midrib and the nerves on the under surface. Certainly a worthy ornament in the greenhouse in the waning days of the year. F.C.C., November 18. From Messrs. James Veitch and Sons, Limited, Chelsea.

Kalanchoe marmorata.—Though quite novel, it is highly probable that this well marked species will awaken more interest in the botanical student than the gardener. The plant is about 4 feet high, terminating in a corymb of creamy-white tubular flowers, not unlike in shape those of the well-known *Nicotiana*. The thick succulent-like leaves



THE GREAT PALM HOUSE AT GLASNEVIN.

Some excellent flowering sprays of the plant were set up under the name of *A. harpophylla*, the name being changed to the above. The yellow flowers are abundantly produced in terminal and axillary racemes, and when allowed freedom will droop for several feet, and are covered with flowers. The phyllodia are glaucous grey, and in shape like a chopper. A most valuable greenhouse species. F.C.C., February 26. Shown by Mrs. Dennison, Little Gaddesden, Herts (gardener, Mr. Gentle).

Anemone St. Brigid.—The award in this instance was given to the strain, which is of much excellence, embracing a large variety of colours in flowers of the finest form. It was generally agreed that nothing so fine had ever before been seen in this way. A.M., May 6. From Messrs. Reamsbottom and Co., Alderborough Nursery, King's County, Ireland.

Amaryllis Imperatrice de Bresil.—This fine plant may possibly prove to be a variety of *Amaryllis (Hippeastrum) procerum*, but it is certainly of much merit. The long stem-like bulb is 15 inches long, and terminates in an inflorescence bearing about four long deeply-cut pendent flowers of a blue colour shaded with lilac. Internally and near the base the

well-coloured variety. Even in the small examples shown the colouring was good and uniform throughout. As a plant for table and other ornamental work this has much to recommend it. The mature leaves are 2 inches broad and strongly margined with red. The younger leaves are fully coloured at first. A.M., April 22. From Mr. H. B. May, Edmonton.

C. Her Majesty.—A variety with bronzy green foliage with reddish scarlet colouring on the margin. It is a plant of some vigour, and should prove useful in decorations. A.M., July 8. From Mr. H. B. May, Edmonton.

C. indivisa B. Elder.—This, as implied in the name here given, is a form of *C. indivisa*, and only differs from this kind by the fuller or deeper bronze colour of the graceful leaves. A.M., August 19. From P. Elder, Esq., Ham, S.W.

Caladium Gircaud.—A dwarf-growing kind with novel and distinct markings. The leaves are greenish and cream with scarlet blotches. A.M., August 19. From Messrs. W. Bull and Sons, new plant merchants, Chelsea.

Ecucum Forbesi.—A new species from Socotra. The plant is bushy, compact, and

are of a greyish colour with brown spots. Botanical certificate. November 4. From Messrs. James Veitch and Sons.

Lachenalia W. E. Gumbleton.—A showy and meritorious variety. It is, we believe, one of many seedlings as the outcome of careful hybridising. The flowers are golden-yellow and very rich in colour. In the bud stage there is apparent an orange-red tone that is also striking. A.M., March 11. From Mr. F. W. Moore, Glasnevin Botanic Gardens.

Lobelia coronopifolia.—This beautiful species appears to have been introduced from the Cape as long ago as 1752. Judging from its habit of growth it should make a charming plant for trailing in window-boxes, &c. The examples shown were 18 inches high, and the large flowers of a bright gentian blue tone with white centre; as exhibited it was a most graceful and pretty plant. A.M., July 8. From J. T. Bennett-Poë, Esq., Holmwood, Cheshunt (gardener, Mr. Downes).

Maranta insignis.—A rather neat and useful foliage plant. The tapering, undulated leaves are about 1½ feet long, narrow, and of a bright green, on which the variously formed olive green blotches are a conspicuous feature. A.M., July 22. From Messrs. W. Bull and Sons, Chelsea.

Nymphaea Mrs. Ward.—This is in all respects a form of *N. stellata*, with the same starry and pointed petals. The flowers, however, are of a pretty tone of rose-pink, and therefore a new shade of colour in this set. A.M., September 2. From Mr. Leopold de Rothschild, Gunnersbury (gardener, Mr. J. Hudson).

N. W. Stone.—This is also a form of *N. stellata* and a good addition to this valuable section of aquatics. The predominant colour is violet-blue, shaded with purple. It is certainly the most showy kind we have seen. F.C.C., May 28. From Mr. Leopold de Rothschild, Gunnersbury.

Primula imperialis.—In colour this is quite unique among the species from the higher altitudes. When well grown the plant is almost as vigorous as *P. japonica*, and resembles this well-marked species in the production of its whorl of flowers. The colour is golden and almost orange-gold. In leaf character the plant comes nearer to *P. denticulata*, though perhaps less bold generally than some of the varieties of that species. The above is a native of the Himalayas and Java, and so far as is yet known has not proved hardy in these islands. A.M., May 28. From Messrs. J. Veitch and Sons, Limited, Chelsea.

P. The Duchess.—The fact of this well-marked form of *P. sinensis* receiving the award of merit is at once proof of its distinctive worth, for in granting the award the floral committee departed from its usual practice. The chief attraction in this kind is the warm rose colouring that encircles the clear and distinctive yellow-green eye, while the flower is bordered with white. It is quite a new departure in the Chinese Primulas. A.M.,

January 28. From Messrs. Sutton and Sons, Reading.

Phyllocaetus Ewita.—This is a large, well-formed, and showy member of this group. The colour is deep rose shading to rose-scarlet in the outer portion, the inner parts displaying a rich salmon-pink shade. The combined tints make up a pleasing flower. A.M., May 28. From Messrs. J. Veitch and Sons, Chelsea.

Pelargonium Colonel Baden-Powell is one of the Ivy-leaved section, and a variety of considerable merit. The noteworthy features of the variety are great freedom of flowering and large size of blossoms. The colour is flesh or blush pink with occasional stripes of carmine

Pteris Wimsetti multiceps.—This is a much crested form of the well-known *P. Wimsetti*. The fronds are finely cut up into segments or divisions rather than heavily or densely tasselled, and in this way the value of the plant is much enhanced. As a decorative kind for pot work it is excellent. A.M., April 22. From Messrs. J. Hill and Son, Lower Edmonton.

Sterculia russelliana.—An excellent plant for table and general decorative work. The general aspect is that of an *Aralia*, differing from these in having plain or smooth and not ribbed leaves, the latter being of a pale glaucous hue. When quite small and in 5-inch pots the plants if well furnished and coloured would be very pleasing. A.M., September 2. From Mr. J. Russell, nurseryman, Richmond, Surrey.

OUR BOTANIC GARDENS.

GLASNEVIN, DUBLIN.

A WELL-KNOWN and successful landscape gardener long ago told me that the gardens at Glasnevin were naturally the most beautiful he had seen in Great Britain and Ireland. They have not the wide extent of Kew, nor the wonderful position of Edinburgh, but in its natural slopes and undulations of surface, in sylvan beauty, and in historical associations Glasnevin has long held and still holds a position quite unique amongst the scientific gardens of northern Europe. The beautiful garden here owes its inception to the Royal Dublin Society, who established it a little over a century ago. It was eventually given over by the society to the Science and Art Department, and more recently it has again passed to the Department of Agriculture and Technical Education for Ireland. The total area is about fifty acres, and the river Tarka passes along its lower margin, and supplies the water for the Lily pools shown in one of our pictures. Glasnevin has long been noted for its rare coniferae and other fine trees and shrubs, and it is a matter of extreme regret that the hurricane of February 26 and 27 worked so much havoc as it did amongst them. The velocity and pressure of the western gale was unprecedented in its force, and all around Dublin trees have been uprooted by the thousand. The lowest reading of the barometer between three and four o'clock a.m. on the 27th was 28.49, and the force of the gale varied from seventy to over eighty miles per hour.

The following list, kindly given to me by Mr. Moore, names only a few of the losses in the shape of fine specimen trees:—*Ulmus americana*, *Quercus Turneri*, *Arbutus* (several), *Pyrus domestica* (very fine example), *Sequoia sempervirens*, *Cedrus atlantica*, *Abies cephalonica* (noble plant in rockwork), *Abies nobilis* (one of the finest trees near Dublin),



MR. FREDERICK WILLIAM MOORE, A.L.S., V.M.H., M.R.I.A.
(Curator of the Glasnevin Botanic Gardens.)

or rose. A.M., May 6. From Mr. Charles Turner, Slough.

Polypodium irioides ramo-cristatum.—A very bold and striking plant. It is nearly 2 feet high, and from the tapering base the fronds rise and spread out in a varied cristate fashion at the termini. A.M., July 8. From Messrs. W. Bull and Sons, Chelsea.

P. conjugatum.—A remarkable species from Australia. The fronds are nearly 4½ feet in length, with a strong central rachis supporting the winged pinnæ on either side. The huge shaggy rhizome and the fronds tightly clasping in an almost amplexicaule fashion is also a marked character of the plant. F.C.C., September 23. From Messrs. W. Bull and Sons, Chelsea.

Pinus pallasiiana (very large trunk), *P. Laricio*, *P. sabiniana*, *P. Hamiltoni*, *Cupressus macrocarpa*, and three Yews in "Addison's Walk."

The mention of "Addison's Walk" reminds one of the historical importance of Glasnevin and of its celebrated literary characters of a century or more ago. Tickell the poet had a house here; Addison, Dean and Mrs. Delany, Swift, and others formed the society of the neighbourhood in their day. Mrs. Delany was esteemed by royalty and the nobility, and was fond of botany, as all who have glanced through her wonderful books, illustrated by cut-paper flowers, now in the print room of the British Museum, can testify. Sir Joseph Banks, amongst others, referred to them with great admiration. The noble old Yew tree walk in Tickell's grounds is said to have been a favourite promenade of Addison, hence its popular name to-day. Despite the three trees blown down in February and now replaced as well as may be, this Yew avenue is one of the most charming features of the garden of to-day, and is well illustrated in the late Dr. John Lowe's "The Yew Tree in Great Britain and Ireland."

Among the earlier curators were Mr. Underwood and Mr. Ninian Nevin, who eventually became a celebrated landscape gardener and nurseryman in the immediate neighbourhood. One of his sons became curator of the Botanical Gardens at Hull, and the other is manager of one of the most important of the banks in Dublin. The real importance of Glasnevin as a scientific garden began when the late Dr. David Moore was appointed its director in 1838, a position he held until his lamented death in 1879. Previous to occupying the director's chair at Glasnevin Dr. D. Moore had spent several years as botanist to the Ordnance Survey of Ireland, and his published works on "British Grasses," "The Cybele Hibernica" (with the late A. G. More), "Synopsis of Irish Mosses," "Report on Irish Hepaticæ," "Irish Plants at Glasnevin," &c., are well known.

So far as I know, Dr. D. Moore's son, the present director of Glasnevin, who succeeded his father in June, 1879, is the only living

instance of a director having been born in the garden he now so ably superintends. After going to school in Germany for some years Mr. F. W. Moore studied engineering in the Dublin College of Science, but evidently had his father's love of botanical pursuits, for we next hear of his studying horticulture in Van Houtte's then celebrated nurseries at Ghent, and at the same time attending classes in the State School of Horticulture, at that time situated in the Botanic Gardens. He next proceeded to Leiden, and studied in the Botanic Gardens and Laboratory until October, 1876, when he was appointed curator of the College Botanic Gardens at Dublin, whence he proceeded to Glasnevin, as already noted above. His first work in Glasnevin with his father began in vacation time, when he checked labels in the plant houses, and his first practical work was pricking off seedling Bertolonias in Van Houtte's nursery, where he handled B. Van Houttei, still one of the finest varieties, for the first time. To-day Mr. Frederick Moore is well known as one of the keenest and most successful cultivators of rare plants in Europe, as the extensive collections now growing at Glasnevin amply prove.

The cultural progress made in Hellebores, Pæonies, Irises, Lachenalias, Cinerarias of the stellate section, Sarracenas, &c., has been very great at Glasnevin during recent years, and the collections of Orchids, Palms, Cycads, Ferns, Cacti, and stove and greenhouse plants are amongst the best we know of in health and vigour. The special collections of Masdevallias and Cyripedes are probably unsurpassed in Europe in health and completeness. There is a very large collection of botanical Orchids here, as well as examples of all the more showy kinds. *Neobenthamia gracilis* and *Eulophiella peetersiana* are both now in flower. The former is of Reed-like habit, with large, pendent, terminal clusters of small white and fragrant flowers. The *Eulophiella* looks like a glorified Phaius, and bears twenty-eight flowers on a scape 5 feet 4 inches high. Each flower is as large as those of *Lælia furfuracea*, and the plicate leaves are fully 4 feet long. There exists here, perhaps, the finest specimen of the

Chilian *Philesia buxifolia* ever seen in cultivation. It is growing in an enormous tub of peaty compost, and is 5 feet high or so and much more in diameter. There is in one of the private hot houses a choice collection of *Nepenthes*, and in a cool house one of the extremely few living plants of *Nepenthes Rajah* from the highest mountain range of North-west Borneo. The beautiful Californian *Darlingtonia*, rare Sundews or *Droseras*, and *Cephalotus follicularis* also do well in the same house as that in which *Nepenthes Rajah* is grown.

Two of the largest of the plant houses at Glasnevin consist of a span-roofed greenhouse adjoining the Palm house, the central bed being filled with *Camellias*, *Rhododendrons*, and other flowering shrubs. At one end of the central bed are a dozen or more of the largest and most healthy specimen *Gleichenia Ferns* I have ever seen since the days when Mr. Sam Mendel grew them so well in a special greenhouse at Manchester. The side stages of this house are aglow every day in the year with all the best varieties of flowering plants and bulbs, such as zonal *Pelargoniums*, tuberous *Begonias*, *Calceolarias*, *Primulas*, *Cyclamens*, *Ericas*, *Epacris*, *Cannas*, *Fuchsias*, *Salvias*, and many other things. In Ireland the old name for what is now called a greenhouse or conservatory was "a blow house," i.e., a house full of bloom and colour. Our old London cry of "All a-growin' and a-blowin'" is a lingering remainder of the same word or expression, and certainly the "blow house" at Glasnevin is a rival to even No. 4 at Kew. The other house referred to is a curvilinear plant stove full of flowering and foliage plants that require more warmth, and here also a constant succession of gay flowers are to be seen. The *Chrysanthemum* show at Glasnevin, another floral feature of the garden year, was formerly held in this large house, but last season the *Chrysanthemums* were arranged in the Victoria or aquatic house, and attracted visitors, both lay and professional, by the thousand.

One of the strong points at Glasnevin is the bulbs on the grass, *Snowdrops*, *Narcissus*, *Crocus*, *Scilla*, *Anemone*, and many other things. There is a richly stocked rock or alpine garden, and a very fine and extensive collection of British Ferns. The larger growing bulbs, such as *Crinum Moorei*, *C. Powellii*, *C. yemense*, and others, thrive here luxuriantly in the open air near to hot house walls. *Kniphofias*, *Agapanthus*, *Lobelia*, *Tupa*, *Gerbera*, rare *Tulips*, and *Iris* also flower profusely on narrow borders running in front of the plant house walls. On the grass lawn at the door of the Orchid house range is a stone-covered bed of the Tyrolese *Daphne* (*D. blagayana*), which at the present time must have 2,000 or so of its tufts of fragrant white flowers diffusing their spicy odour all around the plants, and forming one dense mass about 9 feet long by 7 feet wide.

The large herbaceous plant borders leading from the greenhouse to the rock garden are most attractive from May to October, but are gay now with bulbs and other showy spring flowers. In autumn these borders when aglow with *Sunflowers*, *Lobelias*, tall sheaves of *Delphiniums*, *Asters*, and a hundred and one other flowers are a sight worth going miles to see, and the same remark is true and applicable to the wealth of varied autumn colour afforded by the large and varied collection of deciduous trees. Even in the depth of winter the golden and red barked *Willows* beside the river glow like a rainbow as seen against the sky. The ornamental water here is also very Nature-like, with its fringe of bog and marsh-



Cercis Siliquastrum (Judas Tree). *Pterocarya caucasica* (Caucasian Walnut).

loving vegetation, and most of Marliac's best coloured Water Lilies grow and flower luxuriantly in the deeper pools. One part of the garden is devoted to a well-arranged collection of garden herbs or forage crops, such as Clovers and grasses, &c., for the benefit of farm and garden students who now study here and at the Albert Farm under the new Agricultural Department. The glass houses, both public and private, are well planned and extensive, one very large and imposing curvilinear range of iron and glass having been built by the late Mr. W. Turner, the same engineer who made in Ireland the iron framing of the great Palm house at Kew. A delightful little garden within a garden, consists of a walled-in area of an acre or two used as a nursery or reserve ground, and filled with all sorts of interesting things, from terrestrial Orchids and Trilliums to rare bulbs, Aconites, and Apples. No one can look round Glasnevin without admiring the practical thoroughness with which Mr. Moore treats everything he grows. The object-lesson beds of Strawberries, Gooseberries, and the larger fruit trees, Apples, Plums, and Pears, are as clean and as trimly pruned and handled as one would expect to find them in a model market fruit garden.

There are many rich and beautiful, well kept, and well stocked gardens in Ireland, both public and private, but there is only one Glasnevin, and no garden tourist or visitor to Dublin should miss spending a few hours there. Now that full collections of rare and curious plants have been banished from nurseries and private gardens alike, it is to botanic gardens that we must look for plants of botanical interest, just as was the case when botanic gardens were first established many years ago. In a word, now that selections only of the most showy and popular of decorative foliage and flowering plants are grown in the majority of private gardens and market nurseries, the botanic gardens of Great Britain and Ireland have a useful work to do in preserving for us the original wild types and species that might otherwise be lost and forgotten.

F. W. BURBIDGE.

THE INDOOR GARDEN.

FUCHSIAS FOR THE GREENHOUSE AND BORDER.

(Continued from page 177.)

PLANTS FOR THE MIXED BORDER.

FOR this purpose some of the hardy Fuchsia species are best, but many large and beautiful Fuchsias are half-hardy, and, though cut down to the ground in the winter, will, if a heap of cinder ashes or leaf-mould is put over the roots in the winter, shoot up again in the spring. A great deal depends upon the climate, proximity to the sea being favourable, the southern and south-western counties being of course the best of all. In the west and south of Ireland there are hedges of hardy Fuchsias 10 feet or 15 feet high, and these are the districts, of course, to grow fine specimen plants of some of the best varieties. Perhaps the finest species of Fuchsia for this purpose are *F. coccinea* and *F. globosa*, both of which are very free-flowering, and will make shrubs 6 feet high when they are not cut down too much by frost. If the soil is very wet not many of the hybrids can be trusted to last through a severe winter. However dead the wood may appear during the winter it should not be cut off nor the ashes removed till the shoots begin to appear from the roots in spring.

SHRUBS FOR LARGE POTS OR TUBS.

Fuchsias are never more effective than when grown in this way. They may be trained either

as bushes or pyramids, the latter for preference, for Fuchsias are so drooping that the flowers need to be well raised above the ground or pot to show them off to advantage. If the bush form is wanted the plants should be pinched very early so as to encourage several shoots from the root, each of which should be pinched at the third leaf, and the resulting shoots again at the third leaf so as to ensure a sufficient number of branches. If the pyramid form is wanted the plants should be confined to a single stem at first, as if they were intended for greenhouse climbers, but they need not be pinched in quite so closely, the shoots near the base being allowed to grow a little more than those higher up. The leader should be kept tied up straight for a couple of years, the beauty of the plant being sacrificed to the future for the first year, though the side shoots may be allowed to extend the second year, the pyramid being kept thick and without blank spaces by a little necessary pinching. Pinching and shifting, it should always be borne in mind, must not be done at the same time, as the flow of sap being checked at both ends at once is apt to induce an unhealthy state, which renders the plant a prey to disease. The first winter the young plants should be kept in the greenhouse, so that growth may be more or less continuous, as we want the plant to attain a good height—say 4 feet—as soon as possible. In after years a cellar or outbuilding where the frost does not penetrate is the best place in which to store them for the winter, for if kept in the greenhouse, so that they make succulent growth in the early spring, they will be disappointing all the summer. Such plants can always be recognised during the summer, as the leaves have a more or less brownish tinge, accompanied by an absence of that vigour of growth which is such an essential part of their beauty. The secret of success is to let them make their whole growth in the open, the night air with its dew being such an essential to their well-being. The most difficult time is when they are taken out of their dark retreat in March, and it is necessary then for them to be in a frost-proof but light place till well on in April, and then be put outdoors, where they can be protected at night when occasion arises. Brought on in this way they will continue growing and flowering till November, the dewy mornings of autumn seeming to be especially congenial to them, and it has been noticed that they generally do better in a damp summer than in a very hot and dry one. To form fine handsome shrubs strong upright-growing varieties must be chosen, as many of the double ones, more especially those with white corollas, absolutely refuse to grow much more than 1 foot to 1½ feet in height, such as Lucy Finnis, Molesworth, Edelweiss, Lizzie Vidler, and many others. One of the very best, however, for this purpose is one with a double white corolla, viz., *Mme. Carnot*, which I have grown 4 feet high without counting the pot and



IN THE CACTUS HOUSE AT GLASNEVIN.

3 feet to 4 feet in diameter. The only drawback to it is that it does not come into bloom till late in the season, generally the latter part of August. Another fine sort is *Charming*, with crimson sepals and corolla, the latter a shade darker. The old *Rose of Castile* is still not to be despised for this purpose, though there is an improvement upon it now with larger flowers. The varieties with white sepals and rosy pink corollas will not, as a rule, make very large plants, but one, the *Beauty of the West*, if a strong plant of it is obtained will sometimes grow 3 feet high and as many through. Other good ones for the purpose which might be mentioned are *Royal Standard*, something like *Charming*, though more straggling in its growth; *Royal Purple*, with velvety purple corolla and scarlet sepals; *President* and *Champion*, both in colour something like the preceding one. Of course, many more might be added to this list, the varieties are so numerous that most catalogues ignore nearly all the old varieties, though many of them are very fine to anyone but a professional hybridiser.

The last purpose to be mentioned in this article for which the Fuchsia may be used is the most common of all, and this is as ordinary

POT PLANTS

for conservatory and house decoration. The method of culture for this purpose can be gathered from what has been said above. The only form of training necessary is to keep the plant shapely, each variety taking on the habit most natural to it—drooping, spreading, upright, compact, or free.

Care should be exercised in the selection, as some of the choicest varieties are of feeble growth, and as there are strong-growing ones, which are almost if not quite as good, it is as well to keep to them, unless one makes a thorough hobby of Fuchsias and wants to have a representative collection, which, however, very few people seem to do. Twenty years ago I had sixty named varieties, and I cannot find a dozen of these in any one catalogue to-day. If I were asked to give what I considered the dozen best varieties for both flower and habit I should give these: Mme. Carnot, Duchess of Edinburgh, Molesworth, and Mrs. Hill, all with scarlet tube and sepals and double white corolla; Hector, crimson sepals and double purple corolla; President, royal purple; Princess May, white tube and sepals and coral corolla; Gertrude Pearson, scarlet tube and sepals and purple corolla; Champion Glory, scarlet tube and sepals and trumpet-shaped purple corolla; Black Prince, scarlet sepals and double purple corolla. If I were asked for the best twenty I should add these: Minstrel, scarlet tube and sepals with double white corolla veined with red; Mrs. Rundle, with long pale flesh-coloured tube and rosy corolla; Flocon de Neige, crimson sepals with single white corolla; Sedan, an almost cherry-coloured self; Dorothy Fry, scarlet tube and sepals well reflexed, and semi-double white corolla; Edelweiss, Lizzie Vidler, scarlet tube and double purple corolla, rather weak habit; and Avalanche, double purple corolla.

Some who read this article will say that so much trouble is not necessary to grow Fuchsias, as they may be seen growing in many a cottage window and in other unfavourable conditions. True; but the real Fuchsia lover is not satisfied with such straggling one-sided plants as are usually seen in cottage windows; besides which he wants to grow the best varieties, and these cannot be got to do well, some scarcely to grow at all, without intelligent cultivation and some amount of care and attention, though when a large plant is once obtained—there's the rub—they require as little attention as almost any pot plants.

Nothing has been said about liquid manuring, a very important matter in Fuchsia growing. It adds colour and vigour to the foliage and size and substance to the blossoms, besides adding to the length of the blossoming season of a given plant by making the lateral shoots stronger and more floriferous. A very good application of manure is a tablespoonful of good guano in half a gallon of water—soft by preference, as it dissolves the constituents better. A high-class nitrogenous guano should be obtained, as a cheap phosphatic guano will afford the plants very little nitrogen, and the phosphates not being readily soluble, not much of them. If a solution of good guano is given twice a week, and some dissolved bones at the same rate in the middle of the week, they will show very good results from the treatment. If the foliage does not get a good dark green it shows they are not getting as much nitrogen as they could do with, and in these circumstances they may have some nitrate of soda once a fortnight, a tablespoonful to the gallon, as it is very strong. A

great thing to remember is always to keep the manure water well stirred, as the last plant or two watered with a canful may be killed. Fuchsias should never be allowed to get bone-dry, or the buds may drop off. Yet they should not be always wet, as in that case the air does not get at the roots.

When the soil becomes fairly dry the air gets into it and fills the space occupied by the moisture previously, and this is again driven out by the next supply of water. If the soil in one pot keeps wet when that in others gets dry, either the plant is unhealthy or the drainage is stopped up, probably the latter, though the former speedily follows. It should be rectified at once by re-potting. When pots are very dry they should be given a little plain water before the manure water, as it will lessen the risk of damage to the roots and will also help the soil to retain the manure water afterwards given.

ALGER PETTS.

THE FLOWER GARDEN.

GARDENS ON ROOFS.

F L A T roofs and walls are becoming popular. Strongly made with concrete and surrounded with a balustrade of good design they are adapted for many purposes. As for the outdoor roof garden hundreds of fine subjects in flower and foliage are here to adorn it, rendering such a place ornamental above, as well as improving the look of the buildings. On the roofs of large mansions there is no limit as to what may be used so long as situation and climate are suitable and sufficient soil is provided for the requirements of the plants chosen. What has been noted of nobler buildings applies to outhouses, sheds, &c., places that are met with everywhere often in a bleak and dismal state. For simple roof decoration the potting shed here illustrated may be mentioned. Such methods require little preparation. The soil should be 10 inches or 12 inches in depth, and may well rest with drainage on the slates, &c., if these are not set at too high a pitch. With a sunny exposure numbers of hardy plants will become well

established and blossom abundantly. In roofs of small size only the sides need be of wood-work. In this example two of the finest flowered subjects are Veronica Teucrium dubia, with its brilliant blue flowers, and the double crimson Catch-fly, the usual garden variety of an extremely pretty and rare native plant, found on cliffs not easily scaled. The Sun Roses (Helianthemums) are, of course, perfectly happy, but many will quickly outgrow their positions. A little starvation, however, in the case of these gay flowers will cause an increase and a longer period of blossom. H. canum, a scarce British plant, is a very low, creeping shrub well adapted for this purpose, as it has a perennial hoariness. For the latter tone there are, however, none to equal in usefulness the Achilleas and Autennarias. Achillea Clavenna and A. umbellata are two of the finest silvery species; A. rupestris and A. Huteri are among the best of the small green-foliaged species. Athionemas, too, that are sometimes unkindly treated by the cold or damp of the level border, would find a welcome place on sunny roofs. Then of other subjects, more or less ornamental all the year round, are Cerastiums, Lithospermum prostratum, Pinks of many species and varieties, Iberis gibraltaria, the quaint and choice Euphorbia Myrsinites, Dryas, encrusted Saxifrages, and many others.

Those long-suffering plants the Stonecrops and Houseleeks are, of course, satisfied with a mere inch or so of soil. On mossy, tiled roofs they grow, flower, and topple about without any attention. The luxuriant surface of an old thatch is an oasis. Where these picturesque rural roofs are, some of our native succulents are sure to be seen. Maybe they are represented by a carpet of the small Sedum acre, that when in flower can but be equalled in brightness by a field of Mustard or the Houseleek; this, when isolated, grows into the size of a young Lettuce, and when crushed by its ever-growing children is content to live a restricted life. The best for this purpose is the Cobweb Houseleek, which in its best forms is a striking plant.

Edinburgh.

D. S. FISU.

BOG GARDEN.

(Continued from page 146.)

THE bog garden will now assume a new aspect, but it is not finished. There are many little touches which taste and thought will dictate, and only to be found necessary as the work progresses—a widening here, a sloping of the bank there, or a little soil added to a mound needing it—little things, but characteristic of individual taste.

Then we have the outlet to control. The point here aimed at is to keep as nearly as possible always the same amount of moisture. The original outlet, made at first to facilitate the work of forming the



A ROOF GARDEN. (From a photograph taken at Edinburgh.)

garden, is now probably too deep, and allows more water to flow away than is advisable. To obviate this a little brickwork or stonework will probably be necessary, made perfectly watertight, having a pipe inserted whose lower side will be just on a level with the desired height of the water, which latter is now separated from the mud. If found desirable at any time to flood the garden, a trap or valve might be fixed to the inner part of the outlet, which might be let down for this purpose, or a sluice could be made in the masonry. It is now time to think of

PLANTING.

We have left a few of the original trees; we have now to go over these to make quite sure under the altered circumstances that they are in the right positions, and if too many are left (always a wise precaution) take out the superfluous ones, leaving only straight stemmed or symmetrical bushy trees. We then add to these by planting a group of half a dozen golden-stemmed Willow quite on the margin, whilst over an indentation in the bank we plant a standard Weeping variety; a small group of, say five or six Hippophae, whose silver leaves and orange berries are always admired. Birch and Alder we have already, but they must be isolated or they never make handsome trees; quite on the outskirts *Ailanthus glandulosa* and *Aralia mandshurica* give a somewhat tropical appearance when clothed by their handsome foliage. Common *Rhododendrons* may be used in groups, one group especially screening the outlet on both sides, another a yard or two from the actual bog garden, one or two on the banks, more especially where there are no spurs. This will tend to break too great a regularity of outline. Plant a group of American Azaleas in peat on the level ground, but reaching a foot or so down the sloping bank; hardy *Ericas*, planted in an irregular manner, can be effectually used. A bold clump of common Broom would give a little green colour during winter, and naturalise well with the Birches, Willows, &c. *Berberis Aquifolium* will also give foliage in winter, and a group of common Barberry well away from the bank as companions to *Euonymus europæus* (the Spindlewood)—both are pretty berried plants—and a bold mass of scarlet-stemmed Dogwood would be effective.

On a rugged part of the bank trailing Juniper would be at home, and give a decidedly pleasing effect there, as also at the points of access. *Gaultheria Shallon* will do well as a sub-shrub in all but very wet places. A good mass or two of Bamboo in isolated situations, quite near the wet spots so that only the crowns are well out of the water, has a very fine effect. The best for this purpose are undoubtedly *B. Metake*, or *Arundinaria japonica* as it is more correctly called, and *B. Simonii* and should have the violent winds broken by the trees already mentioned. Other grassy-looking subjects are *Arundo conspicua*, with long arching wand-like flower-stalks, terminating with plumes somewhat like small Pampas, the foliage also resembling Pampas. *Arundo donax* is a veritable aquatic, and may be grown in the wettest parts, where its growth will exceed 6 feet

in height; it is quite herbaceous. A variegated form of this is very handsome, and might be used for a choice spot. Away on the bank, or on a somewhat drier spot, the best form of Pampas will, when developed, make a grand show; *Eulalia gracillima*, slightly raised from actual mud, is a dainty and graceful grass, grows 4 feet, and in a favourable season is surmounted by plumes; *Eulalia zebrina* also, although stronger in growth

form colonies in suitable places. Of fine foliage plants for the purpose, Mr. Ladhams named as the best of all—*Gunnera manicata*, *Rheum palmatum* (another striking plant), *Saxifraga peltata*, *Polygonum sachalinense*, *Ferula gigantea*, *Heracleum*, *Bocconia cordata*, and some others.

One of the first principles in natural gardening, Mr. Ladhams pointed out, was to accentuate both points and depressions, by which he meant a tall-growing, imposing-looking plant should occupy a raised position, while small neat habited species should be placed in low or sunken spots. This applies as well to bog gardening as in general principle to landscape work. He might add more bold-foliaged or tall-growing subjects; but he thought they had enough now to give them the necessary quantity of what might be called "filling up" plants; and he then went on to notice flowering and water-growing species, mentioning the *Spiræas*, the water loving *Iris*s, the common yellow Water Flag, *Lythrum roseum* (an indigenous water-side plant), *Lobelia siphilitica* (a North American species), *Lysimachia clethroides*, with its wealth of foliage and arching spikes of Veronica-like white flowers; Ferns, of which there are some half a dozen species suitable for the purpose; *Rogersia podophylla*, with its handsome shield-shaped leaves, mottled to resemble tortoiseshell; *Gentiana lutea*, a strong-growing yellow Gentian; the Water Forget-me-not, of which a large-flowered variety is now to be had, giving quite a charming appearance to the water-courses, though care should be taken that it does not monopolise the whole streamlet; Lady Slipper Orchids, the common Marsh Orchis, Buckbean, Sundews, Marsh Marigold or Kingcup, North American *Liliums*, &c.

In conclusion, Mr. Ladhams said in planting by the water-side one must consider the harmony of surrounding trees and shrubs, and make a selection of shrubs accordingly. Where a natural effect was required, the use of variegated shrubs should be avoided. For both bog and waterside gardening, too, it was essential to plant well and keep free from weeds, at all events for a time until the plants have sufficiently established themselves, and in the case of small, neat-growing plants, this precaution must never be relaxed. Also, as in the garden proper, the strong and rampant growths must be kept to the spaces allotted to them or they will in a few years choke their weaker neighbours.

AN ARTIST'S NOTE-BOOK.

SILENE ALPESTRIS.

DERSEVEDLY popular and a well known favourite in the rock garden is the pretty Austrian or Alpine Catchfly here represented; it comes into flower in May and continues in bloom for a long period. Of dwarf and compact habit, growing 4 inches to 6 inches high, it is well adapted for the ornamentation of rock-work, and succeeds in nearly any soil in a fairly open situation. It is also a useful plant



THE ALPINE CATCHFLY—*SILENE ALPESTRIS* (Natural Size).

(From a drawing by Miss I. M. Charters.)

than the preceding, does well in any damp or wet situation—not actually mud—its peculiarly blotched leaves being very conspicuous; *E. japonica* variegata, also a little higher up, will give a very charming effect to the garden; *Juncus zebrinus*, a variety of the common Rush, but evenly blotched with white, will grow in water. *Typha latifolia* is the common Bulrush, and *T. angustifolia* is a miniature of it. Both are good in their way to



PORTION OF ROCK GARDEN AT GLASNEVIN. (See page 227.)

for the alpine house, doing well when grown in dwarf pots or pans. It is found growing on high moist rocks in the Austrian Alps, and was introduced into this country over 120 years ago. With the closely allied *S. quadrifida* and *A. Monachorum*, *S. alpestris* forms a distinct section of the large genus *Silene* to which some authors apply the name *Heliosperma*.

W. IRVING.

ROUND ABOUT A GARDEN.

NATURAL HISTORY AND GARDENING.

How little we recognise the value in gardening of a little knowledge of natural history when we placidly accept as "gardeners" men who know absolutely nothing of the wild life against which their whole work is ceaseless war. Even self-interest fails to instruct them in natural history. A nurseryman on a large scale sent to me the other day a tin box containing some grubs which he wished me to name. Every winter he dug them up in large numbers more than a foot deep in the ground, but, though he had asked many, he "had never found a gentleman who could give a name to them." And they were the grubs of the common cockchafer, perhaps the most injurious of all pests with which a nursery garden can be infested! The underground track of one of these grubs—which come close to the surface in summer—can sometimes be traced all through a bed of young plants, which die one after the other, until at last, perhaps, when the whole batch has at last mysteriously "gone off," the ground

is redug and the bloated whitish grub discovered. Even then he is not necessarily recognised as the author of the evil, as is shown by the experience of my correspondent, who dug them up in large numbers every winter, but evidently never traced any of his losses, which must have been very heavy, to them in summer.

PLENTIFUL DEARTH OF KNOWLEDGE.

It is characteristic, too, of our hide-bound traditions in this respect that the nurseryman's idea of the way to find out about these grubs was to "ask gentlemen," on the off chance that in the course of their education at school or in subsequent leisure devoted to natural history they might have learned about these grubs; whereas, if things were properly done, it should more often be the "gentleman" who, accidentally discovering a grub for the first time, should be able to learn all about it from any of the gardener's lads. Not that even the "gentleman" need be

ignorant of the small life around him. All of us at some time or another, if not during our whole lives, are interested in some piece of soil, which may be a back garden or may be a large estate, and it is absurd that we should not know anything of the small friends and enemies which work for or against us there unceasingly. How often, when we glibly complain that "something in the soil" is fatal to our gardening efforts, we ought to have known perfectly well that the "something in the soil" was something which crawls and eats; something which starlings, blackbirds, thrushes, and rooks will exterminate by thousands if we encourage them to do so. But for man's persecution of birds in the past the gardener would now be followed at his work by insect-eating birds, pouncing upon the grubs and worms turned up with each spadeful of earth, in the same way that the ploughman is sometimes followed by rooks and on the coast by flickering snowstorms of gulls.

ON THE TRAIL OF THE CATERPILLAR.

Any schoolboy who has at all earnestly collected moths and butterflies can tell in one glance at a plant whose leaves have been eaten whether the mischief is the work of a caterpillar or of a slug or of a leaf-cutting bee. If it was a caterpillar he knows exactly where to look for it, with a quick eye glancing down the twigs where caterpillars, which live exposed, are usually found, and then turning up the leaves to search for it in its favourite hiding-place—stretched along the midrib on the under side of a leaf. If this fails there are other signs well known to all collectors which

show where the caterpillar ate its last meal, and if it is not discovered near that spot the boy would at once conclude that it belongs to some kind which seeks a secure hiding-place by day and comes out to feed at night. Repairing thither with a lantern in the evening he would capture the enemy in the midst of his evil work. An ordinary gardener, on the other hand, seldom has any notion what it is that disfigures the leaves of his plants; still less does he connect the grub which does the mischief with any familiar winged insect.

A LITTLE BLACK FLY.

In a greenhouse the other day I saw a tiny little black fly on the glass, and immediately turned to look at the boxes of Marguerite cuttings. Sure enough, the leaves on these were nearly all disfigured by whitish wavy marks over their surface. Some of the leaves and even whole shoots had already been killed and were hanging down limp and colourless, while here and there little black flies, similar to the one on the glass, were sitting. These little flies lay their eggs on the leaves, one egg on each leaf, and the tiny grub which issues from the egg makes the wavy whitish lines by tunnelling between the upper and under surfaces of the leaf, eating away the green, life-giving matter between. The gardener in charge of the greenhouse was only too familiar with the injury—he called it the "disease"—which thus affected his cuttings every year, but he had never learned to connect it with the little black flies. These attack many sorts of plants out of doors, where they effect little harm, but when they have been brought in with, say, the Chrysanthemums in autumn, and have been prematurely forced to maturity, they quickly learn to concentrate their attention upon Marguerite cuttings and become a serious nuisance.

A COMMON PEST.

The silver-y moth, again, is a busy, darting insect, which flies here, there, and everywhere by day, and is often attracted into the open greenhouse in summer and autumn by the flowers within. Its caterpillars feed upon almost any kind of pot plant, and, having several broods in the year, it is not at all particular as to seasons. The eye of an entomologist who goes into a greenhouse is often caught by evidence of the damage done by this caterpillar, which wanders from plant to plant, often disfiguring a whole row of Geraniums. Yet it is very easy to find when you know that you have to look for a green caterpillar stretched at length on the under side of one of the leaves. When it was newly hatched from the egg it ate only a very small piece from a leaf and rested under that leaf, when the mischief might have been nipped in the bud, but as it grows so do its appetite and its walking powers, and while the injury is greater the cause is often further to seek. Yet the average gardener knows nothing about the silver-y moth or its habits or those of its caterpillar. Instances could be multiplied by scores to show how strangely ignorant of insect life are the very men whose professional success depends to a great extent upon their skill in opposing it.

E. K. R.

EDITOR'S TABLE.

PRIMROSES.

Mr. Richard Dean sends from Ealing a boxful of self-coloured Primroses, which are very welcome at this season. The flowers are pure in colour, of excellent form, and vary from clear crimson to pure white. We have known this strain for some time, but the flowers sent were as good in colour as anything we have yet seen.

NOTES ON HARDY PLANTS

MYOSOTIDIUM NOBILE.

ONLY known as an open-air subject in the south-west of England is this splendid plant. It is a native of Chatham Island, and the name of New Zealand Forget-me-not has been given to it. Introduced in 1858, it was first described in the *Botanical Magazine* in 1859, but was for some years treated solely as a greenhouse plant. A coloured plate, drawn from a pot plant grown at Floore, Weedon, appeared in *THE GARDEN*, December 18, 1886 (vol. xxx, page 566). On page 547, vol. xxxvi, an engraving of a pot plant in flower was given, and on page 228, vol. lvi, the reproduction of a photograph of a poor flower-spray and leaf is to be found, the last named probably grown under glass protection, as the accompanying article only refers to the *Myosotidium* as a pot plant. As far as I can ascertain the first mention in *THE GARDEN* of the New Zealand Forget-me-not as an open-air plant occurs on page 330, vol. xlix, where a note from Mrs. E. Powys-Rogers mentions it as growing and flowering in the open border at Burncoose, Perranwell, Cornwall. In vol. I., page 150, an illustration of this plant in full bloom is given. I believe that Mr. John D. Enys, of Enys, was the first to bring seeds of the *Myosotidium* from the Antipodes to Cornwall, in which county it may now be seen flourishing in several gardens. There is certainly no comparison between the relatively weak growth exhibited by pot plants and the robust vigour manifested by well grown examples in the open air, where the plants sometimes attain a height of 3 feet, and carry foliage suggestive of the Rhubarb in its noble form, which is rendered particularly attractive by the bright green hue and glossy surface. I have myself measured a leaf 2 feet in length and over 18 inches in width. These splendid

specimens throw up dozens of branching bloom-sprays, the flower-heads being 6 inches or more in diameter, and the individual blossoms about half an inch across. There is considerable variation in the tint of the flowers. Those shown in the coloured plate are deep blue in the centre, fading to white at the edge, but in the best forms the flowers are of a more uniform blue. At Enys a pure white variety is also grown. The *Myosotidium* seeds freely, and in some gardens the self-sown seedlings may be seen springing up in quantity around the parent clumps. Plants flower in three years from seed sowing, but these deteriorate after a few years' flowering; but when this is apparent they are removed and their places filled by seedlings. In its native habitat the *Myosotidium* grows on the sea beach, just above high-water mark, in the sand of the shore, and close enough to the waves to receive the full benefit of the wind-borne spray. At Enys there is a painting showing the *Myosotidium* fringing the beach at Chatham Island with a long line of blue, but I was informed by Mr. J. D. Enys that the plant is rapidly being exterminated by cattle and other agencies. As regards soil and situation, the fact that in its home the plant grows in sea sand has led to the employment of this in a greater or lesser degree in preparing the compost for its reception. In some cases this is confined to a heavy mulch over a substratum of porous soil, but at Menabilly, where the numerous plants of *Myosotidium* are unusually fine, they are planted entirely in sea sand brought up from the beach. At Menabilly the plants are grown immediately in front of high walls with various exposures, but apparently prefer those not facing due south. When I have grown the *Myosotidium* at the foot of a south wall, exposed to the sun's ray during the entire day, I have found the leaves flag badly on very hot days; it is therefore advisable that if plants are grown beneath a south wall they should be a few feet distant from it so that they may escape

the excessive radiation on scorching summer days. A shady position cannot be recommended, as specimens grown under such conditions have proved failures. When in full growth the *Myosotidium* is partial to a copious water supply. The month of May generally sees it in the zenith of its beauty in Cornwall. I know of several plants in South Devon, and there are doubtless others that I have not come across. Of those that I have seen some are doing fairly well, but none can compare with the best I have met with in Cornwall.

S. W. FITZHERBERT.

ACHILLEA AGERATIFOLIA.

ONE has some hesitation in heading this note by the above name, though the plant to which it belongs is so termed correctly, for it is far more familiar as *Anthemis Aizoon*, a name likely to die hard since it has already obtained so great a hold among growers of such flowers. It must have been for a considerable time in gardens and nurseries as *Anthemis Aizoon*, Grisebach's name, but I have no record of its introduction, although it cannot have been long in cultivation, seeing that Bentham and Hooker's designation of *Achillea ageratifolia* has been given priority in the "Index Kewensis" and the "Kew Hand List." It is a little alpine which I have grown now for a good many years. Like many other plants with silvery or white foliage, it requires a dry soil, a sandy peat being preferable, while it has also an objection to frequent sleety rains in winter. It also prefers a sunny position. As I found it did not do so well in one part of my garden where it was more exposed to rain I have lately cultivated it on a very dry rockery facing almost south-south-east. Here it receives plenty of sun, and is not exposed to the prevailing driving rains from the south-west and west, from which it is preserved by my house intercepting them. *Achillea ageratifolia* is one of the most charming of our alpine, with its beautifully serrated lanceolate downy leaves and its white Daisy-like flowers produced for a long time in summer. Apart altogether from its pretty flowers, its foliage and its neat carpeting habit are very attractive. It is readily propagated by cuttings or by division of fair sized plants. As its height is only from 2 inches to 4 inches it is quite at home among, and entirely in keeping with, the dwarfier and choicer alpine.

DIANTHUS FISCHERI.

As a whole the species of *Dianthus* in gardens are fairly well named, but there appears to be some doubt as to which plant ought to bear the name of *Dianthus Fischeri*. I observe that it was figured in Sweet's "British Flower Garden," but I have not at present access to that work. Even with his plate before one it would not be convincing that the Pink there figured is the true one. At any rate either of the two plants which are to be met with under the name of *D. Fischeri* is worth growing, and forms a desirable occupant of the rockery. I had for some years, but unfortunately lost through my own fault, a good plant of what I think is *D. Fischeri*, though it does not answer to the description given in Nicholson's "Dictionary of Gardening." It is a very dwarf *Dianthus*, with closely tufted, grass-like foliage, rather greenish in colour, and producing small, almost crimson flowers. It only grew 2 inches or 3 inches high, and appeared to prefer a somewhat moist but sunny ledge on the rockery. I believe that it came to me from one of our best growers of alpine in Scotland, Mr. W. B. Boyd, of Faldonside, Melrose, who may be able to tell us something more about this plant. Some years ago in going through the nursery of Messrs. Little and Ballan



THE NEW ZEALAND FORGET-ME-NOT (*MYOSOTIDIUM NOBILE*) IN CORNWALL.

tyne, of Carlisle, in company with the late Mr. Greig, the nursery manager, who had a wide knowledge of hardy plants, I observed a large breadth of a fringed Pink with rose-coloured fringed flowers. This was labelled D. Fischeri, and had been grown in the nursery for some years under that name. I saw the same plant rather less than two years ago in the same nursery, and it corresponds with the Dianthus, which seems pretty widely known elsewhere as D. Fischeri, and is so described in Mr. Nicholson's work, a plant easily grown, and beautiful either in the border, on the edging, where this is of stone, on the rockery, or on a wall. It is quite distinct from the other plant, being much taller and having larger and greish green foliage. It reminds one more of the Cheddar Pink, though not a form of that species so far as one can see. The flowers are of a fair size, a pretty pale rose, and beautifully fringed. So far as I can recollect at present it is fragrant. There are practically no points in common between these two Dianthi, save that they are called by the same name. Both, however, deserve a place where the Pink is admired.

Carsethorn, by Dumfries, N.B. S. ARNOTT.

CORRESPONDENCE.

(The Editor is not responsible for the opinions expressed by correspondents.)

GERMINATION OF SEEDS UNDER SNOW.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I had hoped to see in reply to the article on the above subject, which appeared in THE GARDEN of the 14th ult., a few words by Mr. Irving, who has charge of the alpine and herbaceous collections at Kew, and who has made some experiments with seed sowing under similar conditions to those advocated by M. G. Magne. Still, wanting the more authoritative answer, I may mention some of the results obtained and the methods to attain them. In January, 1900, a sowing was made of some 150 to 200 distinct sorts of herbaceous and alpine seeds. Being in small quantities 3-inch pots were used, which were crocked and filled with soil to about half an inch of the rim and pressed firm in the ordinary way. The seeds were then sown and covered with soil, varying in depth according to their size, and watering with a fine rose finished the operation, which in every respect was identical with the process followed when intending to raise the seedlings under glass. The pots were then stood upon a bed of ashes in the frame ground, small mesh wire netting being fixed over to protect from the depredations of sparrows, &c. Shortly afterwards came a rather heavy fall of snow, of which the pots of seeds received a common share, and, in addition, snow swept from the adjoining pathways was thrown upon them. Unlike the instances mentioned by the writer of the article referred to, these pots of seeds were allowed to remain quite exposed after the snow had melted and until the seedlings appeared and were large enough to handle.

Unfortunately, I cannot give a list of the seeds sown, but what impressed one was the way in which the surface of one pot after another, and of course several together, became covered with the first seed leaves during a spell of mild weather. I cannot recall to mind a single failure where the quality of seed was not in doubt, but I well remember the Moss-like growth which grew upon the pots labelled *Campanula enisida*, rendered the more remarkable by the fact that sown indoors only a very small percentage appeared. I have myself this year followed the plan recommended by M. Magne, namely, that of sowing under snow (though it has been somewhat of a scarcity) and then removing to gentle heat, making a duplicate sowing under glass altogether, and in addition a batch kept quite exposed, as is done at Kew. It is too early yet to give results, but signs are not

wanting to indicate that there must be a very potent factor in or about the snow crystals which is decidedly to the advantage of germination in hardy herbaceous and alpine plant seeds.

OLD KEWITE.

LACHENALIA NELSONII IN BASKETS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Probably this is the best of all Lachenalias; it is becoming very popular now better known. It has been expensive to buy, the small bulbs fetching as much as 1s. each. At present they are offered at 7s. 6d. per dozen. It does not increase quite so freely as the commoner ones, and this would have a tendency to keep up the price. It may be well to mention that it increases very rapidly by forming bulbils on the leaves in the same way as *Gloxinias* or *Begonias*. If the matured leaves are laid on sandy soil in a greenhouse temperature several bulbils will form, and these will flower in three years' time if attended to properly. This plant is seen at its best when planted in hanging baskets in company with *Asparagus Sprengeri* or *A. deflexus*. In this way it is really a beautiful object in the greenhouse during winter, and especially so if associated with *Begonia Gloire de Lorraine* and the *Turnford Hall variety*.

There have been many complaints about this *Lachenalia*. Some gardeners have a difficulty in getting it to start freely into growth after potting. This was my own experience at one time, but since I gave it a thorough baking on a shelf in a cold house or frame I have succeeded well with it. This plant is most valuable for winter flowering in the greenhouse. It will last in flower for many weeks, and is good for cutting. When associated with *Freeseias*, *Italian Hyacinths*, or *Celogyne cristata* in small pots it looks very well. I once saw a long stage arranged in this way, and the effect will not be forgotten. I find that July is a good month to pot the bulbs. I do not cover the pots with ashes or Cocoanut fibre, but I plunge the pots to the rims in a frame. Then there is no danger of the growth becoming drawn, and they are more sturdy in consequence.

THOMAS ARNOLD.

MORAEA (IRIS) ROBINSONIANA.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Your correspondent, T. B. Field, page 166, is by no means alone in failing to flower this *Iris*, for I have grown a large specimen in a pot for years without success. The only flowering specimen that has ever come under my notice was in the summer of 1891 in the Cactus house at Kew, where a large mass which had then been planted out for half a dozen years or so in a prepared bed, just opposite the door at the southern end, pushed up several spikes, which produced altogether between 400 and 500 flowers spread over three months or so. Some of the spikes reached, I should say, a height of 7 feet or 8 feet. The flowers are white, with a yellow spot at the base of the three large segments. The noble leafage, overtopped by the branching spikes of blossoms, rendered a flowering specimen of this *Iris* a striking object, but I must confess to being at first disappointed with it, and in that respect I was not alone. The reason to a great extent was that one heard it spoken of as producing very large flowers, hence thoughts of the Japanese *Iris Kamperferi* at once cropped up, and when a diameter of 4 inches represented the outside width of *Iris robinsoniana* it fell considerably short of the size one had been led to anticipate, added to which the individual flowers were of but one day's duration. The plant in question is now I see removed from the genus *Iris*, and in the "Kew Hand List" of tender *Monocotyledons* it figures under the name *Moraea robinsoniana*.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Fifteen years to wait for the flowering of any plant is enough to exhaust one's patience, yet it is gratifying to know that Mr. Field still hopes for the final result. I believe this would more

quickly have been brought about had the plant been planted out and given greater freedom for root action. Indeed, even now, if it is at all possible, I would transfer it to a well-made border. If this is not possible, then, as a second best plan, yet not at all equal to the first, I would suggest a liberal shift to a large tub or box specially constructed. If the latter, let it be a slate-lined one, so that the ill-effects of much rapid evaporation are not felt by the plant. A specimen of the size mentioned should have flowered years ago. The example I first flowered was not equal to Mr. Field's in size. I can only suggest as the plant appears in quite good health a position in the fullest sun and a great abundance of root moisture together with weak liquid. The species is certainly a noble one when in flower, and continues for many weeks. It is the giant of the whole race, and the pure white flowers are fully 4 inches across. Some years ago a magnificent specimen at Kew flowered in the succulent house and produced several spikes and a total of several hundreds of flowers. The species appears to be some years before reaching the flowering stage, and if Mr. Field continues to keep the plant in the pot then I would certainly give it a more liberal supply of moisture. If the plant does not flower this spring, and I think the signs should even now be apparent, I would be inclined to place it in a sunny spot out of doors for at least two months, matting up the pot and treating the plant as a sub-aquatic for the time. Mr. Field does not say for how great a portion of the time the plant has been in the pot referred to, and the soil may be somewhat exhausted. Possibly a few more particulars would not be amiss, though in any case I think it is evident that so large a plant should be liberally catered for.

Hampton Hill.

E. J.

THE KITCHEN GARDEN.

CAULIFLOWERS.

CAULIFLOWERS are such important vegetables that one often wishes they were hardier, as then we should have no difficulty in maintaining the supply for a longer period. Of course, the Broccoli is included, as these are closely allied, but even the last named is not quite hardy. In noting the value of one sort it is difficult to leave out the other, as the two combined give a twelve months' supply. Nothing new can be added in the way of cultural notes, except that it may be well to touch upon the value of the early or forcing Cauliflowers, the mid-season and the later sorts. The variety illustrated is one of the larger types of the middle section, the Dwarf Erfurt or Giant, and is an excellent grower where space can be afforded. The quality is all one may desire, and it is a special favourite on the Continent. Doubtless the smaller or earlier ones that so closely follow the Broccoli are the greatest favourites in gardens, but we must not overlook the value of the larger sorts for market or sale. These form a valuable food supply, and when well grown are some of the most wholesome vegetables sent to market and as they are in the early autumn months retailed at such a moderate price they are a favourite vegetable. How differently the foreigner values this vegetable to what we do; indeed, vegetables are greater favourites; there is far less meat consumed, and I noticed in the streets that these large Cauliflowers are often sold in pieces, finding a ready sale, and some of them were none too fresh. Still, the way they are cooked with meat or stews makes even the commonest vegetables palatable, and the smallest coin will purchase a small piece of Cauliflower in the large towns abroad.

I have referred to the forcing sorts. Doubtless most of these are of Italian parentage in the first place, though they are largely grown on the Continent, especially in France and Germany. The names of such varieties as Dwarf Erfurt indicate their origin. A few years ago a very useful small

Cauliflower was introduced into this country (the Snowball), a variety rightly named, as it is a fine delicate little head, delicious in flavour, and most valuable for forcing and early supplies. This variety sown in heat and grown in frames may be had fit for table in three months from date of sowing. Since the advent of Snowball there have been many others, and Veitch's Forcing and the dwarf Sutton's First Crop, of very compact habit, an ideal Cauliflower for growing in pots or frames, or for forcing or first crop in the open, have found much favour. There are other very early sorts, such as Carter's Defiance, Forcing, and the Mont Blanc, both valuable for their earliness, especially the Defiance. The older early ones, like Early London and Walcheren, are still standard varieties, and largely grown in market gardens. These differ from the smaller varieties of the Snowball type, which are usually sown at the end of the summer, August or September, and planted out in the early spring for cutting in May and June.

The Walcheren is also useful as a summer Cauliflower, but of late years numerous sorts have been introduced of quick growth, dwarfier, and very suitable for private gardens. I will note a few.

The best are Sutton's Magnum Bonum, Purity, Favourite, and Dwarf Mammoth, all of them invaluable for supplies from June to October. To this list may be added the Pearl, Eclipse, and the King of Cauliflowers. It will be seen there is no lack of variety; indeed, I could note others of equally good quality, but I have named enough to show the value of the summer crop.

Some of the large or autumn types attain a great size if the land is good and the weather is favourable. Doubtless the early and mid-season Cauliflowers are better in some respects than the autumn, as the smaller ones do not require so much room or such a long growing season. It is an easy matter to plant the smaller ones after an early crop, say of Potatoes or dwarf Peas, and this cannot be done with the autumn varieties as to get the best results; these require a much longer growth. Many plant in May for autumn supplies. As regards varieties, there are some splendid ones, and doubtless the Autumn Giant (Veitch's) is one of the best for garden use, but in our gardens we find the smaller and more delicate Autumn Protecting Broccoli to be hardier and more useful, as the heads do not turn in so quickly. As previously noted, the Cauliflowers and Broccoli are so much alike that both must be included. Other very fine late Cauliflowers in season from September to November are the Early Giant (this is not unlike the Autumn Giant), the Dwarf Mammoth, and Erfurt Mammoth, which are all good. A very fine type of autumn Cauliflower is Sutton's Mammoth and Carter's Early Emperor, both very large and of grand quality. G. WYTHES.

ASPARAGUS.

WOULD you kindly advise in the columns of THE GARDEN as to the best Asparagus for planting two beds? E. E.

[There are very few varieties of Asparagus, only some half dozen in all, and some of these are very much alike; indeed, they are mostly only selections, not distinct varieties. On the other hand, the greatest cultural care is needed to get the results you desire. You say you do not need show Asparagus. By this we suppose you mean you do not wish to grow the huge growths seen in shop windows. These are French, but let us add it is not often we see home-grown produce so large as the French, though of late years our growers have produced some fine material, and as regards quality superior to the best imported, as a portion of the growth of the huge French sticks is not

edible like the home-grown of the best quality. So much depends upon the culture, and this you will find is really of more importance than the variety, as though you may get the very best roots or seed from a special source, unless well grown the plants will give a poor return in every way. It is not usual in these columns to place any seed or plant grower before another; still, you ask us to recommend, and we are anxious that you should get the best possible material to work with, and we can say that few firms have paid more attention to this vegetable of late years than Messrs. Sutton and Sons, Reading. They have two distinct sorts of Asparagus of their own, the Perfection and Reading Giant, both first-class varieties, and to these may be added their larger Giant French. For very large supplies, again, there is the older Purple Argenteuil, a late large purple form, but of splendid table quality. The old but good Conover's Colossal we have grown for a quarter of a century, and it is still one of the best. An Italian variety, the Palmetto, is also catalogued, but we do not think it better than others.

It may not be policy to note all these varieties when you ask for the best, but we do so to

GARDENING OF THE WEEK.

INDOOR GARDEN.

SEED vessels should be removed as soon as possible from plants of Azalea indica that have been forced and are now passing out of bloom; at the same time give them a dressing of XL All Syringing wash to cleanse them of thrips and other insects which usually attack them while in bloom. When thoroughly cleansed place the plants in a pit or house in which a temperature of 50° to 55° can be maintained, and encourage them to make growth, shading them only for short periods during very bright sun. Any plants that may have become dry at the roots must be placed in a pail or tub containing sufficient water to cover the pot and allowed to remain for an hour. Keep the late blooming portion of the plants as cool as possible and shade from sun, the object being to defer the blooming period.

GHEENT AZALEAS

which it is desirable to retain for another year



CAULIFLOWER KING OF CAULIFLOWERS.

show it is not so much the variety but the culture. In your case we advise two year old roots. These should have been planted the end of March if possible, but you may safely plant in April.

The most important point is to have the beds prepared in advance of planting, so that when the plants are received there is no delay in getting them into their permanent quarters. If your soil is light it should have some good heavy manure added, the land double dug or trenched, and we would advise growing on the level rather than raised beds. If the soil is heavy add light materials, such as burnt refuse, wood ashes, old fine mortar rubble, and bone-meal, and you will find raised beds an advantage. In planting give ample room to get good growth. Allow at least 2 feet between the rows and 18 inches between the plants.

Do not cut a single growth the first year, and only sparingly the second. The plant delights in abundant food in the way of liquid manure during the summer months. The Perfection or Conover's would be suitable in your case, and well cover the plants with the finer soil as the work is done.—Ed.]

must be denuded of their seed pods and placed in a cool pit until sufficiently hardened off for the plunging ground. Callas, Lilacs, Roses in pots, and other forced plants as they pass out of bloom will require similar care.

NERINES

must be attended to at this season, and those requiring repotting should at once be done. A compost of two-thirds friable loam and one-third leaf-soil with some coarse sand and charcoal suits these bulbs admirably. Drain the pots thoroughly, placing a little rough moss over the drainage, and in the case of established plants remove the old drainage and such portions of the old soil only as have become sour, but do not shake them out. On repotting make the soil firm; this is essential as the plants should not be disturbed again for four or five years. All the plants should now be in a pit where a temperature of 50° or 54° can be given by night, and if placed on a trellis or narrow shelves will be less liable to become wet at the roots, a condition which is injurious to them. Careful watering with weak liquid manure water for those not repotted, and a light syringe early in the afternoon is all they require during their period of growth. Attention must be given to successional

batches of forcing stuff sufficient to meet the requirements of the establishment, also to a succession of Achimenes, Tydeas, Gesneras, Gloxinias, Caladiums, &c., cultural directions for which have previously been given.

IN THE STOVE

an advance of temperature must now be given, allowing it to range from 75° to 85° by day and 66° to 70° by night. Close attention must also be given to ventilating these houses, always admitting the fresh air by the ventilators under the side stages, where it becomes warmed and moist before reaching the plants. On very bright days a little air may be given by the top ventilators towards the middle of the day, always observing the direction and force of the wind. Avoid creating a drought, keep the air moist by frequently damping the paths and stages, especially during windy weather.

Wendover.

J. JAQUES.

THE FRUIT GARDEN.

FIGS.

If the early pot trees started in November have been kept in a bottom heat of 70° the fruit will now be swelling rapidly, and, favoured by one of the most genial winters on record, some of the most forward fruits may be expected to ripen early in April. With a continuance of favourable external conditions allow the temperature to range from 60° to 65° at night, 70° to 75° by day, and 80° to 85° after closing with sun. Give air at 70°, gradually increase it as the day advances, and economise fire heat by closing early. Syringe well twice a day, otherwise the foliage will be infested with red spider, and keep the roots well supplied with diluted liquid or guano water until the fruit begins to ripen, when more air and a drier atmosphere will be necessary, but even then a liberal supply of water must be given to the roots, as anything approaching a check would cause the trees to cast all the best fruit. As

FIGS IN POTS

or in-ile borders make very quick growth, see that stopping, thinning, and tying receive regular attention, and carefully guard against getting the young shoots crowded, as it is simply impossible that closely-shaded fruit can have colour or flavour, and a flavourless Fig is the most insipid fruit imaginable. Trained trees in succession houses will require mulching with good manure and liberal watering. Ventilate freely through the early part of the day to keep the young growths short jointed and fruitful. Thin out the spurs and tie in leading shoots where there is room for extension. Trees in late houses may be pruned and tied in to the trellis, as there is now little damage from frost, but unless the structure is supplied with hot-water pipes it will be well to retard for the present by ventilating pretty freely on all suitable occasions.

CUCUMBERS.

If old plants cannot be dispensed with thoroughly renovate the beds by forking out as much of the sour soil as can be taken away without injuring the roots, and replace with good rich turf and lime rubble. If worms have got into the pots or beds this operation will afford a favourable opportunity to apply lime water for their destruction, as Cucumbers cannot succeed where the soil is exhausted by these pests. Woodlice, very often the cause of canker at the surface of the soil, may also be greatly reduced by the application of boiling water, as they beat a hasty escape to the edges of the pits for temporary shelter. Continue to cut the plants over until all the old foliage is renewed, then train thinly and keep the foliage clean by syringing with warm, soft water, light cropping, and early closing with solar heat and moisture.

MANURE BEDS.

Although plants in frames have had a favourable time of it, linings will now require regular renovation to maintain a steady minimum of 70°, and a good dry covering must not be neglected. Add a little fresh soil as the roots protrude, peg down the young shoots, train thinly,

and rub off all male blossoms up to the time their services are needed. Be guided by the weather in the application of water; if bright and fine and the heat is strong overhead watering about 2.30 p.m. will do good, but for the present the wetting of the foliage must be conducted with great caution. Saturate occasionally the floors and the surface of the beds with moisture heavily charged with ammonia, such as urine from horses or other animals, as the foliage is thereby stimulated and kept free from insect and other injurious attacks. Keep the ventilators closed for the night, but open early in the morning, otherwise the sun will have an injurious effect if allowed to shine on the combined gases of the interior of the house.

Madresfield Court.

W. CRUMP.

KITCHEN GARDEN.

THE heavy rainfall we have experienced of late has delayed seed sowing and general cropping in most gardens, especially in those that have a retentive soil. On light, well drained soils there have been some opportunities to proceed with the work, owing to the prevalence of winds which have quickly dried the surface. It is of the utmost importance that every opportunity should now be taken advantage of to bring up all arrears as fast as the state of the ground will allow.

POTATOES.

So much depends upon locality and soils as to when to plant this or that variety that the matter must be left to individuals. Assuming that the early varieties, as Ashleaf, Duke of York, &c., have been planted, those sorts required for succeeding them should now be got in, following on with the main crop and late varieties. Some gardeners plant the late Potatoes in advance of the second earlies, and, provided the sets of the latter have been laid out thinly in an airy shed to sprout, the system has its advantages. In a great many gardens it is necessary to protect the young growths of the early planted varieties from spring frosts, and in low-lying districts the second earlies are also cut off if not covered. By deferring the planting of these until a later date there will not be so much likelihood of damage accruing.

BROCCOLI, KALES, &c.

If not yet done a border or plot of fairly rich ground should be prepared on which to sow seed of the main crop and late Broccolis, Kale, and other green vegetables for winter and spring use. I prefer to make two sowings of these, one in the first week of April and the other ten days later. Everything depends upon the weather and the locality as to which of the resulting plants will be best for disposing in permanent quarters, and as the seed-beds take up but little room I consider it is good policy to adopt the system generally.

HOING.

The Dutch hoe should now be kept constantly working through the alleys of the spring Cabbage bed as well as all other young growing crops. By persevering with this work at the present time much good will result to the crops by aerating the soil, besides saving much annoyance and labour later on with weeds.

THE HERB BORDER.

The sowing of seeds of the annual kinds and the propagation of others by division or by cuttings should no longer be delayed, in order that they may become well established before the weather becomes better and the ground drier. Those propagated from cuttings should be kept syringed twice or thrice daily and shaded throughout the hottest part of the day, so that they may the more quickly emit roots.

Stoneleigh Abbey Gardens.

H. T. MARTIN.

FLOWER GARDEN.

No period of the year is so full of promise in the flower garden as the month of April. For several months past a great number of our most ornamental plants have presented a shabby and neglected appearance, while many have looked as if they were dead; but it is not so, they have

been only resting, gathering strength, as it were, again to burst forth. Some few, perhaps, have succumbed to the winter's cold and wet, but these are circumstances over which we have no control, and however much we may fret for them at the time, we must let them pass. It is now time to consider what care and what work are most necessary during the coming months, for it must be remembered that summer with all its demands will soon be with us.

PROPAGATING.

Propagate in quantities. If not previously done, all varieties of bedding plants for future requirements, such as Echeverias, gold and silver edged, variegated Pelargoniums, Lobelias, Coleus, Iresines, Pyrethrums, Alternantheras, Cupheas, and Gazanias. These will all be required in due course. Continue to harden off early-struck plants as fast as room can be found for them in frames. Sweet Peas in pots and boxes should now be placed in cold frames, give air on all favourable occasions, and only close the frames at night when frost is expected. Another batch of seed should be sown in the open border. It will be from seed sown now that we shall look for our finest display later on.

PHLOX DRUMMONDII.

This very pretty plant is deserving of a place in every garden; for beds this Phlox is quite as useful as many of the Pelargoniums, and not half the trouble. Seed should be sown now in pans or boxes in light rich soil, place in temperature of 65°, and keep it moist. As soon as the young plants are large enough to handle prick them off into boxes, give them plenty of room, keep them in the same temperature until they begin to grow freely, then harden them off; stop them when they have grown about 3 inches high, this will cause them to make lateral growths. Plant them out about the end of May in good rich soil, they will then keep a long succession of bloom. They ought to have a place where they are well exposed to the sun.

THE MIMULUS (MONKEY FLOWER).

The florists' strains of this flower include many beautiful varieties, and they are all well worthy of cultivation. Their culture is very simple, and they are fairly hardy. They require light, rich soil and abundance of water; this will prolong their flowering season. As the seeds are small some care must be taken in raising young plants, the same care, in fact, that we take in raising *Catecolarias* or *Gloxinias*.

T. B. FIELD.

Ashwellthorpe Gardens, Norwich.

THE FRUIT GARDEN.

STANDARD APPLE TREES.

AN important point to observe in the treatment of standard trees on grass land is to cut away the grass for a distance of 2 feet or 3 feet around the base of the tree. A surprising difference is noticeable between trees so treated and those around which the grass is allowed to grow quite to the stems. It is obvious that by following this latter method the grass itself must withdraw a certain amount of nourishment from the soil, and that also where the principal feeding roots of the trees are found. Especially during hot, dry weather is this proceeding harmful, for moisture that otherwise would be absorbed and probably is badly needed by the roots of the fruit trees is appropriated by the grass roots. One cannot mulch satisfactorily either. The manure applied, instead of benefiting the Apple trees, simply has the effect of making the grass grow all the more strongly, thereby enabling its roots to do even greater harm than before. With the ground clear for a distance of 2 feet or 3 feet one can give a good covering of manure, knowing well that the fruits alone will receive the full benefit of it. The soil is also kept moist, thereby enabling the roots better to support the growing tree during the summer months.

Standard Apple trees may be planted 16 feet apart in the rows, and the rows 32 feet wide. This is an excellent method, for the object is when the tree shall have become almost fully grown to remove every other one in the rows, thus finally leaving each tree an equal distance (32 feet) apart. One has the advantage of an additional amount of fruit over a period of twenty years or so, and the satisfaction of knowing that valuable space is utilised. It is probable that the majority of the trees will have to be destroyed when the time comes for removing them, unless it can be arranged to move a few every year over a number of years—that is if they were worth the trouble and expense that the work of transplanting large trees entails. A great deal would, of course, depend upon the condition of the latter at the time: some might not be worth removing owing to disease, stunted growth, bad bearing qualities, &c. The variety Lord Burleigh makes a splendid standard tree, and other Apples good for this form of tree are Christmas Pearmain, Dutch Mignonne, Rosemary Russet, The Queen, Duke of Devonshire, Golden Spire, Scarlet Russet, Margil, and Fearn's Pippin.

NOTES ON PEARS.

PEAR DUCHESSE DE BORDEAUX.

Although this variety has received a first-class certificate from the Royal Horticultural Society, it is often disappointing as regards quality and flavour. It will keep late, but instead of ripening mellow and sweet it shrivels and dries in a most annoying way. The same remarks apply to Anna Nelis, which from its many points of resemblance must, I think, be closely related.

PEAR EPINE DU MAS.

This is a very distinct, pretty, prolific, and moderate-sized Pear, and succeeds well as a bush or standard in the open. It is usually ripe early in January. Passe Crassane is indispensable among late Pears; it should be included in every collection. In cold seasons and under neglected conditions of culture the fruit is inclined to be rather gritty, but with generous treatment and an ordinarily bright season the variety does well even as an orchard tree. It succeeds best, however, as a bush or standard in well-drained ground and in a sunny position. When well grown the fruits are handsome, of good size, and the flavour is rich and sweet.

PEAR NE PLUS MEURIS.

As an orchard Pear this variety is one of the most fruitful and satisfactory we have, and, like Doyenné d'Alençon, is much improved in flavour by being subjected to artificial heat for a few hours before wanted for dessert. Intending planters of this Pear should be careful when ordering trees to stipulate that the true variety is supplied, for I am convinced there are two distinct forms in cultivation—one excellent as regards quality and fruitfulness, the other more or less gritty.

A. P. H.

BOOKS.

Forest Flora of New South Wales.—Part I. of this work, by Mr. J. H. Maiden, Government Botanist of New South Wales and Director of the Botanic Gardens, Sydney, is devoted to botanical and economical descriptions of *Grevillea robusta*, *Ficus rubiginosa*, *Syncarpia laurifolia*, and *Pittosporum phyllaroides*. Plates are given of each. It is proposed to issue this work in parts, each part consisting of four plates (and occasionally five or six where there is a necessity for two or three plates to depict a particular species). About eight parts may be issued during the year. Mr. Maiden says: "The object of this work is to depict the botanical characters of each tree, and to furnish all the available information in regard to it. There is no doubt that residents in the bush will welcome means of testing the information thus given, and of adding to the stock of knowledge."

Reissue of the Century Book of Gardening.—This successful book, of which two editions have been already published, will be reissued April 14, in weekly parts, price sixpence each net. An appendix, bringing the book to the present time and making good previous omissions, will form the last part. With the first number a coloured plate will be given.

The Book of the Wild Garden.*—This is a useful and practical handbook, for the good reason its author is well acquainted with his subject. It is brightly written, and is the outcome of much experience, not only as a practical worker in the garden, but of visits to many of the most beautiful domains in these isles, in the southwest in particular, where the climate brings certain plants to greater perfection than is possible in colder counties. The author is also an excellent photographer, and hence we have such happy and helpful illustrations as "Sweet Alyssum on Steep Bank," facing page 30, "Waterside Vegetation," facing page 70, and "Campanula pyramidalis from self-sown seed in dry wall," facing page 88. There are chapters about bulbs, tall and medium-sized plants, dwarf-growing plants, flowering trees and shrubs, peat-loving shrubs, climbers, water plants, plants for the water-side and wall plants, so that the volume is sufficiently comprehensive, more so, perhaps, than the title "Wild Garden" warrants. The following brief quotation from page 88 about wall gardens will show that the advice is sound and not merely descriptive:—"Old walls, in which the mortar has perished, may be prepared for the reception of plants by the removal of some of the mortar and replacing it with a gritty compost in which seedlings may be planted, or seed sown. Where walls are being built these should be constructed of large, flat stones, each layer being surfaced with a thin coating of compost, which should also be worked well down between the stones, and planting should be done as the work proceeds." Mr. Fitzherbert is a valued contributor to THE GARDEN, and has a deep knowledge of hardy plants in general.

My Nature Note-Book.†—The author of this charming little book needs no introduction. His fortnightly notes to this journal are full of quiet humour and show patient observation of the life of garden and field. Mr. Robinson is anxious that all who have an opportunity of doing so should participate in this wholesome study of Nature, and has added blank pages "for readers to record their own notes of the passing seasons, with the intervening chapters as a guide for comparison with the year that is past." The author acknowledges his indebtedness to the *Daily Graphic*, in which these notes have appeared, for permission to republish them in this form.

Medicine for the Mind,‡ by R. H. B., is a collection of precepts and maxims, chiefly from the philosophers of old. The extracts are wisely chosen, and many may be glad of such gleanings in a handy form.

Thompson's Gardeners' Assistant§ (new edition).—We have received this notable gardening book in two volumes, whereas it appeared at first in several volumes or parts, and we are not sure that the latter are not the more convenient of the two issues. But whether in two or several volumes the "Gardeners' Assistant" is as useful in its new dress as when it first appeared in 1859 under the editorship of the late Mr. Robert Thompson, at that time superintendent of the Royal Horticultural Society's gardens at Chiswick. The work was then recognised as "the soundest and best guide to practical gardening that has been published in our times." In 1877 and again in 1884 the work was revised and enlarged by Mr. Thomas Moore, F.L.S., curator of the Chelsea Botanic Garden, with assistance from specialists. Yet another and the present was called for, and was

* "The Book of the Wild Garden." By S. W. Fitzherbert. John Lane, The Bodley Head, London. Price 2s. 6d.

† "My Nature Note-Book." By E. K. R. 2s. net. Isbister and Co., Tavistock Street, W.C.

‡ "Medicine for the Mind." By R. H. B. 2s. net. St. Martin's Press, 15, Craven Street, Charing Cross.

§ "Thompson's Gardeners' Assistant" (new edition). In two volumes, £2 10s., leather bound. The Gresham Publishing Company, 34, Southampton Street, Strand, London.

begun under the joint general editorship of Mr. Badger and Mr. A. F. Barron, but both through failing health were compelled to relinquish their task, not, to quote the preface, "before some progress had been made with the work of revision." The duties of general editor then devolved upon Mr. William Watson, curator of the Royal Botanic Gardens, Kew, who, as we have had occasion to remark before, has accomplished his task, assisted by experts, with complete success. As we reviewed the volumes when they appeared, all we can add now is to recommend every gardener to buy them. The work covers practically the whole of horticultural practice, and is freely and well illustrated with explanatory woodcuts, and brightened with a few coloured plates. It is well bound and printed, and is just the book for a gardener's library.

SOCIETIES.

NATIONAL SWEET PEA SOCIETY.

EXCLUSION OF MEMBERS OF THE TRADE AS JUDGES.

A MEETING of the committee of this society took place at the Hotel Windsor on the 27th ult., Mr. G. Gordon in the chair, there being a small attendance. The principal business was to make arrangements for the annual exhibition in July next, including the election of judges. This proceeding brought out from a certain quarter an active hostility to the proposal to elect as judge any representative of the trade, whether as principal or employee. No valid reason whatever was put forward which could justify a departure from the practice observed at the bicentenary exhibition in 1900 and at the Sweet Pea shows in 1901-2 of selecting censors both from the trade and private growers. The motion to exclude the trade was carried by a bare majority of those voting, and in the absence of any mandate from the general committee. The only reason assigned for this line of action was that there exists on the part of certain bodies a prejudice against the trade acting in this capacity, as if knowledge, impartiality, and honesty of purpose were lacking in the traders. Thus the *boni fides* of the trade were sacrificed to what is nothing better than a vulgar prejudice. The Royal Horticultural Society at its exhibitions, and such special societies as the National Rose, National Carnation and Picotee, National Auricula and Primula, National Dahlia, and others gladly avail themselves of the services of the trade as censors, and their representatives are usually considered the best informed. Were the financial support derived from the trade withdrawn the Sweet Pea Society would at once collapse. The income of the society in 1902 was about £136. Of this sum the trade contributed about £78 as special prizes, donations, and subscriptions, and in the schedule of prizes for the present year it will be seen that the trade contributes nearly half the sum offered as prizes. No information is forthcoming that those who object to the trade acting as judges at an exhibition of Sweet Peas object also to the trade giving special prizes, but they should do so in order to be consistent. No class of men are better qualified to act as judges at an exhibition of Sweet Peas than those who conduct extensive trials of the flower for the large wholesale and retail seed houses; but they are excluded. In the end certain persons were appointed, but there appeared to be but little knowledge of the qualifications of some of them. As the committee is to form the floral committee to adjudicate upon the new varieties, the trade representatives, which form about one-half of that body, cannot, of course, be excluded. R. D.

READING AND DISTRICT GARDENERS ASSOCIATION.

THE meeting of this association, held on the 16th ult., was very largely attended, about 120 members being present. Mr. W. Barnes, of Bear Wood Gardens, presided. The subject for the evening was "Buttonholes and Sprays," by the chairman of the association, Mr. J. T. Powell. Before giving his practical demonstration of this art, he said that this was one of the phases of gardening which gave much delight and pleasure to the employer, and it was a great deal of credit to the garden staff if the sprays and buttonholes required could be made in the garden instead of always having to send to the florist. Mr. Powell then showed how flowers should be wired, describing with great clearness the right and wrong way of doing the work, also showing which was, in his opinion, the proper foliage to be used with particular flowers. The following were then made up in front of the audience, explanation being given as the work proceeded:—Buttonhole of Violets, lady's dinner or ball spray of Daffodils, lady's spray of Primulas, a Carnation buttonhole made with pink Primulas, lady's spray of General Jacqueminot Roses, and lady's spray of artificial Geraniums with natural foliage.

Many questions were asked during the proceedings, and some useful hints were given by the lecturer, as well as by Messrs. Stanton, Gibson, Barnes, Wilson, Burfitt, Bassel, Winsor, Tunbridge, Judd, Exler, Alexander, Hinton, Cretchley, &c. The only exhibit was a magnificent display of flowering bulbs by Mr. F. Lever, The Gardens, Hillside, Reading. This was without exception one of the best groups of Narcissus and Tulips yet staged at these meetings, and as it was entered for the Certificate of Cultural Merit, the judges had no difficulty in awarding the same. Two new members were elected.

The subject for discussion at the meeting of the above association on the 23rd ult. was "The Anemone and its Culture," and was introduced by Mr. D. Harris, of Maple

durham House Gardens. The paper was written in an excellent style, and gave the cultural details of the various varieties in a most clear and practical manner. Among the sorts dealt with were *Anemone japonica*, *A. fulgens*, *A. coronaria*, *A. apennina*, *A. blanda*, *A. sylvestris*, and the *St. Brigid*. Although the attendance was small, owing to the very rough and wet weather, the discussion was livelier and more members took part in it than at meetings when the attendance has been three or four times the size. The debate was sustained by Messrs. Powell, Fry, Wilson, Exler, Neve, Alexander, Burritt, Lever, Cretchley, D. Dore, Kercher, Cox, Sandwith, &c., and much valuable information was brought out with regard to this lovely flower. A very hearty vote of thanks was accorded to Mr. Harris for his interesting paper.

REDHILL AND REIGATE DISTRICT GARDENERS ASSOCIATION.

THE fortnightly meeting was held on the 3rd ult., Mr. W. P. Bound in the chair. Several new members were elected. Mr. Blackwood was awarded the society's certificate for the best bunch of twenty-five Violets, *La France* being the variety shown. Mr. Watt, of Mynthurst Gardens, Leigh, lectured on the distribution of plants over the surface of the globe. At the last meeting three new members were elected. Mr. Mead was awarded the society's certificate for the best *Cyclamen* in bloom in a 6-inch pot. Mr. F. W. E. Strivel, of Tonbridge, lectured on the use of chemical manures. This lecture should be of great service to members, and if the advice given is acted upon good results are sure to follow.

LADY WARWICK'S HOSTELS, READING

I WAS in the busy town of Reading on a fine morning early in March and made a surprise visit to this "Ladies' Educational Home." Some of your readers may not be fully acquainted with the origin of this new move for the training of women for helpful and useful work. It arose in this way: Unfortunately, it often happens that a sailor, soldier, clergyman, or doctor, as the bread-winner of a large family, may be cut off before he has been able to provide for his family, more especially the girls. And Lady Warwick's idea was that if these girls could be taught gardening, poultry keeping, dairying out of doors, dress-making, and other useful domestic work, two or three of them dwelling together could at all events earn a living and at the same time lead an interesting and independent life. This idea has caught on. And many ladies after a course have taken up responsible positions, and also started for themselves. And from a small beginning there are now three hostels and about forty-one resident students. The fee is £80 per annum, and the extras are very trifling. Hitherto two years has been the limit of study, but this has been found too short a time, and probably, now that a much larger plot has been secured in Warwickshire (some 340 acres), a longer term, with reduced fees after the first two years, may be expedient, as the demands for admission have outgrown the present establishments. Next September the entire staff and students emigrate to Warwickshire.

I was courteously received by the warden, Miss Edith Bradley, and, under the kind guidance of Miss May Crooke, I critically inspected the work in progress. I found the greenhouse and stove plants clean, healthy, and vigorous; and a few in flower were making a bold display in the show house. *Mignonette* was specially well done. Mushrooms were doing well; and the only visible outside crop, *Early Cabbages* and *Broccoli*, very good. The young fruit trees carefully pruned, and the whole sixteen acres in good order and free from weeds; while the students were busy hoeing, pruning *Roses*, rolling the lawns, potting, &c., and the vine and Peach house promised a good crop. Economy in space was strictly carried out, and a great variety of crops were in progress in each house. The fowl runs were nicely arranged, and the early chickens were healthy and feathering very satisfactorily. Several hives of bees were in evidence, and bee keeping is also scientifically taught. Miss Crooke (sub-warden) is very energetic and thorough in her work and superintendence, and the healthy outdoor employment seemed reflected in the bright and cheerful aspect of the working students, whose ages appeared to be from eighteen to twenty-five. I was informed that there is no difficulty in procuring posts for those who give close attention to the work after their short course is completed; but anyone who is acquainted with horticulture will know that a longer course is more than desirable.

The students have the benefit of Mr. W. Iggulden's help and instruction twice a week on horticulture. The surplus crops are marketed and packed by the students. They attend the Berks Dairy School, and the poultry expert gives them instruction on fattening, trussing, and preparation of birds for table. Botanical lectures are also given, and the work is very thorough throughout. The bottling of fruits and jam making are scientifically done, and the articles turned out are quite first class, and meet with a ready demand; but the warden hopes to improve both the system of sterilising and also to patent a new and more perfect bottle at a moderate price. The prospectus reveals a thorough grasp of the subjects by the warden, Miss Bradley; and Miss Crooke is to be commended as a pioneer in this new and as yet experimental work. A constant succession of crops is maintained, and as the fruit trees in pots come out of the houses, the *Chrysanthemums* (of which there was a fine batch) are housed. And *Sweet Peas*, herbaceous and alpine plants, with bulbs, all neatly labelled, find convenient spots. There is a good library of books, and my visit convinced me that ladies are quite able to fulfil all the lighter kinds of garden work; but at the same time they could also direct the operations of labourers for the heavier duties, while their naturally better taste should give new features to our gardens and indoor floral decorations and effects.

To indicate the desire of the warden for practical work, it might be mentioned that a colonial lady takes classes for special training in colonial life, using only the simplest materials and utensils in cooking and other details of household management. TRAVELLER.

ANSWERS TO CORRESPONDENTS.

Names of plants.—*W. H. Cox*.—1, *Oncidium varicosum*; 2, *Cypripedium barbatum*; 3, *Hibiscus rosa-sinensis*.—*A. Derry*.—*Russelia jucea*.—*A. E. Burge*.—*Pinus insignis*.—*J. H. S. P.*—*Iris tuberosa*.—*C. W. C.*—*Billbergia pyramidalis* var. *crocyana*, native of Peru. —*T. D. H.*—*Sisyrinchium grandiflorum*.—*P. E.*—*Acacia longifolia*.

Betula corylifolia (QUEENS).—This is a Japanese species grown at Kew, but we do not know of any nursery whence it may be obtained.

Cucumber growing (EREMURUS).—We are glad to advise in any way. You have great advantages as regards soil, situation, and mild temperature. As to growing for market it is difficult to advise, as our experience is that to make it profitable the produce must be in good quantity and the supplies regular. Again, though Cucumbers bear well they need considerable attention, and the work in hot, steamy houses is anything but healthy. They pay well, however. If you can have this as one part of your scheme it brings in money when there is little else in the garden—that is in the winter and early spring months. There is always a demand for good early Lettuces. Can you grow these? If you could get the land we would advise growing lush Apples on the Paradise stock. Such varieties as Ribston Pippin, Newtown Pippin, and Cox's Orange Pippin fetch good prices. A few half standards of Lane's Prince Albert always pay, but these fruits need storage. Again, in your locality you should grow good varieties of pyramidal Peas; late ones are most valuable. We do not advise cordon Peaches, as the Peach to do well will not stand the severe pruning cordons require. Wall Peaches with you should be most profitable, especially very early or late varieties.

Rose Augustine Guinoiseau not flowering (ENQUIRE).—We are at a loss to understand how it is that this Rose has refused to bloom with you, as it originated from one of the freest blooming Roses we have, namely, *La France*, and with us *Augustine Guinoiseau* always flowers most freely, whether pruned hard or merely tipped, i.e., very slightly pruned. Is it possible your plant is nothing but the stock upon which the Rose was budded? Sometimes the variety is budded upon the *Dela Griffierae* stock, which is apt to deceive anyone unacquainted with it. If you send us a shoot we should be able to say whether this is so or not. We believe the best treatment as regards the *La France* race is to prune very moderately the growths. Small twiggy shoots which appear late in the year usually ripen sufficiently to be partially retained the following spring. The plants should be relieved of a few growths from their centres if very crowded, and during the growing season some of the young shoots may be rubbed off where they appear too thick. Usually the second blossoming of the *La France* race is better than the first, at least as regards the quality.

Amaryllis Belladonna bulbs not flowering (F. M. A. G.).—It is probable that your bulbs of *Amaryllis Belladonna* failed to flower last year through the cold wet weather and absence of sun which prevailed at the flowering period. If the leaves are strong and healthy do not disturb the bulbs, as you will probably have plenty of flowers again this year. If, however, the leaves do not appear healthy lift and replant the bulbs as soon as the leaves decay, removing the old soil and replacing it with new.

Basic slag as manure (H. M.).—Basic slag is of all artificial manures one of the slowest to dissolve. If some be mixed with pot soil before it is used, say, a quart to a bushel of soil, it will as the roots fill the pots so gradually dissolve as to make useful manure. As a top-dressing it will be of little value. If you put a quart of it into a coarse bag and immerse that for a couple of weeks in a tub containing 10 gallons of water, it will then be helpful as plant food. With four times its quantity of soot added and the small quantity of 1 lb. of nitrate of soda dissolved the liquid manure will be still more useful. If basic slag be applied to a lawn now it will be of little benefit. It should have been applied two or three months earlier. Of course if it benefited the grass at all it would the Daisies also. These weeds should be pulled out; but as you have the slag you may use it at the rate of 3 lb. per rod on the grass, as some good may result.

Killing Daisies on Lawn (E. C.).—If your correspondent will give Lawn Sand a fair trial he will find the Daisies soon decrease in numbers. The cost will be less than having them taken up with a fork. Six years ago the lawn here was very bad with Daisies, and a woman was employed for three summers running, but without any apparent result; in fact, they rather increased. In the spring of 1901, though very doubtful of results, I decided to give Lawn Sand a trial, and procured 25 lb. This was distributed carefully at 4 oz. per square yard where the Daisies were thick, and where thin each one was just covered. I patiently watched results for three weeks, then sent for 2 cwt. more, and put it on the first opportunity, and think it killed more than the woman had done in her three years of patient labour. In the spring of 1902 we used 4 cwt. on about one acre of lawn as a first dressing, and another 2 cwt. during summer and autumn on the same piece as seedlings appeared. Three weeks ago, having prospects of fine weather, we had the same ground gone over, and used 84 lb. to cover every Daisy that could be found. I am so satisfied with results that I shall use it when opportunities occur. The best time to apply the sand is when there is a prospect of a week or fortnight's fine weather. Then it does its work well if the day is bright and it is put on

before the dew is dispersed. "E. C." will see a difference in twenty-four hours or less.—G. T. WARRINGTON, *The Gardens, Monks Manor, Lincoln*.

Iris Kämpferi (W. D.).—There is not the least doubt that your clayey soil is the reason why your plants have failed. If, as appears most likely, the soil runs together into an impervious mass when wet, and runs into miniature ravines when dry, you have just the worst soil possible for *Iris Kämpferi* even to grow in at all; success, indeed, or a good flowering, is an utter impossibility. If the soil you describe is the natural soil, i.e., the staple medium of your garden, we advise that you make a special bed for the *Iris*. As a rule these plants succeed in any light, well-drained sandy loam, while in tenacious soils the plants grow smaller with age. What we now recommend is that you make a special mixture of soils, so that the mass may be of quite a spongy nature. For example, you could still retain the damp situation where you have recently placed the plants and turn the bed there. Of the existing soil remove and discard it to a depth of 1 foot, or if the soil in the next foot below is inferior discard the latter portion and place the original top portion in the bottom. In doing this you may with advantage incorporate a cartload of road grit or sand therewith. In this way you have a recess to fill up, and this should be filled in with roughly-chopped peat and leaf soil in about equal portions. If light fibrous or sandy loam is available, use this in proportion of one-fourth, together with very old manure in the same proportion. If you cannot obtain the light loam, use half the amount stated of the ordinary clay soil with a similar amount of sharp grit. Mix these together, and not only fill in the bed but raise it 6 inches above the surrounding level. Replant the *Irises* early in April. It is a mistake to transplant this section in the autumn, as they are infinitely best when planted or rather transplanted as the new growth is being made. Plants that have become debilitated by wrong treatment are slow to recover, and then do so most quickly when the large tufts are broken up into three or four crowns each. In doing this there is no need to separate widely the divisions thus created. Rather plant them a little apart presently to form one good group. In planting spread the root fibres in a somewhat shallow trench, and while planting keep the crowns quite firm, almost even with the surface. *Irises* are tremendous feeders when in health, and given the correct start the plants never turn back; indeed, in light loam over a gravel subsoil we have had the plants fully 4 feet high, and at two years old enormous masses of roots had been made. In this particular soil cow manure almost quite fresh was used to about one-fourth. In your case the mixed class of soil will be dwarf with a good mulch of manure each autumn.

Dwarf Chrysanthemums (STUDENT).—By adopting a system of late propagation, as you suggest, it is possible to achieve the object you have in view. Inserting the cuttings in March will, in many cases, ensure the development of first crown buds in August, and there is no reason why good blooms should not result from this system of culture. There are many varieties, and good ones too, which would not succeed so well from this late method of propagation. As a matter of fact, some of the better Japanese sorts, which are naturally rather late flowering, are propagated in mid-March, and flowered on single stems in 6-inch or 7-inch pots from the first bud subsequently developing in the point of the growth. You will therefore see that the chances of securing three first crown buds on some sorts is somewhat remote. If you care to send a list of the sorts in your collection we shall be pleased to give you advice on the point just raised by ourselves. In reply to your question asking for advice in a general way as to about what time in August to secure the buds—not necessarily for show purposes—you could not do better than secure the buds of the majority of sorts as near the third week in August as possible. If by following your method of inserting the cuttings late in the spring (March) you can secure the resulting buds during the period just named you will have done well. Buds secured in the second half of August invariably develop into large and handsome blooms.

Our Apple supply (CONSTANT).—We cannot agree with you when you assert that nothing has been done to help create at home an abundant supply of Apples. For years past there have been held meetings, conferences, shows, &c., books published, the gardening papers have been full of urgings to greater fruit culture; indeed, on every hand has effort been made to induce British people to go in for hardy fruit culture on a national scale. Some good has resulted, but so far it is not much. The causes of the poor advance are chiefly national inertness, which is so largely the despair of the reformer, and the difficulty of getting land, which is, indeed, a great obstacle. Only last autumn Ireland demonstrated at Cork that she can grow most superb fruit, yet she sends none whatever to the English markets. Here at home we could grow grand fruit in quantity as we now do moderately, but little effort is made to create a national supply. At present the bulk of our Apples in the winter come from America, and in the spring from Australia, yet did we tackle the subject earnestly we could produce quite as good at home.

Black Currants (B. J. D.).—The buds sent show but too plainly that your Black Currant bushes are infested with the Currant mite, an insect so minute as to need a glass to enable it to be seen, but which always manifests its presence on the bushes to the naked eye by causing some of the buds to be large, open, and soft. Your best course will be at once to pick off all these large open buds and burn them. So many persons whose bushes have suffered have declared that their only remedy has been found in constant hand picking, all ordinary applications of insecticides failing. It is, of course, easy enough to advise the cutting hard down of bushes and burning all the wood, leaving the roots or stumps to make new growth, but this new growth soon becomes infested also. Even if new young bushes be purchased and planted near an infested stock they soon become just as bad as the old bushes were. Thin out branches well first, then pick off the swollen buds. Fork in about the bushes a dressing of well-decayed manure also.

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A NEW BOTANICAL LABORATORY.

WHILE this paper was passing through the press last week the Royal Botanic Society was celebrating the opening of its new Horticultural and Botanical Laboratory, which has been fitted up to accommodate about thirty students. It is quite time the society awakened to a sense of its duty in accomplishing something in return for its lease of the beautiful acres within the metropolis with which we always associate the name of that great landscape gardener Robert Marnock.

A step, however, has been taken in the right direction, and the new laboratory will prove, as Professor Bottomley mentioned, "of great benefit to London, in the first place, in regard to original or research work, and, secondly, for practical work by the University Extension students in London."

The opening ceremony was presided over by Lord Aberdeen, and many well-known men were present. One of the speakers, Dr. Coode Adams, gave a short history of the gardening school of the society. It has been in existence for five years. In 1898 Mr. Sowerby (the secretary) had a conversation with the then chairman of the Technical Education Board, and, with the assistance of the vice-chairman of the County Council, Sir William Collins, succeeded in establishing that co-operation which had been marked with so much success. They had now twenty-one male students and fourteen lady gardening pupils at work in the gardens, as against nine in 1898, and they had succeeded in finding satisfactory posts for all their students who required them. They had spent on the school over £2,000, and towards this the Technical Education Board had contributed, to the end of 1902, £850. Besides this the society had foregone some amount of revenue by allowing for teaching purposes parts of the gardens which might have been made a source of income. A conservatory was to be added to the laboratory, in which they would be able to carry out botanic and other investigations.

Mr. Shephard, chairman of the Technical Education Board of the London County Council, mentioned that the work on the board which he represented was to provide and help practical work of every kind, and they had the fullest sympathy of the board in the establishment of the laboratory in which they could

carry out the scientific part of their work. Distribution of diplomas to successful students closed the proceedings.

We hope the society will extend its work and thereby justify its existence. Until five years ago, when the gardening school was started, the grounds, save for an occasional show, were of as much value to British horticulture as a park in the Highlands. A more useful era we hope is dawning, and those in authority will be wise if they look back into the past and take courage from the Royal Horticultural Society, which in the blackest years of its history quietly pursued a sound horticultural policy, that of practical gardening, with its trials of new plants, fruits, and vegetables. These were of the greatest value to the trade, gardeners, and the public seriously interested in practical horticulture.

THE BEST SWEET PEAS.*

OPINIONS differ as to the merits of certain Sweet Peas, hence it is not surprising that Mr. Sydenham criticised the selection compiled by "A Grower" in *THE GARDEN* of the 7th ult. In the selection referred to the new Dorothy Eckford is given first place amongst white varieties. It deserves its position, but is too costly for all pockets. I quite agree with Mr. Sydenham regarding the relative merits of Blanche Burpee and Sadie Burpee. For several years I have grown these side by side, and for beauty of flower, free blooming, and vigour Blanche Burpee has always been the better variety. With reference to crimson varieties Mr. Sydenham's criticism is timely. Every grower of Sweet Peas will regard Salopian as the best under this heading, but should not the variety George Gordon be described as a magenta shade? The National Sweet Pea Society places the last named in the magenta-coloured section. Among the lavender-coloured flowers those of Lady Grisel Hamilton and Lady Nina Balfour are excellent.

Exception must be taken to the inclusion of the Hon. F. Bouverie as one of the best pink varieties, though this is classified third in this section by the National Sweet Pea Society. Two excellent pink sorts are *Lovely* and *Prima Donna*. Some imagination is necessary to include *Triumph* among orange-coloured varieties; it is undoubtedly a bicolor, and this fact is emphasised by the classification of varieties by the National Sweet Pea Society, this variety occupying the premier position of the fifteen bicolors. Gorgeous should, of course, be described as orange, and it is not a self-coloured sort. The variety *Miss Willmott* has more salmon in its colouring than orange, yet it is recognised as worthy of inclusion in

* Several other letters upon this subject have been received, and will be published in due course.

the section devoted to the orange-coloured varieties. Duke of Westminster is the best of its colour, and should be put among the violet and purple shades, as it is dark rosy purple. Though "A Grower" has a partiality for *Othello* as a marone sort, I care most for *Black Knight*, though there is not much to choose between the trio represented by *Othello*, *Black Knight*, and *Stanley*. Both *Queen Victoria* and the Hon. Mrs. E. Kenyon every grower will probably regard as the best of the so-called primrose colours.

Prince of Wales is the leading rose-coloured Sweet Pea, and the newer *Lord Rosebery*, which some describe as rosy magenta and others as rosy crimson, may also be included in the list of rose shades. It is distinctly wrong, however, to classify *Prince Edward of York* in the rose section, as this is a bicolor, having scarlet shaded standards and rose wings. In the striped section I prefer Mrs. Joseph Chamberlain to *Princess of Wales*, the former being very fine and wonderfully free. *Colonist* cannot be regarded as of a lilac colour, as with me the flowers are of a pleasing shade of rose, reminding one, as Mr. Sydenham rightly remarks, more of *Prince of Wales*. As that superbly fine Sweet Pea *Countess Spencer* is not yet in commerce, nor likely to be distributed for another year, is it not a mistake to recommend it to readers of *THE GARDEN*? The flower fully merits all that "A Grower" says of it, and we are looking forward to the time when it can be purchased.

D. C.

EDITOR'S TABLE.

At this season the flowers of the garden are coming forth abundantly, and we invite our readers to send us anything of special beauty and interest for our table, as by this means many rare and interesting plants become more widely known. We hope, too, that a short cultural note will accompany the flower so as to make a notice of it more instructive to those who may wish to grow it. We welcome anything from the garden, whether fruit, tree, shrub, Orchid, or hardy flower, and they should be addressed to The Editor, 20, Tavistock Street, Covent Garden, London.

RIBES OR FLOWERING CURRANTS.

"A. E. T." sends from Elstree the following note and flowers: "Seldom have these been more beautiful than they are this season. Many of the bushes here are laden from top to bottom with a wealth of blossom, and, like everything else, they are remarkably early, several of the varieties being in full flower by the 20th ult. Like many other flowering shrubs, these repay well for proper management, and should always be given sufficient space to fully develop their growth. Fortunately, they succeed well in almost any kind of soil and position, and a certain amount of judicious pruning yearly is necessary to keep them shapely. We find old leggy plants are best cut clean to the ground, when they will make free young growths

and quickly grow into specimens. There are now several very beautiful *Ribes*, most of which are well worthy of cultivation in every collection of shrubs. Among the best are *atrosanguinea floribunda*, a very deep red and free-flowering; *sanguineum flore-pleno*, also good, but not quite so early; *sanguineum*, the old red; *sanguineum albidum*, the palest coloured of all; *carnea grandiflora*, a beautiful flesh colour and remarkably free; and *aureum*, a beautiful yellow, but not so free. *Aureum* succeeds best as a wall plant, and when planted in a sunny position is very effective. I am sending a few pieces for your inspection."

Besides *R. sanguineum*, the species, the varieties *atrosanguinea floribunda*, very dark in colour; *carnea grandiflora*, a pretty flower, individually large, with a bright flesh-pink centre; the pinky white *albidum*; and *aureum* were sent. The growth of the shoots was very strong, and the flower clusters very large and fresh in colour.

NOTES OF THE WEEK.

FORTHCOMING EVENTS.

April 15.—Shrewsbury Spring Show.

April 16 and 17.—Midland Daffodil Society. (Two days' exhibition).

April 18.—Ghent Quinquennial Show (opening day).

May 5.—Annual dinner Royal Gardeners' Orphan Fund, Hotel Cecil. Chairman, the Right Hon. the Earl Carrington, P.C., G.C.M.G.

Rainfall at Dingley, Northants.—

Total of rainfall up to March 31, 1903, I should think constitutes a record:—January, 2.21 inches; February, 1.23 inches; March, 3.26 inches; total, 6.70 inches.—F. CLIPSTONE, *Dingley Gardens, Market Harborough.*

Royal Horticultural Society.—Examination in Horticulture.

Candidates wishing to sit for the above society's examination in horticulture on Wednesday, the 22nd inst., and who have not yet sent in their entries, are requested to forward the same without delay to the Secretary, Royal Horticultural Society, 117 Victoria Street, London, S.W.

Temple Flower Show.—For the sixteenth year in succession the Royal Horticultural Society will hold their great spring flower show in the Inner Temple Gardens (by the kind permission of the Treasurer and Benchers) on May 26, 27, and 28. Copies of the schedule can now be obtained on application to the Secretary, Royal Horticultural Society, 117, Victoria Street, London, S.W. Applicants should enclose a stamped envelope ready addressed to themselves.

Gardeners' Royal Benevolent Institution.—A sum of £67 18s. has just been sent from the Victorian Era Fund to those unsuccessful candidates at the last election who had previously been subscribers to the institution, and a similar amount will be forwarded to them on October 1 next from the same fund.

Clematis indivisa.—A plant of this in the Himalayan house at Kew is at the present time a beautiful sight. Planted near the side of the house, it has rambled over a rafter and part of the way along a roof girder also. The shoots are allowed to hang quite loosely, and just now are festoons of lovely white flowers. Some of the growths reach almost to the ground, and bear flowers their full length. Rarely have we seen a climber so full of flower in a cold house. It is worth a journey to Kew to see this *Clematis*, for the visitor could not fail to learn a valuable lesson in the culture and training of climbers. The plant is in the border, and apparently prefers this treatment to being grown in a pot; under pot culture such luxuriance would not have been possible.—P.

The early season.—Almost every garden this year presents some instance or other of the extreme earliness of the season. As a case in point a friend of mine cut *Asparagus* outdoors before the middle of March, and in certain early districts spring Cabbages are now getting plentiful. One wonders where the material for Easter decora-

tions will come from this year, because in my own district in Kent the double wild Daffodils, which have been extremely plentiful, were nearly over at the end of March, and before April came in the woods were carpeted with Primroses. I have seen many beautiful sights both in gardens and out of them, but I know of no more charming picture than a stretch of woodland in the spring when the ground is starred with Primroses. Never do I remember seeing more Primroses than this year, but I fancy there will not be many left for Primrose day.—G. H. H.

"Flora and Sylva."—The first number of a monthly gardening magazine has more than passing interest, especially when under the editorship of so well known an authority as Mr. Wm. Robinson. "Flora and Sylva" is the happy title of the new venture, which is described as "A monthly review for lovers of Landscape, Woodland, Tree or Flower, New and Rare Plants, Trees and Shrubs, Fruits and Vegetables, the Garden Beautified, Home Woods and Home Landscape." It is for the most part printed on hand-made paper, and illustrated with wood engravings and process blocks. The chief features of the journal are the coloured plates, of which there are two, one of the new *Magnolia rustica* fl. rubra, and the other of *Calochorti*, both by the well-known artist H. G. Moon. The articles consist of a general talk about Hardy Bamboos in England, by Lord Redesdale, an exhaustive and valuable account of the *Magnolia* genus by Mr. George Nicholson, late Curator of the Royal Gardens, Kew; a review of the genus *Calochortis*, by Carl Purdy of California, and the Greater Trees of the Northern Forests and the Garden Beautified, presumably by the editor. Under the heading "Collections of Our Day" is a description of Mr. Gumbleton's rare plants at Belgrove. This is written by Mr. F. W. Burbidge, who truthfully says of Belgrove that "as a trial garden it occupies a place unique in Ireland, even if not in Great Britain as well." Scattered through the pages are miscellaneous notes or short articles. The illustration of the blue Water Lily (*Nymphaea stellata*, Berlin var.) in Mr. Beamish's garden at Ashbourne, Cork, shows how well these beautiful flowers can be grown in a favourable climate. We hope the new journal will have a long life. It starts well, and those who cry aloud against small type will have nothing to complain of. Of course there is room for improvement. No magazine at a first venture is faultless, but such blemishes as using two kinds of paper will probably disappear in future issues. There is no reason why in these days a high-priced magazine should not succeed. If Mr. Robinson's does not win success it will not be through want of enterprise. We shall look forward to the next number with great interest. The price is 2s. 6d. monthly, and it is published at the office of *Gardening Illustrated*, 17, Farnival Street, Holborn, London, E.C.

Tulipa præstans.—This, a new arrival from Bokhara, is a very distinct and exceedingly pretty species. It is dwarf, 6 inches high as a maximum, with brilliant scarlet-velvet flowers 4 inches to 6 inches across. It has elegantly rounded petals free from any basal blotch, so characteristic of Tulip species, or exterior colouring of a paler or richer shade. The filaments are rich carmine, and the seed vessel is a bluish grey shade. The leaves are remarkable for a feature hitherto unknown among Tulips—a distinct hairy surface, giving them a pretty sea-green tint; they are very broad, and nearly prostrate, the flowers nestling in their sheathing bases. The buds are very charming as they emerge from the sheath, their scarlet-velvet colouring is as vivid as when the flowers are fully developed. So far as one year's experience of the plant's requirements serves as a guide there is nothing in its cultivation to especially note save that it appears better adapted for the rock garden than the plant border.

Tulipa wilsoniana.—An introduction of 1901, also flowering at the time of writing, does not improve upon acquaintance. One was naturally led by reports of its large size and vigour to expect some evidence of this in the plant, but it is naturally slender rather than stout,

and the flowers are by no means unusually large. The plant grows 8 inches high, producing six leaves, narrow and grasslike at the top of the stem, and broader below. The flowers are deep glowing crimson, and have boat-shaped, narrow petals about 3 inches long, the exterior surfaces being of a glaucous tint. It is a pretty plant of a distinctly slender type, with tapering buds and flowers, midway between *T. sylvestris* and *T. armena* in outline when fully expanded. Of its hardiness there is, perhaps, some doubt. A small planting succumbed to the frosts of February, 1902, but a similar planting this season has survived and is now flowering well. It doubtless requires a well-drained soil and warm dry position, such as would be afforded on a rockery slope.

Spring flowers in public gardens—

a criticism.—The efforts at decorating the smaller public open spaces and churchyards in London are well meant, but usually ineffective. Those who have the direction of matters seem to have little idea how to make the best of their materials. Take the spring display of bulbs, for instance. In too many cases the method adopted is to plant in lines and not in clumps. Now of all methods of losing effect that of planting lines of Crocuses or Daffodils or even Tulips is most certain. Contrast, for instance, the colour effect obtained by planting 100 Crocuses in a line of single bulbs with that obtained by grouping them into four or five clumps a few feet apart. One is feeble and weak to a degree, while the other creates an impression out of all proportion to the number of bulbs used. Daffodils lend themselves to grouping quite as well. And what can give a better display than a clump of Tulips of the same sort flowering as they would all at the same time? If someone would only try this style and break away from the formality of lines on little plots would be far more decorative. And a succession is easily kept up by alternating the varieties, so that as one goes off the next is coming on. The same method is as applicable to summer plants as to spring flowers. Group them without endeavouring to cover all the ground with single plants placed at equal and exact distances from each other. In other words, concentrate and strengthen, and do not disperse and weaken.—T. J. WEAVER, *Thirlwood.*

Showing forced Roses.—It may have been due to the earliness of their appearance, but certainly it will be difficult at any time during the year to present Roses in greater beauty, richer colouring, or in more refined form than were the beautiful flowers which Mr. Mount staged at the Drill Hall on the 24th ult. But Mr. Mount always sends up Roses of the loveliest nature to the early meetings, and one is tempted to ask whether other Rose growers cannot do the same, and then to institute a competition for collections of flowers set up on long stems in vases at the Drill Hall at the last March meeting. What a beautiful result might be obtained were classes for twelve trebles or fives in not less than six varieties, and for six of similar quantities in not less than four varieties, to be provided. How much more attractive would such exhibits be than are some of those stereotyped conglomerate exhibits at the Drill Hall, which are so monotonous and so tiring. Possibly amateurs would be out of such a competition, but they get ample opportunities to exhibit later. The primary object should be not only to show how readily Roses can thus be forced, but which varieties lend themselves specially to such treatment. We have seen Roses shown in such rich abundance in the autumn that competitions for them so late as September have been now and then suggested. So much the better were that the case. So much the better, too, would be competitions of forced flowers in the early spring. It is a fair cause of complaint that Rose competitions are limited to but a few weeks in summer, when the flowers are very plentiful and everyone has them. Generally, too, the flowers are seen in hot tents, and when the heat is broiling. There is neither comfort nor pleasure in seeing these glorious flowers under such conditions. But in the cooler temperature of early spring and late autumn, colouring is of the brightest and the flowers can be seen under enjoyable conditions.—A. D.

Exhibition of British-grown fruits and vegetables.—The Royal Horticultural Society will hold an exhibition of British-grown fruits and vegetables at Chiswick on September 29, 30, and October 1. The prize schedule is now ready, and contains, in addition to the list of prizes, an authoritative list of dessert and cooking Apples, Pears, and Plums. Special prizes are offered for preserved and hotted fruits. Copies of the schedule can be obtained on application to the secretary, Royal Horticultural Society, 117, Victoria Street, Westminster. Applicants should enclose a penny stamp.

Prizes for Auriculas, Primulas, and Daffodils.—At the Royal Horticultural Society's fortnightly meeting to be held in the Drill Hall, Buckingham Gate, on Tuesday, the 21st inst., special prizes will be offered for Auriculas and Primulas by the National Auricula and Primula Society. These are open to members of that society and to Fellows of the Royal Horticultural Society. For schedule of prizes see Royal Horticultural Society's book of arrangements for 1903, pages 61 and 62. Copies sent free on application to the secretary, Royal Horticultural Society, 117, Victoria Street, S.W., or separate schedules can be obtained from Mr. Henwood, hon. secretary of the National Auricula and Primula Society, 16, Hamilton Road, Reading, to whom notice of intention to exhibit must be sent four clear days before the show. Special prizes will also be offered for Daffodils, open to amateurs and gentlemen's gardeners only, first prize a £7 7s. silver cup (presented to the society by Messrs. Barr and Sons); second prize, Royal Horticultural Society's silver Flora medal. Group of Daffodil blossoms grown entirely outdoors (Polyanthus varieties excluded) must include some of each section, Magni, Medii, and Parvi-Coronati, must contain at least thirty varieties distinct, and at least three blooms of each must be shown. Not more than nine blooms of any one variety may be put up. To be staged in bottles, vases, or tubes, not exceeding 3 inches in diameter at the top (inside measurement), and all the stems must touch the water. Quality of flower will count more than quantity, and correct naming and tasteful arrangement will be duly considered. Any hardy foliage may be used, Daffodil or otherwise. No prize will be awarded unless there are three competitors at least.

Apple Annie Elizabeth in March. The very fine dishes of this variety staged by Mr. W. Tayler of Hampton at the meeting of the Royal Horticultural Society on the 24th ult. shows this old variety to be most meritorious. There can be no question whatever but that the above variety is a splendid fruit for use in March; indeed, I have kept it sound when grown in the northern parts of the country well into May, but its season is from December to Lady Day. At this date, when good dessert varieties are scarce, Annie Elizabeth will be found valuable for the dessert, and especially when such beautifully coloured fruits can be grown as staged by Mr. Tayler. I do not know what age the trees are that produced the fine specimens referred to, but in my own case I have not found Annie Elizabeth a very free bearer till the trees are a few years old; indeed, with me it is very shy for the first half a dozen years, and later on I find it well to use the knife sparingly. I well remember some twelve years ago seeing some very fine trees and fruits of this variety at Chiswick in the Duke of Devonshire's gardens, and Mr. May told me they fruited splendidly. This variety appears to do well in the Thames Valley evidently, as the quality of the fruits is first-rate and they colour well.—G. WYTHES.

Acacias in flower.—Throughout the early months of the year many of the Acacias are seen to great advantage. In most cases the flowers are borne in great profusion. Some are trees like *Acacia dealbata*, which, under the popular name of Mimosa, is sent here from the south of Europe early in the season in the shape of large flowering sprays. The most popular kinds, however, for cultivation in this country are those of less vigorous growth, which can be flowered in comparatively small pots, and of this type several are now well in bloom.

Particularly notable among them are *A. Drummondii*, a very distinct species, and one requiring more care in its culture than most of the greenhouse Acacias. In this the ascending branches are clothed with pinnate leaves of a deep green colour, while the pale yellow flowers are freely borne in partially drooping cylindrical spikes. It is a native of the Swan River district of Australia, and in cultivation needs a good proportion of peat in the soil. *A. lineata*, a compact bush, with narrow leaves little more than half an inch long, bears its little fluffy balls of rich yellow flowers in great profusion; *A. pulchella*, whose very slender branches are clothed with pretty pinnate foliage, is highly satisfactory in a small state; *A. hastulata* (syn. *A. cordata*) is one of the most distinct of all; the shoots, which have an upright tendency, are long and thickly clothed with tiny sharp pointed halbert-shaped leaves, in the axils of which the little pale straw-coloured blossoms are closely packed for a considerable distance. It is a small grower, of which characteristic examples may be grown in 5-inch or 6-inch pots. *A. leprosa*, a larger grower, with long narrow leaves and a graceful habit of growth, may be flowered well in pots, the flowers being soft yellow. *A. armata* is well known as a good Acacia for pot culture, the flowers, which are borne in great profusion, being of a rich yellow tint. Though there are several others in bloom, the last I will now mention is *A. riceana*, which in the style of its growth is very different from any of the others. It is of quite a pendulous habit, and when trained to the roof of a glass structure, and the long drooping shoots allowed to dispose themselves at will, it presents, when laden with its pale yellow blossoms, a most charming feature.—H. P.

Transplanting Columbines.—Some rather conflicting advice has been tendered recently in THE GARDEN concerning these plants among others. On page 158 Alger Petts writes in the third column: "Columbines and Everlasting Peas are two things that should never be moved." On page 178 Mr. Burrell advises that such Columbines as *Aquilegia glandulosa* and *A. Stuartii* should not only be moved but divided and replanted. The first statement is as sweeping as the latter is surprising, for if Mr. Burrell is writing of the true plants, both exceptionally slow in growth, very dwarf (the tallest about 8 inches high perhaps, and this *Stuartii*), he is fortunate in having plants large enough of either that readily admit of "selecting the strongest pieces" for the operation suggested by his note. As the subject of his note is "plants for cut flowers," one wonders that two of the most difficult to grow in the genus, and also the two dwarfest perhaps, as well as those most rarely seen as strong plants that would divide, are selected. As to the former statement, there is not the least doubt that some modification is required, for there are probably many hundreds of robust seedlings of the stronger growing Columbines planted afresh each year; indeed, seedlings of any under a year old of most of the taller perennial kinds may be transplanted in early spring with impunity. It is quite another matter when the plants have flowered their best for a season or two in the border, for then the Columbine may be said to have quite run its course, and a nine months old seedling would be infinitely finer in growth and better than any divided and transplanted portion, no matter how carefully done. There is not the least doubt either that the raising of seedlings for replacing the old stock is by far the best, the safest, as also the most profitable course. The seedlings should be from six to nine months old when transplanted. Some kinds—*e.g.*, the beautiful hybrids of *acerulea* and its allies, and, again, such nearly biennial kinds as *pyrenaica*—should always be raised from seeds periodically; indeed, they are unworthy of the trouble any other treatment involves. At the same time, I know all too well how slow and how very uncertain it is to rely upon dividing a plant of *A. glandulosa*, for instance, whereas by seed this alpine gem may be increased rather well. It is, therefore, in a group such as this, comprising good bold robust perennials, with great freedom of flowering, with others of biennial character, and

again sturdy alpine gems of the first water, that no one statement can suffice for all. Reproduction by seeds is Nature's own method, and in my opinion the highest standard of vigour is maintainable by these means in a large number of instances, if not indeed in all.—E. JENKINS, *Hampton Hill*.

Vitis amurensis.—In THE GARDEN of March 28 "H. P." speaks of this Vine as almost entirely lacking the fine autumn tints of *V. Romaneti*. This is an interesting illustration of the extent to which gardens differ. In strong soil here and with a south aspect *V. amurensis* is the most vividly coloured of all the Vines, as it is the first to take an autumn dress. The intense crimson altogether lacks the variety and refinement of *V. Thunbergi* (which takes here most exquisite shades of scarlet and orange, and lasts till well into the frosts), but its telling effect is beyond question. *V. Coignetiae* is a failure here. The leaves merely shrivel into an uninteresting brown stained with dull red. *V. Romaneti* does not colour at all. *Spinovitis Davidi* is also no good from the point of view of colour, but as Dr. Henry tells me that it produces in China Grapes of fair quality I am persevering with it.—A. K. BULLEY, *Ness, Neston, Cheshire*.

Flowers in Ravenscourt Park, Hammersmith.—In this prettily kept London County Council park spring—in a floral way—is asserting itself bountifully. How effective are the masses of Daffodils, intermixed with Ivy, under the Cedars near the library, the sombre foliage throwing into bright relief the golden flowers, and then near the same spot a colony of Grape Hyacinths in the grass produces a telling effect! A bed of that fine early Hyacinth, Grand Maitre, deep porcelain blue, with its massive spikes of extra large flowers, at once arrests attention. Tulips will soon be in beauty; already Vermilion Brilliant, a good early single, is very attractive. Another very fine single is Proserpine, salmon-pink. On the rockery a charming cluster of the brilliant dwarf early-flowering Winter Heath (*Erica carnea*) is noticeable. The pretty and well-known *Alpenrose* Windflower is bright in this quarter. *Primula spectabilis* is also worth a note. A good rockwork dwarf-growing plant is *Aubrieta deltoidea*, with its clusters of lilac or purplish flowers borne in profusion.—Quo.

Keeping Apples.—It is needful to draw a wide distinction between "keeping" Apples and Apples long kept. There was at the recent Drill Hall meeting an excellent example of the difference indicated seen in a collection of many dishes then staged, in which some true keepers had kept well, whilst others, not good keepers, had been far too long kept and were much shrivelled, being, indeed, for edible purposes quite worthless. It was well that after viewing this collection the fruit committee refused to make any award to it, as it would be indeed a mistake were any encouragement given to the keeping late of varieties of Apples that had for weeks, or indeed months, been past their best. As a consequence of this action on the part of the committee, it is hoped that Apples shown later than the month of January will be very closely scrutinised, and no awards be made unless conclusive proof is furnished that the fruits, let them be ever so nice in appearance, still have in them good dessert or cooking quality. No doubt place and treatment have very much to do with the keeping qualities of many Apples, but if badly kept then are the keeping properties of really late varieties severely tried. Of the collection referred to Newton Wonder, Lane's Prince Albert, Bramley's Seedling, and a few others were excellent, and their presence materially helped to show the distinction that exists between good keeping and too long kept Apples. Good keeping in any variety is also largely dependent on the way the fruits have been matured. Where trees have roots fairly near the surface, and can be fed by mulchings and occasional waterings with liquid manure whilst the fruits are swelling, very much has been done to render the fruits so matured that they readily keep well and long in good condition. Still, the best of fruits must be kept in a properly constructed cool store, in which the

temperature is moderately low and is always equable, whilst also the air is a trifle moist. A dry air and fluctuation of temperature that cause sweating are common causes of premature shrivelling.—A. D.

Schizostylis coccinea.—*Re* Mr. Parker's notes in THE GARDEN, March 28, with regard to the value of the above and *Iris stylosa* as winter-flowering plants in the open, I can heartily endorse all he states respecting their usefulness, particularly with regard to the former, which, I think, considering the beauty of the flower and its merits as a late autumn and early winter-flowering subject, is too seldom seen in our gardens, more especially, perhaps, in those with limited glass accommodation for flowers at that season. Although it prefers a warm soil and sheltered position, as your correspondent remarks, I would like to state that those with a cold and retentive soil, such as we have here, can grow and flower it successfully without any special preparation as regards fresh material. I find it repays to lift the crowns every two or three years, trenching the ground well, and adding a dressing of well-decayed manure before replanting. Last year our plants flowered remarkably well, and if in masses in the borders or in beds to themselves the pretty crimson flowers have a pleasing effect through the dull months of November and December. With a slight protection against sharp frosts they can be kept in flower for a considerable period. In those localities where it cannot be flowered successfully in the open it may be treated as a pot plant. With a sandy loam and liberal treatment it will repay any efforts.—R. BARTON, *Sedbury, Devon.*

PROPAGATION OF LILIES.

(Continued from page 199.)

PROPAGATION BY STEM BULBILS.

MANY Lilies, notably some forms of *L. tigrinum*, *L. davuricum*, *L. bulbiferum*, *L. wallichianum*, and some forms of *L. Brownii* most resembling *L. wallichianum*, but which agree with *L. Brownii* in having filaments with hirsute bases, produce stem bulbils more or less freely, and which may be increased in bulk and sometimes in numbers by removing the inflorescence, thus concentrating the plant's energies solely to the production of bulbils. These require frame cultivation for one year, for, though they may be perfectly ripe when taken

from the stem, they have no roots, and will remain helpless all the winter if sown outside as soon as gathered. Moreover, the young bulbils of *L. Brownii* and *L. wallichianum*, though perfectly hardy, produce very thick, primary roots, which seem incapable of withstanding cold or wet without decaying. Once provided with ample roots and leaves there is no trouble on this account, though one cannot treat them as if they were the rank and file of garden Lilies. In addition to this natural production of axillary bulbils, one can aid any Lily that roots freely from the stem (not others) to produce basal bulbils in quantity, and that without disturbing the bulb to a harmful degree. It is a useful practice with *L. Henryi* and others of the *speciosum* group, *L. auratum*, most of the long-tubed Lilies, and the *Isolirion* group of cup-flowered Lilies. It is the best means of propagating *L. Henryi* I know and any others that do not make scale bulbils readily. The practice is layering the stems as one would layer Carnations. The bulbils would need to be planted in rows 18 inches asunder, the active growing axes of the bulbils pointing in one direction in order that the operator may move freely among them. The soil must be loose and friable, so that the bulbils may be keeled over without damaging their roots. A trench is taken out on one side of the row of bulbils down to their bases just as the stems pierce the soil. The rooting section of the stem, then apparent, should be carefully freed of soil and a transverse wedge cut out, taking care the knife does not penetrate more than one-third the thickness of the stem and that the rings of roots are in equal numbers on each side of the incision. The bulbils are now carefully loosened and keeled over so that 6 inches to 10 inches of the stem is buried according to the strength of the species.

If the leafage has spread it should have very full exposure; if not it may be buried entirely, the growing point alone being near the surface. From eight to ten bulbils will form on the buried portion of the stem during summer; they will be very large compared with scale bulbils, seedlings, or axillary bulbils of the same age, and the parent bulb will appear none the worse. Growth of stem will, of course, be arrested, and flowers may be few in proportion to the number of bulbils produced. The operation of layering should be carefully performed, and the tip of the shoot should be embedded in loose soil, or a malformed, weakly stem will result. It is not generally known

that imperfect stem-growth through injury is often followed by perpetual fasciation—an ugly deformity at all times. The produce of a layered stem is greatly enhanced if the plants are not allowed to flower and produce seeds.

The preceding paragraphs deal mainly with Lily propagation by artificial means; there are also the powers most Lilies have of increasing naturally by bulb division and by offsets from the bulb base. Many do this too freely, insomuch that annual lifting is necessary to separate the young crowns for individual development. Such Lilies are *longiflorum*, *tigrinum*, *candidum*, *excelsum*, *croceum*, *speciosum*, *pardalinum*, *Hansonii*, and others well known as good garden Lilies, which readily adapt themselves to any soil and climate. There are only three Lilies known to me that do not form offsets naturally—*tenuifolium*, *polyphyllum*, and *cordifolium*, and even these may do so as a result of injury or other exceptional circumstance. Offsets and divisions of bulbils being practically established (*i.e.*, well-rooted) plants, call for no special attention save under cultivation, which will be dealt with next.

CULTIVATION.

The cultivation of Lilies has frequently been dealt with in these columns. There is, however, a great difference between growing a seedling or a bulbil but two years old to the flowering stage, and in growing a mature bulb full of vigour and ready to flower. I may, therefore, be permitted to touch upon cultivation very briefly in connexion with propagation, grouping the various species into lots, individuals of which succeed together.

Lilium elegans (including *Batemanniae*, *Wilsonii*, and *venustum*) is propagated by scale bulbils, stem bulbils produced by layering the stems, and by natural bulb increase. They are stem-rooting Lilies of dwarf stature, requiring a rich soil and slight shade when very young, but growing well in a warm border, planted 6 inches deep when of flowering size.

L. umbellatum (including *croceum* and *bulbiferum*) requires similar treatment to *L. elegans*. They delight in a strong soil, succeeding best amid a tangle of low-growing herbage.

L. speciosum (including *L. Henryi*) is propagated by scale bulbils, by stem bulbils, from layered stems, and by a slow natural bulb increase. They are vigorous rooting Lilies, whose stem roots are much more important than their basal roots.

They require the warmest position the garden affords at all stages of growth and a rich well-tilled soil. Bulbils and seedlings require frame protection in cold districts and heavy soils. In all cases they like a root-screen of low-growing herbage in order that their stem roots may be developed to their fullest extent. The season of flowering is so late that early planting and a warm winter mulch should be given to encourage early growth.

L. tigrinum and varieties are propagated by axillary bulbils where produced by scale bulbils and natural bulb increase. They are quick in developing flowering bulbs, have no distinct preference for any soil or position, and in the matter of cultural needs agree with *L. speciosum*, but so warm a site is unnecessary with *Tiger Lilies*.

L. auratum and allies are propagated by bulbils formed at the base of the stem when layered, by scale bulbils, and natural bulb increase. They require a root-screen of low-growing vegetation at all stages of growth, and cool and sheltered places among shrubs and herbaceous plants when the adult stage is reached. In cold, damp districts the protection of a frame should be given to bulbils and seedlings till they reach flowering size. Rare forms are best cultivated in a cool shady greenhouse in pots, starting them in sizes sufficiently large to contain the



THE NEW DRABA GRANDIFLORA.



DRABA GILLIESII.

bulbs, and shifting into larger as the season advances. A rich loam with leaf soil and sand is the best rooting medium for *L. auratum*. This Lily is mainly supported by stem roots, and the familiar mishap known as "sunstroke" is caused by the drying up of the root hairs or other injury to them. Well drained positions in the West of England, in Ireland, and exceptionally good soil free from insect life are very necessary with *L. auratum*. It likes a moist atmosphere, especially when young.

L. Martagon and its European and American allies may be propagated by scale bulbils in every case and by natural bulb increase. They do not make stem bulbils, but the scales of established bulbs make plenty of offsets if partially cut, a practice to be recommended for American types in particular. Rare European *Martagons* and *L. Humboldtii* should be grown on from the seedling or bulbil stage in a slight tangle of roots such as would be found at the foot of a fence. Their stem growth will be slight in such places, but large bulbs are produced. The site, of course, must not be hungry or dry. Bulbils of *pardalinum*, *superbum*, *Grayi*, and *canadense* require a damp soil of good tilth; leaf soil and sand or peat are best, but a layer of rich loam below the peat will carry the plants through dry weather unharmed. They require shelter from strong sunshine in a young state, and a root-screen of low growing vegetation in the adult stage. All save *pardalinum* delight in shady places. The American *Martagons* are slow of increase, division of the roots and bulbils produced by scratching scales off established bulbs large enough to admit of handling are the principal methods. Seedlings are extremely

difficult to nurse to the adult stage, whilst bulbils grow more freely.

L. concolor, with *Coridion*, *pulchellum*, *callosum*, &c., are very slender growers, their bulbs are too small and the scales too soft to render bulbil production satisfactory, but bulbs subjected to good cultivation increase freely, making compound bulbs of six to eight crowns, each of which may be separated and grown on. They require a rich, yet light soil, a root-screen of low-growing plants, and similar treatment in a young state to that advised for *L. elegans*.

L. candidum and its hybrid offspring excelsum are propagated easily from scale bulbils, which they form readily and in great quantities. They like a rich kitchen garden soil best of all, with a sun-screen of fruit trees in a young state, but an open exposure as adult plants. Bulbils make rapid growth, and reach the flowering stage in four or five years. They revel as young plants in a manured soil, but the manure should be partially worn out by a previous crop. Planters of these Lilies should remember they make no serviceable stem roots, and that both these Lilies should be planted by November at the latest.

L. longiflorum and allies increase readily by scale bulbils, stem bulbils naturally produced or layered, and a prolific bulb increase. The forms which hail from warm districts, such as *eximeum*, *Harrisii*, &c., are exceptionally prolific in stem offsets, whilst *Takesima* and other mountain forms do not increase so readily. In countries having a dry winter season and wet summer this Lily may be propagated freely, but in England it starts too early in the year to be safe, whilst young plants of longiflorum types rarely rest. *L. Brownii* and *L. odorum* do better, and since growers have adopted the practice of screening the roots with carpeting plants their establishment in gardens has progressed. They may be well grown in a good kitchen garden soil as young plants, preparing beds for them under the shade of fruit trees, and raising the soil 6 inches above the general level. Their natural increase is good, and scales are prolific in bulbils when detached.

L. Leichtlinii and *L. Maximoviczii* produce stem bulbils when layered and scale bulbils. Neither plant makes appreciable bulb increase. They require a light soil of good tilth and the shade of trees when young, and they resent great heat more than any Lily I know.

The *wallichianum* group, comprising forms of *Brownii*, such as *leucanthum* and *Chloraster*, which are nearest to *wallichianum*, are propagated by stem bulbils where present and by bulbils formed on layered stems. They need frame cultivation in a young state, and succeed best in a greenhouse border as adult plants, though capable of being successfully grown outside in all save the coldest counties. They much dislike pot culture, and require to be planted deeply from the first, for seedlings and bulbils make stem roots when only two years old, whilst their basal roots are very thick and tuberous. Scales so far as tested are not a satisfactory method of increase.

Lilium nepalense, *Lowii*, *rubellum*, and *Kramerii* make stem bulbils in fair numbers, but do not

lend themselves to artificial treatment so far as tested. Their scales when fresh and ripe often form bulbils, but generally they are not to be depended upon. The two former are not hardy without protection, and the two latter require a tangle of roots in which to grow, such feeding as may be required being given in the form of fresh soil to the stem roots. *Lilium washingtonianum*, *columbianum*, and kindred forms make scale offsets freely if the scales are partially cut through. They require the companionship of other plants whose roots would surround the scales yet leave sufficient moisture for the bulb's roots. A light soil of vegetable mould and good loam and a root-screen of British Ferns suit this plant admirably; in fact, Ferns seem peculiarly adapted to preserve the bulbs of these Lilies and *L. Humboldtii* in variety. I have spoken throughout of root-screens, and for seedlings and young plants generally I know nothing more useful for their protection than Woodruff (*Asperula odorata*). Larger bulbs other than adults may be protected by such free-rooting things as *Anemone sylvestris*, small hardy Ferns, and free-growing alpine. Adult bulbs in permanent quarters, particularly those varieties forming stem-roots, should have a root-screen of stronger-growing Ferns or any other plant that may be more desirable, and whose roots are in the form of minute fibrils. GEORGE B. MALLETT.

NOTES ON HARDY PLANTS

DRABA GRANDIFLORA.

ONE of the latest additions to a genus already well represented in our gardens, this is a plant with a neat tufted habit and tomentose foliage, well shown in the illustration, reproduced from a photograph taken of a pan growing in the alpine house at Kew. A native of the Andes of Ecuador and Peru, it is found growing in the crevices of rocks on Mount Chimborazo at an elevation of 14,000 feet. It has proved to be quite hardy, succeeding well in a sunny position in gravelly soil, quite a dainty little plant with a profusion of white flowers, and worthy of a place in the choice part of the rock garden.

DRABA GILLIESII.

This has the general aspect of *Arabis albidia*, the leaves are pubescent and dentate. With *D. grandiflora* *D. Gilliesii* forms a small group, distinguished by their soft foliage, large white or purplish (not yellow) flowers and long style, and inhabiting exclusively the Andes of South America. *D. Gilliesii* somewhat resembles *D. incana* in habit, but the flowers are much larger, and the seed pods always twisted. W. IRVING.

AJUGA GENEVENSIS VAR. BROCKBANKI.

SEVERAL of the *Ajugas* are rather aggressive in their ways, and this failing the variety of *A. genevensis* named *Brockbanki* shares in common with the type. It sends out underground runners, a habit which can only be called a virtue in certain wild or semi-wild spots, but is certainly a great inconvenience (to say the least of it) in a great number of positions. Yet in the rock garden, for instance, it may be kept in bounds by confining it to a "pocket," and even in the border with a little attention it can be prevented from becoming troublesome. It is one of the few plants with almost a pure deep blue flower. There is scarcely any admixture of the purple tone so prevalent among blue flowers. It is of erect habit, growing from 9 inches to 1 foot in height in good soil, but in poor compost often not reaching to more than 6 inches high. The flowers are a deep intense blue, and the leaves, while much lighter than those of *A. reptans atropurpurea*, are of a remarkably deep green, approaching bronze at times. One of the advantages of *A. Brockbanki*, as it is frequently called for brevity's sake, is the ease



THE NEW ANEMONE INTERMEDIA AT KEW.

with which it can be grown. One cannot well substitute "cultivation" for "grown," as if planted in any soil in spring or autumn it will grow without attention in either sun or shade. All that it may be the better of afterwards is keeping within bounds, and this is more easily done than with most other plants which increase by means of underground runners. It flowers in early summer and lasts for a long time in bloom. It does not appear to be very often catalogued, though it is to be met with in a few catalogues of this season. I have had it for twelve or fourteen years at least, and probably for more.

Carsethorn, by Dumfries, N.B. S. ARNOTT.

ANEMONE INTERMEDIA.

A CHARMING addition to the Windflower family, with pale sulphur-coloured flowers. It is evidently intermediate between *A. nemorosa* and *A. ranunculoides*, and is a natural hybrid found growing in Silesia in close proximity to its parents. Succeeding well in positions that suit the wood Anemone, it also makes a pretty pot plant for the alpine house. W. I.

THE FLOWER GARDEN.

PILLAR PLANTS.

MANY of our most beautiful hardy climbing plants are not placed in positions that display their intrinsic beauty to the best advantage, and, as far as my experience goes, there is a tendency to train them far too stiffly. Clematis, Ivy, Roses, Honeysuckle, and many other climbing or trailing plants require little skill to grow them well either in the country or near large towns, yet one often hears complaints from growers that their plants do not thrive. This may be attributed in part to the position in which they are planted. There is no more effective way of growing numerous hardy climbing plants than against pillars or old tree stumps and allowing the growths to ramble at will.

The monotony of shrubberies may be relieved in a marked degree by placing at irregular intervals a few rough Larch poles of from 6 feet to 10 feet in height, and planting at their base such strong-growing things as Clematis of the Montana

and Jackmani types, or the Carmine Pillar Rose and its congener Crimson Rambler. Honeysuckles, Jasmines, and Wistarias are also plants admirably adapted for this purpose, being quick in growth and profuse flowering. Anything that breaks up monotony in the flower garden and pleasure grounds should be welcomed, and in no better way can this be brought about than by judiciously disposing these free-flowering plants against pillars and arbours. It is a matter of taste whether the subjects chosen are planted separately or in association, but if two plants of different things are placed together then it is essential first to consider whether they are suitable companions.

The work of planting should be completed as soon as possible, and if the natural soil is fairly light little preparation will be necessary except to incorporate some well-decomposed farmyard manure into it. If the medium is clayey then holes should be taken out 2 feet deep and replace with some old potting soil, or a mixture of loam and leaf-soil, adding a few shovelfuls of charred garden refuse. It is also good practice in such cases to throw into the bottom of the hole broken bricks or linkers to ensure good drainage.

Avoid hard pruning at all times, and encourage the strongest growths to ascend by every possible means. Tie them loosely to the support as they advance in growth, and allow the young lateral shoots to hang in a natural manner. Weak and dead shoots only should be pruned out in winter unless the growth made in summer is immature, when it should be shortened back to ripe wood. Liberal treatment must be given during active growth in summer by occasional applications of liquid manure, alternating this with a sprinkling of Clay's or other approved fertiliser and watering it in with clear water.

Many other hardy climbers not enumerated here are adapted for pillars; individual tastes differ considerably in these matters, and locality has to be considered when making a selection. In northern districts much good will result by mulching with Bracken or other litter as a protection to the roots in winter. A mulch of half-decayed manure in spring will be highly beneficial in keeping in moisture during periods of drought in summer, besides assisting the plants to grow freely. H. T. MARTIN.

SWEET PEAS.

WHEN condemning the practice of sowing Sweet Pea seed in the open ground in autumn I think it a

pity "A Grower" (page 157) did not mention his locality and the nature of his soil, for in my experience the success or failure of this method depends largely on these conditions. Here, in the west, autumn sowing is to be strongly recommended, but the seed must not be sown too late; the latter part of September is quite late enough, for the young plants must be well established before winter sets in. When March is passed the growth these plants make is quite astonishing, and by the end of May they are flowering profusely. Where the soil is very heavy severe frosts do sometimes prove detrimental to autumn-sown Sweet Peas, but in a light or moderately light soil they are unaffected by 20° (Fabr.) of frost.

The finest lot of Sweet Peas I have ever seen were at Peamore, near Exeter, the first week in July, 1899. The seed was sown in the open ground about September 20 the previous year, and at the time of my visit the plants were over 8 feet high and full of flower. Mr. Abrams remarked that by September his Sweet Peas were usually quite 12 feet high, and he had practised autumn sowing for many years and never had any failures. There is no comparison between the great amount of labour involved in sowing in pots or turves and the consequent hardening and planting out and that of sowing in the open ground.

"A Grower" writes of the labour in "protecting" autumn-sown plants. That is probably the cause of his failure, for beyond drawing the soil around the plants and sticking in a double row of brushwood, "protection" does more harm than good. I heartily agree with his remarks as to treatment after planting out, and especially the advice to use young growth when arranging the flowers; if anything is considered necessary a few pieces of the common Asparagus gives the arrangement a light and graceful appearance. The list of varieties given by "A Grower" is a very good one, but I should not care to discard the fiery Mars or the delicate Prima Donna. A. C. BARTLETT.

Pencarrow Gardens, Cornwall.

IRIS KÄMPFERI.

IRIS KÄMPFERI has been much sought after in recent years, a circumstance mainly due to the increased interest taken in water gardening generally, and to the fact that growers at home and abroad have succeeded in raising varieties whose flowers not only greatly surpass those of the original *I. Kempferi*, but those of most other Irises. The plants are well fitted for bold displays in connexion with water and water-loving vegetation, inasmuch that no water garden is likely to be judged perfect unless it contains one bold clump of this grand Iris.

The plants are generally placed in soddened quarters, lack air, refuse to grow, and then sicken. Presumably the water dries up somewhat during the following summer, and the plants, feeling better, make another attempt to grow, but the winter floods, catching the half-matured growth, stifle it, and the result is total failure.

If would-be planters of *Iris Kempferi* visited a well appointed amateur's garden where it is made to thrive they would soon realise that this Iris does not require a submerged rooting area all the year round. Though able to grow well during the warm months of summer with the roots under water, it is absolutely essential that they should have a gradually diminishing supply of water once growth shows signs of maturity, if not, the masses of roots they invariably make just before winter are stifled, the plants sicken and start badly in the spring.

I have had opportunities of watching experiments with *Iris Kempferi* for several years,

and have always found that those plants grown under artificial conditions, in which water is given to them plentifully in summer and withheld in winter, grow and flower with great freedom. The great mass of clean white roots they make under such conditions is a force to be depended upon, and the plants producing them must grow and flower, and that freely.

I could never see any real benefit but plenty of mischief in the practice of continually submerging them, the soil in which they grow must be cleansed of impurities by thorough aeration and the action of frost and wind during the resting season if they are to thrive. The general conditions under which this *Iris* is likely to do well may be gathered from a study of the water-loving vegetation (other than aquatic) on the Thames banks, where it will be noted the plants grow and flower best when they are situated about the average high water-line, and with the roots occasionally submerged. If one wanted to grow *Iris Kämpferi* for the plant alone nothing could be better than a bed surrounded by a brick tank, which could be flooded in summer and drained dry in winter—something in the nature of the aquatic tank at Kew, wherein *Iris Kämpferi* really thrives. Such structures are, as a rule, too aggressive to admit of wide recommendation.

It is far better to "pile" portions of a natural or artificial pond, lake, or stream, and fill in the enclosed area with meadow loam (rather sticky than otherwise) and half rotted leaves, so that the bed is raised a foot above the high water-mark. An occasional flooding will benefit the plants when they are fully established, and if the Japanese practice of mulching the plants lightly with cow manure is followed in the winter they will give little or no further trouble save for an increased mulch every year.

Planting banks of waterways, if not too steep, is to be recommended, selecting sites just above the water-line. Plants high up on steep banks, though overlooking water, are often drier than they would be in the open border, and at the worst possible time of year. They often go the way of certain kindred Californian *Irises*, which split up into such an infinity of small growths that the plants have no chance of building up even a few of them to flowering size and strength. The Japanese have long since found out that *Iris Kämpferi* must be grown under artificial conditions, and that some means must be adopted to control the water supply as may be most fitting under the circumstances, having regard to the fact that a distinct rest is required in winter—not a sharp check by frost, for that would only stop one set of newly-developed growth and cause buds at the base of the slender rhizome under water to start in order to take their place. What is wanted is a gradual cessation of growth in conjunction with exposure to ripen growth already made, so that the plants may be inured by easy stages to a low temperature and a drier condition, and equally as slowly and as safely brought into growth again.

It is scarcely possible to give a detailed list of the best varieties to plant, for the standard of nomenclature is too lax for such a list to be of service, each firm having its own standard, and one often gets the same variety under half a dozen names.

The names given by the Japanese to their varieties, invariably poetical and fantastic, such as Waves of Moonlight, Happy Old Pair, Ornament of Happy Land, Gown of the Fairy, Waves Kissing a Hillside, &c., are obviously impossible in this country. The only solution of the difficulty is in classifying singles and doubles respectively as to colour and size—the method now generally adopted.

GEORGE B. MALLETT.

NARCISSUS OBVALLARIS.

AMONG the many beautiful forms of Trumpet Daffodils now in cultivation, this is one of the most popular. To quote the words of Mr. Peter Barr, "this remarkable flower is distinct from all others; it is not large, but with all the fine qualities that delight the eye of the connoisseur florist." And although these remarks

were made as long ago as 1884, they still hold good at the present day. It seems to have acquired the popular name of Tenby Daffodil, from the fact of its being found wild near the Welsh town of that name, and tradition has it that it owes its introduction to the Spaniards at the time of the Spanish Armada, when one of their ships was said to have been wrecked on the Welsh coast.

In the poor sandy soil of my garden this *Narcissus* proves most satisfactory, and as it belongs to the first early section is greatly benefited if given a sheltered position. Our finest flowers are produced from bulbs, which were planted a few years ago amongst some large blocks of sandstone rock on a partly shaded bank facing south, and sheltered from wind. In this

position it has proved a good grower, and the only attention the clumps have received is a slight dressing of bone-meal each autumn. This year the first blooms opened on February 24, and their rich yellow colouring seems to have been enhanced by the mildness of the season. If it were not for the fact that the tone of yellow in the crown is rendered deeper than that of the perianth segments, owing to its firmer texture, the Tenby Daffodil might be correctly described as self-coloured. The more one examines the flower the more it seems to grow in beauty. The noble crown, crisped and reflexed, the elegant perianth segments, the glaucous leaves and robust habit, all these unite in giving us a plant of delightful grace and beauty. Well might the Dutch raisers of seedlings take this exquisite flower as a type of what a good Trumpet Daffodil should be, and thus aim at refinement instead of abnormal size. And speaking of seedlings reminds me that a most interesting discussion on the importance of getting earlier first-class flowers took place between those two eminent growers, the Revs. S. E. Bourne and G. H. Engleheart, at Birmingham last year. The former pointed out that although many magnificent seedlings were exhibited from year to year, none of them were as early as Henry Irving, *Obvallaris*, Golden Spur, and some others; to which Mr. Engleheart made reply that "at present there was no material out of which to make them. The earliest existing flowers were merely trumpets, and there were no coloured *Narcissi* with which to cross them. If later coloured flowers were forced, still the resulting seedlings would be only intermediate in date of flowering."

Worcestershire.

ARTHUR R. GOODWIN.

THE VIOLET INDUSTRY IN AMERICA.

It has been remarked, jocularly, that every second building in Rhinebeck, N.Y., is a Violet house, and that they are now beginning to build others between. The Violet centre known as Rhinebeck really comprises in addition to Rhinebeck proper

the little places known as Red Hook, Barrytown, Staatsburg, and Rock City. This aggregation boasts of upwards of sixty Violet-growing establishments. Anyone who will consult the list of these growers in the Florists' Directory will be interested to note how many there are of identical families, three, four, or five of one surname being not uncommon. The variety grown in this famous Violet country is almost exclusively Marie Louise, the Imperials, Farquhars, Campbells, and singles being practically out of the running, and no healthier plants, finer flowers, or heavier crops can be found anywhere in the world. Everything seems congenial to the Violet, and disease of any kind is a rarity. Picking of flowers is done as early in the morning as possible, and the bunches are put away with the stems in water until the



THE TENBY DAFFODIL (*NARCISSUS OBVALLARIS*) IN ROCK GARDEN.

time to pack up and drive to the New York train, where the goods are taken in charge by the express company. The nearest railroad station is Rhinecliff, two miles from Rhinebeck.

Time was, not very long ago, when out of about every thousand Violets a good grower would select a hundred as specials that were well worthy of the honour and would bring a very much higher price than the balance. But in recent years the word "special" has been much abused and, as is also the case with Roses, has but little meaning as variously interpreted by different growers.

Good bunching, as understood in the New York market, requires dexterity and patience. Much of the best bunching is done by the women of the family, they seeming to acquire the required facility much more readily than do the men. As a rule each bunch is hooded with a sheet of paraffin paper for protection and to confine the fragrance. In packing it is customary to lay the bunches close

together in single layers on flats, which rest on cleats in the packing boxes, but with the finest grade of goods, in bunches of 100 flowers. Shelves are sometimes used in which round holes have been cut to hold one bunch each.

The great increase in the number of Violet growing establishments within the past few years has entirely changed the aspect of the traffic in New York city. Whereas, some years ago, the bulk of the product passed through the hands of one commission man who made this flower his specialty, there are now nearly a score of operators. Under former conditions Violet customers would begin to straggle into Mr. Gunther's about 2 p. m., well supplied with smoking material to while away the time until the arrival of the regular daily shipment, each clamorous to secure his share, and when the receipts fell short of the demand, which frequently did happen, the question of price was seldom discussed. Now there are more than enough for all, and, instead of the buyer going in quest of the Violet, the Violet most often has to seek the buyer.

All the growers in "Up-Hudson" localities try to ship on the same train, the larger concerns daily throughout the season, others every second day or semi-weekly, according to capacity. The "Violet Special," as this train is known, leaves Rhinecliff at noon and reaches New York city about 3.30 p. m. The Tuesday and Saturday shipments are apt to be the heaviest, 125 boxes from Rhinebeck being a not unusual Saturday cargo, and at Easter hay waggons are brought into service to convey the stuff down to the Rhinecliff railroad station. As the boxes contain anywhere from 1,000 to 3,000 flowers each, it will be seen that a day's shipment often aggregates a quarter of a million blooms.

Half a dozen New York retailers acting in harmony can make or break the price of Violets. They learn from the boys or the express men how many boxes have "come down," and their willingness to buy is based largely on the information thus obtained, and all the "forcing" of values on the part of the wholesalers is futile if the retailers so decree. It is a common practice with some of the retailers to telephone to the various wholesale houses and have each send a couple of boxes of Violets as soon as received. Out of the two or three dozen boxes thus secured for inspection three or four of the best are retained and the balance ordered back. The retail dealers do not "order" Violets nowadays; they do not have to. And the day of fabulous Violet prices in New York has undoubtedly gone for ever.—*The American Florist.*

THE HERBARIUM BUILDINGS OF THE ROYAL BOTANIC GARDENS, KEW.

USE AND VALUE OF A HERBARIUM.

MANY visitors to Kew wonder what the large buildings on the north side of the Green, near the entrance to the gardens, can be. Some imagine it is an asylum; others, like a coster with hands deep in his pockets and an interrogative inclination of his head in the direction of the building, "S'pose it's a school, sir." But it is there that the vast and valuable collections of dried plants belonging to the Royal Botanic Gardens are deposited. It is there also that the magnificent library is housed. Both herbarium and library are constantly increasing, and to keep pace with this it has been necessary to erect a new wing. But before describing the building it may be well to explain the use of a herbarium, and give some particulars of the history of the one in

view. The use and value of a herbarium, apart from its extent, depend upon the proportion of specimens it contains, which are the *types* of the species they represent or have been critically compared and named from such types. Type specimens are those actually described by the botanist who first described the species to which they belong, and the describer is termed the author or founder of the species.



W. BOTTING HEMSLEY, F. R. S.
(Keeper of the Herbarium, Kew.)

In botanical works it is usual to cite the name, or an abbreviation of the name, of the author of a species, and give a reference to the original description, or to the book in which he published that name. For example, *Bellis perennis*, L., Sp. Pl. ed. i. page 886, would take us to the book in which Linnaeus first made this combination. Botanical types, then, serve the same purpose as the standards of weights and measures, though not in the same degree, because species are not immutable creations, as all gardeners know. Speaking generally, if you wish to multiply a certain species or variety without risk of variation you must do so by means of cuttings or grafts, for seedlings differ from each other, like individuals of the human race. Bearing this in mind, it will be understood that some limit and some rule must be observed in the formation of a herbarium or it would soon become unmanageable. With few exceptions, for special purposes, specimens of cultivated varieties of fruits, vegetables, and flowers are not preserved, nor does it come within the functions of a botanist to name or identify such varieties. Further, there is no attempt to illustrate in the herbarium the

whole range of variation exhibited by a species even in a wild state. This will be intelligible to any person who will take the trouble to examine a number of individuals of a common weed, such as the Shepherd's Purse or the Sow Thistle.

The duties of the members of the herbarium staff may now be briefly defined. Firstly there is the verification of the names of plants as they come into flower in the gardens, and the naming of specimens sent to Kew for identification, including quite new plants, which have to be described and names assigned to them. Under this head there are numerous applications for information respecting plants which yield dyes, fibres, rubber, &c. This work is often very troublesome in consequence of the material submitted being incomplete or insufficient. In addition to this, further collections of dried plants are continually arriving from various parts of the world, and these have to be classified and incorporated in the general herbarium. Some are only approximately named, often only the genus being given; others are more critically elaborated and the results published. Some idea of the extent of this work may be got from the "List of Kew Publications" which appeared in the "Kew Bulletin" for 1897.

THE HISTORY OF THE HERBARIUM AND LIBRARY.

When Sir William J. Hooker took charge of Kew Gardens in 1841 there was neither library nor herbarium. Fortunately he possessed both on a scale unusual in private ownership. At first his books and plants were accommodated in his residence, though used for the establishment and accessible to other botanists. In 1853 his herbarium and part of his library were transferred to the building known as the King of Hanover's House, which is that part of the present block on the extreme right in the accompanying view. There was also a small grant for attendance and assistance, on the condition of their being open to botanists. The same year Miss Bromfield presented the herbarium and library formed by her deceased brother, W. Arnold Bromfield, M.D., to the nation, to be deposited at Kew. Technically, therefore, this was the foundation of the national collection there, because Sir William Hooker's collection did not become national property until after his death in 1865. Bromfield's herbarium consisted of British, North American, and Oriental plants, and was comparatively small. The books numbered upwards of 300 volumes, among them some valuable editions of sixteenth century authors.

In 1854 the late Mr. G. Bentham presented his library and herbarium, which were only surpassed in extent and arrangement by the Hookerian. Bentham worked almost uninterruptedly at Kew for nearly thirty years after this. In 1866 the Government purchased the Hookerian herbarium, together with such books as were not in Bentham's gift, an extensive collection of drawings, manuscripts, portraits of botanists, and the whole of Sir William's botanical correspondence, which covers a period of sixty years, and consists of some 27,000 letters. Such is the history of the foundation of the Kew Herbarium. When the writer entered, in 1860, the whole of the Herbarium, excepting the Hookerian



THE HERBARIUM AT KEW (ON LEFT HAND SIDE IS THE NEW WING).

Cryptogams, was contained in the existing rooms of the King of Hanover's House; but the annual additions were so great that every room and passage, including the large drawing-room, since demolished, were soon filled with cabinets, and eventually the congestion was so great that it became imperative to provide more space. Accordingly, in 1876-77 the drawing-room was pulled down and the large hall built, which runs from the back of the original building towards the Thames. This is a quadrangular structure, 86 feet by 43 feet, with a ground floor and two galleries, connected by two spiral staircases, and lighted by forty-eight windows. In less than twenty-five years all this additional space was occupied, and passages again brought into use. Now a second hall, of the same plan and dimensions, has been erected and is connected with the old one on each floor by a corridor 56 feet long. The view of the empty interior of the new hall is taken from the west end, looking towards the iron doors of the connecting corridors.

EXTENT OF THE HERBARIUM AND LIBRARY.

About three years ago a careful estimate was made, by taking averages, of the number of sheets of herbarium specimens of the phanerogamia or flowering plants. Allowing for subsequent additions the total number of sheets is now approximately 1,000,000, and the number of specimens 1,500,000. They are contained in upwards of 500 double cabinets. Some of the natural orders have been separately computed. The Compositæ, the largest order, comprise about 83,000 sheets and 176,000 specimens; the Orchidæ, 37,000 sheets and 92,250 specimens; the Gramineæ about 60,000 sheets and 120,000 specimens. The Kew Herbarium is exceedingly rich in type specimens, comprising as it does all those of the two Hookers, of Bentham, Oliver, Baker, and of all the other members of the staff since the foundation, besides a large number described by unattached botanists, both native and foreign.

The library consists of upwards of 20,000 volumes, large and small, filling two rooms about 33 feet by 20 feet; two rooms about

42 feet by 16 feet, besides half a dozen small ones. The specimens and books are supplemented for working purposes by a collection of at least 100,000 drawings of plants, contained in 360 large portfolios. This is of the greatest service in the identification of cultivated plants.

W. B. HEMSLEY.

KEW NOTES.

INTERESTING PLANTS IN FLOWER.

Temperate House.

ACACIA DRUMMONDII, *A. hastulata*, *A. lineata*, *A. verticillata*, *Acokanthera spectabilis*, *Begonia mani-*

cata, *Billardiera scandens*, *Boronia polygalifolia*, *Brunfelsia eximia*, *Calpurnia aurea*, *Cheiranthus hybridus*, *Chorizema cordatum*, *Clematis indivisa*, *Eutaxia myrtifolia*, *Hardenbergia comptoniana*, *H. monophylla*, *Hibbertia Readii*, *Pentapterygiun serpens*, *Prostanthera denticulata*, *Rhododendron Beauty of Tremough*, *R. Falcoueri*, *R. serpyllifolium*, *Sisyrinchium paniculatum*, *Templetonia retusa*, and *Tetratheca pilosa*.

Orchid Houses.

Aerides houlletianum, *Ansellia africana*, *Burlingtonia pubescens*, *Cattleya Schroedera*, *Chysis bracteescens*, *Ceologyne flaccida*, *C. lentiginosa*, *Dendrobium crepidatum*, *D. fimbriatum var. oculatum*, *D. superbum var. giganteum*, *D. undulatum*, *Eulophiella Elizabethæ*, *Lælia oweniana*, *Lissochilus purpuratus*, *Lycaeste consobrina*, *Masdevallia courtauldiana*, *M. ignea*, *M. Pourbaixii*, *M. schroederiana*, *Maxillaria flava*, *M. houtteana*, *M. sanderiana*, *M. sanguinea*, *Odontoglossum constrictum var. sanderianum*, *O. Edwardii*, *O. gloriosum*, *O. (Erstedii)*, *O. Pescatorei*, *Oncidium altissimum*, *O. lucasianum*, *O. phymatochilum*, *O. tetrapetalum*, *Pelexia olivacea*, *Pholidota convallariæ*, *Polystachya laxiflora*, and *P. ottoniana*.

Range.

Acanthus montanus, *Arisæma filiforme*, *Bignonia tweediana*, *Brodiaea grandiflora*, *Clerodendron myrmecophilum*, *Crinum Macowani*, *Cyphia volubilis*, *Eranthemum graciliflorum*, *Ferraria undulata*, *Hoffmannia refulgens*, *Hippeastrum pardinum var. superbum*, *H. Reginae*, *Pelargonium canariense*, *Porphyrocoma lanceolata*, *Sarracenia* in variety, *Scutellaria luzonica*, and *Spathicarpa sagittifolia*.

Palm House.

Clerodendron cephalanthum and *Macaranga portiana*.

Greenhouse.

In addition to many forced plants, Acacias in variety, *Clianthus puniceus*, and *Hippeastrums* are worth special mention.

Alpine House.

Alyssum mœllendorffiana, *Auriculas* in variety, *Draba grandiflora*, *Fritillaria citrina*, *F. Guicci-*



INTERIOR OF THE NEW WING OF THE HERBARIUM, KEW (NOW READY FOR USE).

ardii, *F. lanceolata*, *F. orsiniana*, *F. pudica*, *F. tulipifolia*, *Gentiana verna*, *Hyacinthus moschatatus* major, *Iris buchanica*, *I. Chamæiris* var. *lutea*, *Linum arboreum*, *Lysimachia crispidens*, *Primula rosea*, *Thalictrum anemonoides*, *Trillium ovatum*, *Tulipa micheliana*, *T. præstans*, and *T. wilsoniana*.

Bulb Border.

Allium zebdanense, *Brodiaea uniflora*, *Fritillaria* (numerous species), *Muscari* (collection of species), *Ornithogalum fimbriatum*, *O. nutans*, *Tulipa biflora* var. *afghanica*, *T. fragrans*, *T. Lownei*, *T. primulina*, and *T. pulchella*.

Iris Garden.

Iris pumila vars.

Rock Garden.

Anemone Pulsatilla, *Cardamine digitata*, *C. polyphylla*, *Corydalis cava*, *C. c.* var. *albiflora*, *C. thalictrifolia*, *Daphne oleoides*, *Iris attica*, *Lathyrus vernus*, *Primula denticulata* var. *cashmiriana*, *P. frondosa*, *P. rosea*, *Pulmonaria officinalis* alba, and many other things recently mentioned.

Arboretum.

Amelanchier canadensis, *Berberis Darwinii*, *Cassandra calyculata*, *Cytisus præcox*, *Erica arborea*, *E. australis*, *E. mediterranea* vars., *Magnolia conspicua*, *M. stellata*, *M. soulangeana*, *Pyrus floribunda*, *P. salicifolia*, *P. sanguinolenta*, *Rhododendron campanulatum*, *R. ciliatum*, *R. Metternichii*, *R. niveum*, *R. racemosum*, *R. Thomsoni*, *Ribes aureum*, *R. sanguineum*, *Spiræa acutifolia*, *S. arguta*, and *S. Thunbergii*.

THE ROCK GARDEN.

THE ROCK GARDEN IN EARLY SPRING.

SPRING has come at last, and the flowering season in the rock garden is commencing in real earnest. After winter has passed we naturally look first to that part of the rock garden which contains our choicest gems and satisfy ourselves that all is well with them. Many of these are now already in bloom and lay claim to our admiration of their charms. Of such I may mention

Androsace sempervivoides, which at Exeter is now in full bloom. It is not often seen in rock gardens, but it decidedly deserves a place of honour in the part reserved for minute plants. The flowers are bright rose, with a yellow centre. They appear six or more in an umbel on the top of a more or less erect wiry stem $2\frac{1}{2}$ inches long, springing from the centre of an imbricated rosette of leaves. Around the stem which bears the flowers, and which is green in colour, appear several prostrate red stems, bearing at the end fresh rosettes of leaves, resembling, as the name implies, a small *Sempervivum*. Stony soil and plenty of light are required for this charming plant. A better-known *Androsace*, also now in bloom, is *Androsace Chamæjasme*, which has minute white flowers with a yellow centre, appearing generally in umbels of six flowers on a hairy peduncle only 1 inch or $1\frac{1}{2}$ inches high. Other *Androsaces* are showing bud, but are not fully open at the time of writing (March 23).

Shortia galacifolia is another gem which is now in full bloom. The pure white drooping flowers are fringed, and have a reddish calyx and creamy white anthers. The leaves of this plant I have mentioned in previous notes, calling attention to their beautiful bronzy scarlet tint, which looked so bright at midwinter. Now the plant is in bloom the contrast is still more apparent. The leaves are still more or less red, but most distinctly veined with light green, and the light flowers are thus shown to advantage above a dark background of leaves. It should be remembered that *Shortia* does best in peaty soil in a moist and at least half-shady position. A similar treatment is required by

Epigya repens.—This American plant is now well in bloom. The flowers are tubular, perhaps three-quarters of an inch long, generally appearing

in clusters of three. They are as a rule pure white, but have sometimes the faintest suspicion of a pink blush. They appear at the end of prostrate branches, bearing leathery leaves.

Cardamine trifoliata shows now a mass of white flowers, appearing in corymbs about 1 inch to $1\frac{1}{2}$ inches across, and borne on stems 3 inches high above a dense green carpet of comparatively large ternate leaves flat on the ground. For dwarf carpets in the rock garden the plant is excellent, and deserves to be grown more extensively.

Saxifragæ.—A particularly pleasing picture in the rock garden might be formed by *Saxifragæ* alone. I suggest the rosy purple *S. oppositifolia* and its larger variety known as *S. o. pyrenaica superba*; for yellow the beautiful *S. apiculata*, *S. Boydii*, and *S. Kotschyi*; and for white colour *S. burseriana* major, *S. oppositifolia* alba, and *S. Boydii* alba. All these I have actually seen in bloom though no doubt there may be many others which have not come under my notice. *S. oppositifolia* is called capricious by some growers. This is probably owing to the fact that it does not like direct exposure to a scorching sun. But I always found that by placing a stone, say, 9 inches high, on the south side of the plant, it will succeed admirably. *S. Griesebachi*, which was mentioned in my notes for February, is also still in bloom, but has lost its bright pink colour and has now changed to a purplish brown.

Saxifragæ of a very different type are those known more generally as *Megasea* or *Bergenia*, although "Index Kewensis" classes them among *Saxifragæ*. The large evergreen leathery leaves and bright flowers at this time of the year make them certainly attractive, though of course they cannot be associated with small things, but should be assigned to the bolder parts of the rock garden, where larger plants would be desirable. Of those now in full bloom I have noticed *Saxifraga* (*Megasea*) *Stracheyi*, which bears branched heads consisting of dozens of flowers, each the size of a shilling (on a full grown plant). The flowers are white, with red stamens and a calyx of a dull pink colour. In full bloom are also *S. (Megasea) ciliata*, *S. officinalis*, with a uniform shade of mauve-pink, and *S. crassifolia*, with flowers of a deeper red.

Othonna crassifolia forms in Exeter a bold bush $2\frac{1}{2}$ feet to 3 feet through, with evergreen glaucous foliage, and covered just now with golden-yellow flowers. *Doronicum plantagineum excelsum*, with its bright large yellow flowers, is a capital plant for background, while *Primula denticulata* and *P. cashmiriana* are more fitted for prominent parts of the rock garden. Other choice *Primulas* now in bloom are *P. Palinuri*, *P. frondosa*, *P. rosea*, and *P. marginata*.

Of other plants I may mention *Arum italicum*, which though not in bloom looks exceedingly handsome just now by way of its variegated leaves; *Isopyrum thalictroides*, with white flowers resembling a Wood Anemone and foliage resembling that of *Thalictrum adiantifolium*; *Potentilla alchemilloides*, with white flowers; and last, but not least, a great variety of bulbous flowers. Of the latter I will only mention the following as being in bloom: *Triteleia uniflora*, *Chionodoxa gigantea*, *Muscari botryoides*, *Fritillaria* of sorts, *Tulipa violacea*, *Tulipa Kauffmanni*, and many *Narcissi*.

Elmside, Exeter.

F. W. MEYER.

WALL GARDENING.

THE WALL GARDEN IN APRIL.

NATURE awakes from her winter sleep this month and dons the festive garb of spring. New life appears everywhere, and the wall garden is no exception. It is true the number of flowering plants is as yet not a large one, but such as they are we greet them with delight as the commencement of the season of flowers.

Arabis alpina, though common enough in its way, is indispensable for early display in the wall garden.

Its sheets of white flowers are most effective, and it has the additional advantage of being so modest in its requirements that it will flourish luxuriantly in positions where many other things would fail. Of more recent introduction is the double form, *A. alpina flore-pleno*, also known as *Corbeille d'Argent*, which is certainly a great improvement on the type, and quite as easily grown. Its long racemes of pure white double flowers remind one more of a *Stock* than of *Arabis*. This plant must be reckoned among the very best of wall plants, especially for large walls, where its robust growth would not be objected to, and where it might be associated with plants equally bold in growth, such as the following:—

Aubrietia.—This somewhat extensive genus, flowering at the same time as *Arabis* or *Alyssum*, furnishes most excellent companions to the latter, especially when space is no object. *Aubrietias* are true wall plants, and become easily established in the joints or fissures either by sowing or by planting. In arranging them on a wall they are most effective in large groups or masses, but since all of them are more or less purple it would be well to let such groups consist of varieties of the same colour only. For instance, such decidedly reddish hues as *Aubrietia Leichtlini* or *Fire King* would form a good contrast to white or yellow flowers, but close to another purple variety the beauty would be lost.

Alyssum.—Without the trio of *Arabis*, *Aubrietia*, and *Alyssum* wall gardens during March would lack much of their brightness. Flowering at the same time and being somewhat similar in growth they are indeed excellent companions. The well-known *Alyssum saxatile* may be an old-fashioned plant, but in the wall garden we cannot dispense with its bright golden-yellow flowers, and when these are contrasted against either the purple *Arabis* or the white *Alyssum* the effect is doubly striking. Last year a double form was introduced which seems very desirable. *Alyssums* of much neater appearance and less rampant in growth are *Alyssum s. compactum* and *A. montanum*, both with yellow flowers, and *A. spinosum* with silvery leaves and white flowers.

Saxifragæ now in bloom contain several neat sorts which might with advantage be grown on a wall reserved for small choice plants, but which would not do as companions for either *Alyssum*, *Aubrietia*, or *Arabis*, which would overpower them. These were, therefore, mentioned under my rock garden notes for last month. As excellent wall plants now blooming I might, however, mention *Saxifraga decipiens* and *S. cervicornis*, both belonging to the mossy section, having a robust style of growth and bearing white flowers. *S. apiculata*, with its light yellow flowers, is not quite so robust, but makes an excellent wall plant nevertheless.

Iberis is another genus of plants most suited for wall gardening, and now in full bloom. *Iberis sempervirens* is ornamental even when not in bloom. It is now blooming abundantly by the side of *Iberis semperflorens*. *Iberis correaefolia* has a broader leaf than the last named, but bears the same abundance of fine white flowers. The neatest of all the family is *Little Gem*, which is very dwarf and compact, but makes a capital wall plant if planted by the side of *Saxifraga apiculata* or plants of a similar style of growth, which would not smother it.

Primulas for wall gardening should naturally consist of the robust growing ones, such as the different forms of *Primula Auricula* and *P. acaulis*. Of the latter, blue, purple, red, yellow, and white varieties are now in full bloom, and excellent wall plants they make if well grouped so as to blend the colours effectively. The smaller *Primulas* of the type of *P. viscosa*, *P. minima*, and other gems are best assigned to the rock garden, unless the wall was specially built for small plants.

WORK IN THE WALL GARDEN.

This is a busy time for wall gardening, and work is plentiful. Now is a good time for both planting and sowing, and as plants which have been dormant during winter are now starting into growth it will be easy to examine the plants in

the wall, removing the remains of any which may have died during winter, and replacing them by either fresh plants or by putting in seeds. But not only the flowering plants are growing now, weeds also may assert themselves, and this is a good time to cut short their career by radical extermination. Before plants actually start into growth, in old walls especially, it is sometimes difficult to tell weeds from better plants, and it might be just as well to give them the benefit of the doubt; but when growth has commenced there should be no difficulty in distinguishing friends from foes.

Elmside, Exeter.

F. W. MEYER.

TREES AND SHRUBS.

KALMIAS.

THE genus *Kalmia*, though not rich as regards number of species, includes several of the beautiful members of the hardy group of the order Ericaceae. The number of species usually found in gardens is three, *K. angustifolia*, *glauca*, and *latifolia*; two other species, *K. cuneata* and *hirsuta*, have been described, but little is seen of them. In addition to the species, a number of varieties of two of the species are known, the majority of which are in cultivation. In gardens that are free from lime, and especially in those in which the soil is of a sandy, peaty character, and where the common Heather and Ling grow naturally and luxuriantly, *Kalmias* will find an ideal home. Where, however, lime is found in any appreciable quantity, or where the soil is very wet and heavy, they will not thrive, and it will be courting failure to attempt their culture. For gardens where they thrive, they make excellent subjects either for groups in the shrubbery or for beds on the lawn, for they are of neat habit, and flower with great freedom. The genus is a North American one, and all the species mentioned below are of old introduction.

K. angustifolia.—This is known under the common names of Sheep Laurel and Lambkill, names which are said to have arisen through the leaves of the plant being hurtful to cattle. It is

widely distributed in North America from Canada to Carolina, and is stated to be found growing under very varied conditions, in some cases being found in bogs and swamps, in others in dry mountainous regions. The date of introduction is given as 1736. It usually grows from 1 foot to 2 feet in height, making a dense twiggy bush with small oblong leaves and numerous small, rosy-red flowers which are borne in small corymbs. The flowering time is June, though early flowers often appear in May, and sometimes a continuation is kept up until the middle of July. The most distinct of the varieties are *K. a. glauca*, with glaucous leaves, *K. a. nana*, growing about 6 inches high; *K. a. rosea*, with flowers of a brighter shade than the type; and *K. a. rubra*, with deep red flowers. Other varieties are *K. a. lucida*, *K. a. nitida*, and *K. a. ovata*.

K. cuneata.—This is an uncommon species found in the mountainous regions of North Carolina. According to Loudon it was introduced in 1820, but it appears to have been lost to cultivation, as it figures in the "New Plant Appendix" to the "Kew Bulletin" in 1896, having been reintroduced through the Biltmore Arboretum. It is said to be a straggling shrub, growing to a height of 2 feet to 3 feet, with small leaves and few flowered lateral corymbs of white flowers with a broad, light red band at the base of the limb.

K. glauca.—This is a well known and useful species, from 1 foot to 2 feet in height, and making a twiggy bush 1 foot to 2 feet through. It is widely distributed through the peat bogs of the Northern States and Canada, and is said to extend to the shores of the Arctic Sea and to cross the continent to Sitka. The leaves are small, with revolute edges, and are very glaucous on the under surface. The flowers are pale purple or lilac with a reddish tinge, and are borne in few flowered corymbs. In the flowers of this the peculiar-shaped corolla which prevails in the genus is very well marked. It is saucer-shaped and five-lobed, and on the inner surface there are ten pouches or depressions which correspond with the ridges on the outer surface. Before the flowers expand an anther lies in each of these pouches, and when the flower opens the anther is held firm, causing the filament to bend. When the flower is visited by a bee the anther is released, causing the filament to act as a spring; the jerk is responsible for

distributing the pollen. Professor Beal, of the Agricultural College, Michigan, states that when clusters of flowers are covered with gauze in such a way that insects are excluded, the anthers are never liberated and no fertile seeds are borne.

K. hirsuta.—This is mentioned by Loudon as being a beautiful shrub found in the barren pine woods of South Carolina and Georgia. It grows from 2 feet to 3 feet high, but is difficult to cultivate in British gardens. The leaves are hairy, the flowers, which are borne from June to August, being large and red.

K. latifolia.—Various common names, such as Calico Bush, Calico Flower, and Mountain Laurel are sometimes applied to this species. As regards appearance, it is the most imposing species of the genus. Its height is usually given as from 5 feet to 10 feet, but when growing luxuriantly it is said to attain upwards of 15 feet. In places where it thrives it is worthy of cultivation on a large scale, as it makes a fine evergreen, and is also a first-rate flowering plant. It is also suitable for forcing, as it can, with a moderate amount of heat, be had in flower by the end of March. It has been cultivated in British gardens since 1734. Like most of the other species it is distributed over a wide area, being found in Canada and as far south as Carolina. In its native habitat it is stated to thrive particularly well in rocky regions in the neighbourhood of water. The leaves are large, and have long petioles; they are deep green in colour, thick in texture, and poisonous to cattle. The flowers are white, tinged with pink, and are borne in fairly large corymbs in June and July. Two varieties are in cultivation, *K. l. var. myrtifolia*, with small narrow leaves, a much dwarfier plant than the type; and *K. l. var. polypetala*, with curious deeply-cut or fringed corolla segments.

W. DALLIMORE.

PINUS PALLASIANA.

As recorded in THE GARDEN last week this was one of the many trees destroyed by the recent severe gale in Dublin. We refer our readers to the notes there published.

OAKS AS SHRUBS.

THE growing popularity of Oaks for ornamental and timber planting is something to be much appreciated by all. What a large and worthy assortment those of our own country consist of! The difficulty that once confronted the planter in the way of getting Oaks to live when transplanted does not exist to-day, as the requirements of these trees are better known. Close pruning with attention to safeguards, applied to all trees when transplanted, almost ensures success in the case of Oaks.

A great curiosity on the few lawns possessing them are the shrub Oaks. From our earliest years we all are possessed of the idea that an Oak becomes a monstrous tree. To see a little fellow 1 foot, 2 feet, or 3 feet high fully developed and bearing a full crop of Acorns, is most astonishing to those who see such for the first time, and as a great curiosity all collections of shrubs should include one.

The most common is the *Quercus ilicifolia*, the one so abounding in the wastes of New Jersey. Little bushes of 2 feet to 3 feet bear Acorns abundantly. Then there is another growing in the same locality, the *Q. prinoides*, called dwarf Chestnut Oak because its leaves are like those of the large Chestnut Oak in many particulars. Botanists say this is in height 2 feet to 4 feet, but I have seen them 10 feet at times.

The Black Jack Oak (*Quercus nigra*) often exists in a dwarf form. I have seen them all the way from 2 feet to 30 feet, seemingly in perfection of growth, the smallest (2 feet) being full of Acorns.



THE FINE SPECIMEN OF *PINUS PALLASIANA* IN THE GLASNEVIN BOTANIC GARDENS DESTROYED BY THE RECENT GALE
(From a photograph sent by Mr. Moore, the Curator.)

In the south there is a small Oak tree called *Q. cinerea*, of which there is a dwarf form called *Q. pumila*, said to be the smallest Oak known. I have never seen it, but its height is given as from 1 foot to 3 feet (rarely 3 feet), and it bears a profusion of Acorns when but 15 inches to 20 inches high. If its Acorns are like those of the type they are handsome, for those that I have seen of *Q. cinerea* are of good size and of a deep shining black colour.

JOSEPH MEEHAN, in the *Florist's Exchange*.

ORCHIDS.

ODONTOGLOSSUM ADRIANÆ VAR. SWOBODA.

EXHIBITED before the Royal Horticultural Society on March 24 by M. Otto Beyrodt, Marienfelde, Berlin, this new Orchid received an award of merit from the Orchid committee. The flower is small and symmetrical, with roundish sepals and petals; these are heavily marked with chocolate-red upon a yellow ground. The pretty white lip is fringed and lightly marked with red. This



FLOWER OF ODONTOGLOSSUM ADRIANÆ VAR. SWOBODA.

(Natural size. Shown by M. Otto Beyrodt, Berlin, at the Royal Horticultural Society's meeting on the 24th ult., and given an award of merit.)

was one of several very attractive heavily spotted forms of *O. Adrianae* exhibited by M. Beyrodt.

CYMBIDIUM EBURNEO-LOWI CONCOLOR.

VISITORS to the meetings of the Royal Horticultural Society often have the privilege of seeing some of the choicest flowers. Although those arranged by Mr. Alexander, Captain Holford's Orchid grower, are not usually large, they are invariably full of good things. So on March 24 Captain Holford's collection contained the only Orchid that gained a first-class certificate on that occasion, and it is the one now illustrated. Hybrid Cymbidiums are notoriously deficient in colour, therefore it is a pleasure to chronicle the advent of one that is of distinct and decided colouring, as this new one is. The flower is large with broad, soft, creamy yellow or pale primrose-coloured sepals and petals, the latter narrower than the former. Along the centre both are tinged with green. The lip also is pale primrose marked with yellowish brown towards the front. This combination of colours results in a very attractive and pleasing flower, and were other

hybrids of more distinct and brighter shades of colouring to be raised Cymbidiums would doubtless increase in popularity.

ONCIDIUM ALTISSIMUM.

THERE is a splendid specimen of this West Indian Orchid now in flower at Kew. It is in rude health, growing in a pan in the warm Orchid house, and appears to be flowering more profusely this year than ever before. There are no less than nine flowering stems, one or two of which are from 10 feet to 12 feet long; these trained above the other plants and across the house roof give one some idea of the immense number of flowers this *Oncidium* is capable of producing. With *Oncidiums* that bear a great number of flowers, these are often small and of inconspicuous colouring, but in *O. altissimum* they are of moderate size, and heavily marked with brown upon a ground of yellowish green; the spreading base of the lip is yellow, and brown and yellow above. The individual flowers are thus in themselves of pleasing colouring, and this makes the whole display all the more striking. Near the base of the stem the flowers are produced directly upon it, while in the central and upper parts they are borne upon branching laterals.

ANSELLIA AFRICANA.

ONE does not very frequently see this handsome Tropical African Orchid in gardens, and where grown it is rarely represented by more than one or two plants. Yet well-established plants flower freely and are not of difficult culture. The flowers are very attractive, the whitish green ground colour showing up well the dull ruby-red markings on petals and sepals; the lip is yellow, and the half-closed throat striped and spotted with reddish brown and white. The flowers are borne in panicles from the ends of the current season's pseudo-bulbs.

ORCHID GROWER.

GARDENING OF THE WEEK.

THE FLOWER GARDEN.

ORNAMENTAL GRASSES.

ORNAMENTAL grasses play an important part in floral decorative work, and should consequently receive as much care in their cultivation as the choicest Ferns and flowers. Horticultural societies, too, are not unmindful of the value of grasses for the decoration of tables, flower baskets, bouquets, &c. In the deft hands of an artist, a few sprigs of flowers and a handful of grasses can be made to produce charming results. That the best grasses are not more largely cultivated is much to be regretted. Once introduced them into the garden and the self-sown seeds will be constantly springing up. No fear need be entertained that the pretty garden varieties are likely to become a source of annoyance by the crowding out of everything else: they are not sufficiently weedy or vigorous to do that, and could easily be extirpated if this were found desirable. *Agrostis elegans*, *A. nebulosa* (Cloud Grass), and *A. pulchella* are all exceedingly graceful grasses, *nebulosa* specially so. When spread over a bouquet of flowers it presents a cloud-like appearance, and is one of the most valued for this kind of work. Seeds of these and many other useful varieties can be obtained of any of the principal seedsmen, and if sown now will make a fine display during the summer.

MYOSOTIS (FORGET-ME-NOT).

This favourite little flower will never pass out of memory. We usually look for it in early spring; but owing to the mildness of the winter we have had it with us for months past. The hybridiser has been at work with this plant, as with many others, and has given us many varieties, from almost pure white to a very dark blue, but the old turquoise blue variety is the only true *Forget-me-not*. *Myosotis alpestris*, deep ultramarine blue,

with yellowish eye, is very pretty and fragrant in the evening; *Myosotis azorica caelestina* is a pretty variety of the true *Forget-me-not*, the flowers, turquoise blue, are borne in great profusion; *M. dissitiflora elegantissima*, a very pretty variety with white edged leaves; *M. palustris*, the true *Forget-me-not*, flowers blue with a yellow throat, a well known and lovely little flower. These are easily raised from seed, are all hardy as well as perennial. Seed should be sown now, and the plants grown in a shady border through the summer ready for planting out in the autumn.

LILIUMS.

Of all the bulbous tribe none are more beautiful than Lilies. Few plants can boast the quiet simplicity and grace of form which most Lilies possess. For shrubby borders, where they can be kept clear of the roots of trees or other surface-feeding plants, there is nothing more suitable to grow than Lilies. *L. candidum* should find a place in every garden. I have never seen the large clumps of this favourite plant looking more promising than they do in the cottage gardens just now. Those who are fortunate enough to possess this species, together with *L. Martagon*, *tigrinum*, and *chalconicum*, should lose no time in giving them a good mulch with leaf-mould and half-rotten manure, and should the weather continue dry a good soaking of weak liquid manure will help them to throw up their handsome flower-spikes.

T. B. FIELD

Ashwellthorpe Hall Gardens, Norwich.

ORCHIDS.

ODONTOGLOSSUMS.

THE *Odonoglossum* houses should now be looked through, the plants examined, and those of the crispum section (when the young growths are from 1 inch to 3 inches long) that need larger pots should be repotted. If this is carried out now it will lessen the number to be done when the weather is hot and less favourable for the plants. Remove the worn-out surface material. If the plants have lost none of their back bulbs they should be transferred to other pots if well rooted without disturbance. If they have lost some back bulbs it will be necessary to pick away the crocks or Fern roots from the back. To get the back bulbs near the rim of the pot, bring the base of the plant level with the rim of the pot and the compost level with the base of the plant in the usual way. Fill the pots one-third their depth with Fern roots, and the remaining space with equal proportions of peat and sphagnum moss; press the same moderately firm, and work in a few pieces of Fern roots throughout the compost. Well shade the plants, syringe in among the pots on bright days, and water somewhat sparingly for a time. Top-dressing will suffice for plants that have sufficient rooting space.

VANDAS, ANGRECUMS, AERIDES, SACCOLABIUMS.

Among these there will now be plenty of work in top-dressing and repotting. For plants in good condition that have sufficient rooting space, re-surfacing with fresh sphagnum moss will alone suffice. Those that need more space for their roots should be transferred to other receptacles of larger size, allowing drainage to within 1 inch, 2 inches, or 3 inches of the top, according to their size, and the remaining space filled with fresh sphagnum moss pressed moderately firm, with a few crocks worked therein. Plants that have lost their roots, or otherwise are in a bad condition, should be shaken out, the roots rinsed, dead portions cut away, and placed in small receptacles with but little moisture-holding material about them. Plants that have become leggy—that is, lost many of their lower leaves—should be cut down just below some good roots. When placing the plants in pots bring the lower leaves as near the top as can be done conveniently, and as many roots as possible should be brought down into them. Carefully work the crocks in among the roots, fill to the required depth, and finish off in the usual way. If it is desired to increase the stock, the lower part of the plant should remain undisturbed and sparingly watered until new growths are produced and well advanced, when they should be treated like other plants.

CATASETUMS.

These, after a long period of inactivity, are again commencing to grow, and should now be suspended at the warmest part of the Cattleya house or the coolest and shadiest part of the stove, and the necessary top-dressing or repotting should be done. Those having sufficient rooting space, and are in other ways in a satisfactory condition, need only be resurfaced and made tidy. Those that need more must be transferred to other receptacles (pans or baskets), rather large, according to the size of the plants. As they are very free rooters they need two-thirds drainage. As plenty of water is needed when in full growth, equal proportions of peat and moss form a suitable compost, and a few crocks should be worked in among it. When the young growths are about 2 inches long they issue new roots, and until these have well permeated the fresh material and the growths well advanced the plants must be sparingly watered or the young growths are liable to damp off. These, too, must be watched, as they are subject to thrip. If attacked they must be dipped in some insecticide, and then well sponged as they expand.

CYCNOCHES.

The treatment recommended for Catasetum is applicable to these. Growing plants—*Zygopetalum Mackayi*, *Z. amesianum*, *Chysis Chelsonii*, &c.; *Lelia digbyana*, *L. glauca*, *L. jongheana*; *Cattleya schilleriana*, *C. Warneri*, *C. maxima*, *Miltonia vexillaria*, &c., *Oncidium phymatochilum*, and other plants like these in a vigorous stage of growth must be well supplied with water to properly develop their growth.

F. W. THURGOOD.

Rosslyn Gardens, Stamford Hill, N.

KITCHEN GARDEN.

ONIONS.

PLANTS raised in heat, and afterwards carefully hardened, will by now be fit for planting. Provided the weather is favourable there need be no further delay in so doing, for the plants will grow more freely in the open. If ample ground is at command the rows may well be 2 feet apart, which will allow of working among the plants without risk of damaging the brittle leaves as they become larger. When fairly

dry tread the ground well, then rake over roughly with a wooden rake and roll it, afterwards again rake evenly, and draw shallow drills. Lift with a good ball of soil and plant 1 foot apart in the row with the trowel. See that the soil is watered a few hours before planting so that it will adhere to the roots.

LEEKs.

The early-raised plants that have been treated side by side with the Onions can likewise be put out. Take out a trench in a precisely similar manner as is done for Celery, placing a good thickness of fat manure in the bottom, on which place 6 inches of good soil; then tread lightly, and plant 1 foot apart down the centre. Plant somewhat deeper than recommended for the Onions. Various methods are adopted for encasing the stems to blanch them. Personally I use brown paper collars, and these may be prepared by a handy man on wet days; but they should not be put on until the plants re-establish themselves and commence to grow freely.

SALADS.

Look well to maintaining a constant supply according to the needs of the establishment. Make weekly sowings of Mustard and Cress in boxes or hand-lights. Watercress may be readily grown all the year round in pans or pots, and the young tender shoots make a welcome addition to the salad bowl. Frequent sowings of Lettuce and Radishes should be made from this time and onwards.

CHICORY AND DANDELION

are excellent for winter and spring salads when forced in cellars or Mushroom houses. The young tender growths are very wholesome and piquant. Seed of these may be sown from now to the end of the present month on deeply dug and well manured ground, and when the first rough leaves appear thin out to 10 inches apart. The rows should be 15 inches from each other. On light soils the plants are apt to run to seed. If they do this the flower shoots must be taken out in their early stages; but given liberal treatment during growth by mulching and affording water during periods of drought this is reduced to a minimum.

Growing crops, such as Cabbage, early Cauliflowers, and Spinach that have stood the winter will now be

greatly benefited by an application of an approved artificial or farmyard liquid manure. Continue to prick out on a warm border Cauliflowers, Lettuce, and Brussels Sprouts, also Celery and Celeriac in old frames.

Stoneleigh Abbey Gardens.

H. T. MARTIN.

FRUIT GARDEN.

PINES.

EXAMINE the first suckers which were potted early in February and plunged in a strong bottom heat of 90°, and if the young fleshy roots are beginning to appear outside the soil give tepid water occasionally. Ventilate more freely and dew them over with the syringe after closing with solar heat. Where very strong suckers are obtained to start with, and the modern and best one-shift system is to be followed, make the usual preparations for carrying out the work with dispatch when the plants are ready and the weather is favourable. Make up the beds of tan or leaves some time before to ensure a bottom-heat of 85° to 90°. Use pots 10 inches to 12 inches in diameter for Queens, and those of 12 inches to 14 inches for Cayennes; use rough fibrous loam, bone-dust, and charcoal if inclined to become adhesive—make very firm. Carefully avoid saturating the soil until the roots begin to work freely through the new compost. Place some very light shading over the glass for an hour or two on bright days. The heat in fruiting pits should be from 70° at night to 80° by day; close with sun-heat at 85°. See that the plants in flower have a brisk circulation of heated air to ensure perfect fertilisation, and to prevent the crowns from becoming too large, as is often the case in close, dank, ill-ventilated pits.

VINES.

Disbud, tie down, and stop the shoots as growth advances, and remove all surplus bunches from free setting varieties as soon as the most promising for the crop can be decided upon. Early Muscats (*Madresfield Court* included) having plenty of fresh active roots working in inside borders may also be divested of ill-formed bunches, provided a fair percentage of the best are left to choose from after the Grapes are set. Draw the points of the bunches up to the light when in flower, fertilise with Hamburgh pollen, and let the heat range from 70° at night to 85° by day, and 90° with solar heat. Grapes now swelling must have a liberal supply of moisture charged with ammonia, and as keen easterly winds with bright sunshine frequently prevail in April guard against checks from draught by shutting off fire-heat early on fine mornings, by timely ventilation, and by early closing with sun-heat at a temperature of 85° to 90°. As stoning approaches allow a free growth of laterals, stimulate the roots with warm diluted liquid, and aim at a steady night temperature of 65° to 68° with a little air.

LATE HOUSES.

Endeavour to give the Vines as long a growing season as possible by shutting up with strong sun-heat; syringe the rods twice a day, and maintain a moist atmosphere by damping the mulching material every evening. Vigorous young rods which have never borne fruit will require dexterous handling to get them to break evenly, particularly where the young beginner has been led or misled into leaving his canes long enough to carry a crop which his Vines cannot finish; but much may be done by tying down the points and elevating the dormant buds over heaps of fermenting material placed on the borders.

Madresfield Court.

WILLIAM CRUMP.

CHRYSANTHEMUMS.

EARLY-FLOWERING border varieties should now be sufficiently advanced to plant in their permanent quarters in the southern part of the country, but in cold districts and on heavy soils this should be deferred till the end of this or the beginning of next month. These charming autumn-flowering plants are, I am glad to notice, annually finding more favour. They fill up the break just as many of the summer-blooming things are on the wane.



CYMBIDIUM EBURNEO-LOWII CONCOLOR.

(Natural size. Shown by Captain Holford, and awarded a first-class certificate, Royal Horticultural Society, on the 24th ul.)

When a choice collection is formed and a border specially provided for them, properly arranging them as to height and colours, few things are more pleasing during late summer and autumn. Many of the dwarfier-growing kinds make excellent beds, which, if specially grown for the purpose on some spare piece of ground, may be lifted with good balls of soil to replace plants which towards the end of the season may be losing their beauty in the flower garden. If carefully looked after for a short time after planting they will quickly establish themselves and be little the worse. These should be planted on fairly rich soil at a distance of 18 inches to 2 feet apart, and the points of the young growths picked out to induce them to break away freely and form strong plants. Very little further attention will be needed, except to hoe frequently between to keep down weeds and water freely in dry weather both at the root and overhead.

The smaller varieties also make excellent material for the mixed border, especially when small groups are formed of about five plants, and the larger growing sorts look well dotted about the shrubberies, arranging them as much as possible in sheltered positions, but it will be necessary to take out good holes and fill in with some good loam and



THE LATE MR. WILLIAM FELL.

half-decayed farmyard manure. These always show to advantage in whatever position they are planted if sufficient space is allowed to train out the growths. Pompons should now be ready for shifting into 5-inch or 6-inch pots, using a similar compost to that advised for the larger flowering varieties. These should be stopped once or twice and grown on in bush form in cold frames till towards the end of the month, when a sheltered spot in the open should be found for them, and in case of frost a slight protection will be necessary.

SPECIMEN PLANTS.

The foundation of these should be completed as soon as possible by stopping and training out the young growths. Great care must be exercised in so doing or many of them will be broken, which means a serious loss. This is best done little by little. Pot on as the pots become filled with roots in a good compost of turfy loam, decayed manure, and road grit, placing a few quarter-inch bones over the drainage. A light warm pit will be the best place for them till the end of the month. Fumigate often and dust the foliage with black sulphur.

The main batch of plants now being grown for the production of large blooms and becoming well established in 5-inch and 6-inch pots will need the most careful attention in watering, airing, &c. It will be necessary to examine them twice daily, and

never give water before they absolutely require it. When doing so fill up the pots at least twice. Too much air cannot be given when the weather is mild, but, on the other hand, when cold east or north-east winds prevail very little will suffice. Endeavour to ventilate the lights in the opposite direction to which the wind is blowing. Dust the points weekly with tobacco powder to prevent attacks of insect life.

E. BECKETT.

Alldham House Gardens, Elstree, Herts.

OBITUARY.

WILLIAM FELL.

WE learn with regret of the sudden death, on March 22, of Mr. William Fell, chairman and managing director of Messrs. W. Fell and Co., Limited, nurserymen and seedsmen of Hexham. Mr. Fell, in conjunction with a partner, took over the business of the late Mr. Ralph Robson, nurseryman and seedsman, Hexham, about the year 1879. Some two years later Mr. William Milne joined the firm, and Messrs. Fell and Milne continued the partnership until the autumn of 1901, when it was formed into a limited liability company, with Mr. Fell and Mr. Milne as managing directors, the other directors of the company being Major G. Hogarth Bell, of the Summersods, Hexham, and Mr. Thomas Atkinson, land agent, Newcastle. The deceased gentleman was a keen business man, was widely known, and had a very large circle of friends and acquaintances. He frequently took business trips to America, to Ireland, to the Isle of Man, and other places. He was a vice-president of the English Arboricultural Society and a member of the council of the society. Being one of the founders, he always took a warm interest in its welfare, and invariably attended its annual meetings and summer excursions. He was also a generous supporter of local flower shows. He took a lively interest in the town of his adoption, and on more than one occasion his firm made handsome gifts of trees to the town. The deceased, who was about fifty-six years of age, was pre-deceased by his wife by a few years. He leaves a family of six sons, for whom much sympathy will be felt in their sudden bereavement. The funeral took place on March 25, and was one of the largest attended in the town for many years.

THE ROSE GARDEN.

RAMBLER ROSES ON TALL STEMS.

BEFORE it is too late this season I would recommend planters to procure some of these, especially the Crimson Rambler and Aglaia. They make glorious free-headed standards, quite a pleasure to see after the stumpy form of so many standard Roses. They remind us in their vigour somewhat of the now almost forgotten hybrid Roses, such as Clendolé, Fulgens, and Charles Lawson. I thoroughly believe they will yet come again into vogue, not for the show box, but for the garden. Crimson Rambler should be so grown even if the others are forgotten. I do not say they will make ideal weeping Roses, for the long growths are rather too rigid for that, but for a fine large head of growth there is nothing to surpass this Rose. If the growths are allowed to remain unpruned they will become studded with brilliant trusses of blossom. Of course it makes all

the difference whether such plants are treated fairly or allowed to take their chance, thinking maybe that their natural vigour will provide all that is necessary. I think if we expended as much consideration upon these Roses as upon those grown for exhibition, I mean in the matter of preparation of soil and of subsequent feeding, we should be astonished at the result. It is not wise to encourage flowers the first summer. Cut the growths hard back, induce a clean new growth, as upon this growth some fine trusses of blossom will follow the following year.

THE WAY TO MAKE SHY-BLOOMING ROSES FLOWER.

Now and then one hears the remark "Oh! do not grow that Rose; it is a shy bloomer." I imagine this lack of blossom is not the fault of the variety so much as the unnatural methods of treatment. Rêve d'Or we are told is very shy blooming; but is it? Give it a high wall to cover, thin out super-abundant wood, spread out that retained, and see if it will not reward the owner with a bright display. But we have not always a high wall available; then I would say cultivate on wires after the manner of an espalier fruit tree. The one thing detrimental to this plan is the fear of injury by frost. We are not, however, obliged to put the growths upon the trellis until danger of frost is past. The wires may be somewhat closer than they are usually for fruit trees. The grower should endeavour to make the plants produce good hard wood, and this may be assisted by summer thinning of the growths to admit light and air to those retained. In November the growths should be released and brought close together, then thoroughly thatched with straw. P.

CARNATIONS FOR THE BORDER.

(Continued from page 223.)

SUPPOSE that the flowers have been successfully hybridised, it is a good thing if the weather becomes at all wet to pull out the withered petals (but be careful to remove the petals only) and split the sides of the calyx in order to let the sun and air get to the seed-pod or ovary, and thus ensure the better ripening of the seed. Keep a sharp look out for earwigs, which are very partial to the tender young seed-pods; any device which will prevent them climbing the stems will be most useful. When the seed-pod shows signs of splitting and is quite brown, it should be cut off and dried, and the seed carefully stored and labelled.

If the necessary time cannot be given to hybridising, or there are no plants to work with,

SEED SAVED FROM THE BEST VARIETIES

carefully hybridised can be purchased at such a reasonable price from specialists, who devote glass houses to this purpose, and this seed is so good that it would seem unnecessary to do the hybridising for yourself, but of course if you have the necessary material and spare time and inclination it will add more interest to your seedlings if you save your own seed. However, to commence with I would recommend purchasing a packet of seed now, as the plants will be in bloom twelve months next July, whereas seed of one's own saving next summer will not produce flowering plants until a year later. Having received the seed, procure a box or pan, place some crocks over the holes made for drainage in the bottom, then a little coarse leaf-mould over the crocks, and fill up to within 1 inch of the top with prepared soil. About half and half light loam and leaf-mould passed through a riddle, and some sand added, I find does very well. Make it firm and flat, then scatter the seed evenly over the surface and cover over with a little more of

the same soil, flatten the surface, and sprinkle with a fine rose. Place the box in a frame with a little bottom heat, such as a mild hot-bed or in a hot house, and the seed will soon germinate; it should then be transferred to a cold frame. When the little seedlings show their second pair of leaves and are large enough to handle, carefully lift them out of their seed box and prick out about 2 inches apart into boxes of good prepared soil. The mixture recommended above for sowing the seed in will be as good as anything, adding perhaps a little more leaf-mould; this can be easily broken up, and the small plants will be more readily separated without injury to their roots when the time comes for them to be planted out.

Now place them back again in the cold frame and let them remain there until they show, by growth commencing, that they have got a good hold of the new soil. They should then be gradually hardened off, and when strong enough (this will probably be about the end of June or beginning of July) be planted out 12 inches to 15 inches apart in beds prepared in a similar way to that previously recommended for planting layers. Plant firmly, keep them watered during the summer in dry weather, and give them through the following winter and spring the same treatment as the other border Carnations. When the flowering season comes in July there will be a profusion of bloom. There will be a percentage of single flowers, but this is not likely to be great if the seed has been procured from a good source.

There will also be some plants with double flowers of indifferent form, but there will also be many with beautiful and well-formed flowers which will be kept.

FOR CUTTING

there is, I think, nothing more useful than a bed of these seedlings, and if a stock of any one variety is wished for these plants can be layered.

This seedling raising may seem a long process, and to some too tedious; patience is one of the qualities most necessary to success in gardening, but seedling plants can be purchased in summer ready for planting out. By so doing you will lose what, I think, to most people would be the greatest satisfaction, that is, the pleasure of knowing that you have reared and cared for the plants from their earliest infancy.

When recommending seedlings it is not intended that the old well-tried varieties should be neglected, many of which are excellent and very difficult to improve upon; but one thing I will say, and that is, the seedlings raised on one's own ground stand a better chance of success than plants which come from other districts where, perhaps, the soil and climate are different. These have a great deal to do with the success or failure in growing many varieties.

Bronwyfja, St. Asaph. W. A. WATTS.

BOOKS.

A Third Pot-pourri.*—We can scarcely have too many pot-pourris from Mrs. Earle's pen. The present volume, however, is hardly so much of a pot-pourri, that is, a mixture of many ingredients, as the two former books. There is mixture enough of gardening, household, and other matters to justify the title, but the main idea of the book is the consideration of diet in relation to health. Most people eat too much; many eat the wrong foods. Medical science has studied drugs for the cure of disease rather than food and right ways of feeding as the basis of health. This is the

* "A Third Pot-pourri." By Mrs. C. W. Earle. London: Smith, Elder, and Co. 1903.

text of this interesting and entertaining volume. Mrs. Earle has the courage of her opinions when she boldly states "Doctors must be educated by the public." Suggestions as to how this is to be done or attempted will be found within the book's very entertaining pages. We heartily commend it both to those who love their gardens, and to that still larger public that, like the old woman of the nursery rhyme, "lives upon nothing but victuals and drink."

Home Floriculture.—In the second paragraph of the introduction the author declares that "What is wanted is plain, practical, easily understood information which will enable those who love flowers, but know very little about them, to grow them successfully." Surely this is unconscious humour. There are excellent manuals for amateurs already in existence, and therefore not the slightest necessity for such a book as this. A portrait of the author is the frontispiece.

RECENT PLANT PORTRAITS.

THE April number of the *Botanical Magazine* contains portraits of

Clerodendron myrmecophylla.—Native of Singapore. This is a very handsome species of the tropical genus of *Clerodendron*, with large conical bunches of light orange-red flowers.

Euphorbia ohsa.—Native of South Africa. A very remarkable plant from a botanical point of view, but of absolutely no beauty or horticultural interest whatever.

Iris Collettii.—Native of Burma. Also known as *I. nepalensis*. A most distinct and beautiful species, discovered in the southern Shan Hills by Colonel Sir Henry Collett. It has almost perfectly circular purple flowers, unlike those of any other *Iris* known to me.

Agave Bakeri.—Native of Mexico. A very distinct species with green flower, but of only botanical interest.

Lathyrus pubescens.—Native of temperate South America. This is also known as *L. acutifolius*, *L. macropus*, and *Orobis pubescens*. It is a very beautiful perennial Pea, with flowers of a light shade of purplish lavender with white centres. It is closely allied to *L. tomentosus*, which was erroneously figured under this name in the sixtieth volume of this work, on plate 3996, as long ago as 1843, an error which is at last happily corrected and set right by the publication of this plate. Owners of complete sets of the *Botanical Magazine* should make the correction under plate 3996 in their sixty-ninth volume. This Pea was introduced into cultivation some few years ago from Uruguay by M. E. André of Paris, and was admirably figured by him in *La Revue Horticole*.

W. E. GUMBLETON.

SOCIETIES.

LIVERPOOL HORTICULTURAL ASSOCIATION.

CHARMING weather favoured the seventeenth spring show of this society at St. George's Hall, which was generally admitted to be the finest yet held; possibly larger plants have been seen, but for a bright and varied display no exhibition has been equal. The entries numbered 260, or 100 more than last year, which will readily imply that all available space was utilised. The Orchids were a notable feature, fine large plants and splendidly flowered. They formed a pleasing display in themselves.

For a group of miscellaneous plants, 10 feet by 12 feet, Mr. George Osborne, gardener to Dr. Cooke, was first with a very telling group, in which *Euphorbia jacquiniiflora* shone to advantage, *Amaryllis*, *Cyclamen*, &c., were good. Ten pots of hardy herbaceous and bulbous plants brought a good display, in which Mr. E. R. Finch, gardener to Joseph Smith, Esq., was first with well-bloomed *Spiraea*, *Irises*, *Liliums*, *Dielytra*, *Convallaria*, &c.; Mr. T. Hitchman, gardener to A. Earle, Esq., second. The most tastefully arranged dinner table brought seven competitors. First, Mr. J. Stoney, gardener to F. H. Gossage, Esq., with lightly arranged *Daffodils*. Mr. George Osborne, gardener to Dr. Cooke, followed.

For twelve *Hyacinths*, distinct (first prize presented by Mr. W. Rowlands): Mr. E. R. Finch won in good company, his spikes being massive and of good colour. The best varieties were Mountain of Snow, King of the Blues, Leonidas, Florence Nightingale, &c.; Mr. T. Wilson, gardener to O. H. Williams, Esq., second. For six *Hyacinths*, distinct, Mr. J. McColl, gardener to J. W.

Hughes, Esq., had the best. For six pots, three bulbs in each pot (the prizes presented by Messrs. Thomas Davies and Co.), brought a strong display, Mr. T. Wilson having the best. Six pots of *Polyanthus Narcissus*: First, Mr. Hitchman. Twelve single *Tulips*, not less than six varieties, proved a good class. First, Mr. F. C. Keightley, gardener to Mrs. Duncan. Three greenhouse *Azaleas*, 8-inch pots: First, Mr. E. R. Finch. Six *Amaryllis*, in not less than three varieties: First, Mr. T. Johnson, gardener to Mrs. G. W. Moss. Three *Orchids*, distinct: First, Mr. J. Bracegirdle, gardener to W. H. Waite, Esq.; Mr. J. Stoney was a good second.

For four hardy *Rhododendrons*, Mr. T. Hitchman scored with good plants, and Mr. E. R. Finch for a single plant. For a greenhouse *Rhododendron*, Mr. J. Stoney scored with *R. fragrantissima*.

Messrs. R. P. Ker were awarded the society's gold medal for an effective display, in which *Amaryllis*, *Lilacs*, *Aceras*, and the winter-blooming *Colens* were conspicuous.

Messrs. Hogg and Robertson, Dublin, made their first visit, and secured the society's gold medal for a very attractive display of *Tulips* and *Daffodils*, King Alfred being greatly admired. This exhibit proved conclusively that the Irish soil suits the kind of bulbs shown.

Certificates were awarded to Messrs. Thomas Davies and Co. for a fine display of *Lily of the Valley*, *Tulips*, and spring-flowering plants, and a certificate of merit for *Tulip Queen Alexandra*; Messrs. John Cowan and Co., for a group of *Orchids*, including *Cattleyas*, *Dendrobiums*, *Odontoglossums*, &c.; and Mr. H. Middlehurst, for *Adiantums*, *Spiraeas*, *Daffodils*, and good cut *Carnations*.

Mr. T. Foster (chairman), Mr. H. Sadler (secretary), and a sub-committee efficiently carried out the details; Mr. C. Paul (Manchester) and Mr. N. F. Barnes (Eaton Hall) adjudicated.

CARDIFF GARDENERS' ASSOCIATION.

THE annual general meeting was held at the Grand Hotel on Tuesday, the 24th ult., Mr. C. E. Collier presiding. Mr. Malpass, honorary treasurer, produced the balance sheet and reported upon the financial affairs of the association; the balance in hand was considerably more than had been the case for several years. The honorary secretary's report upon the year's work accomplished by the management of the committee was of a highly satisfactory character, which he pointed out was never on such a sound footing as at the present time. The chairman then thanked the members for their hearty co-operation during his tenure of office. The following gentlemen were unanimously re-elected to the respective offices: President, J. Lynn Thomas, Esq.; the whole list of vice-presidents; honorary treasurer, Mr. Thomas Malpass; and honorary secretary, John Julian. Elected: Chairman, Mr. H. R. Farmer; vice-chairman, Mr. W. J. Prosser; and a strong representative committee of eight members. Votes of thanks to the retiring officers and the Press concluded the proceedings.

CROYDON AND DISTRICT HORTICULTURAL SOCIETY.

At the society's rooms a good assembly listened to a well-delivered paper on the "Cultivation of Cucumbers," which was read by Mr. A. C. Roffey, a grower of considerable repute in the neighbourhood. Mr. Roffey gave good practical hints on cultivation, which were much appreciated by the company present. The seeds should be sown in pots or pans, placed on a hot-bed or pit, and great care should be exercised when sowing the seed to have the soil moist, afterwards withholding water until the seedlings appeared well above the soil. The temperature of the house should never be below 60°. Encourage quick, active growth as much as possible. The growths should be trained to wires extending along the house, and when they have reached the first wire it is advisable to pinch out the point, when they will grow away rapidly and strong. When fruiting commences a little artificial manure should be added, and, as Cucumbers are gross feeders, plenty of stimulants as the fruits increase in size are necessary. Always keep the roots well moist, taking great care that the water is not cold. A very hearty and unanimous vote of thanks to the lecturer brought an enjoyable two hours to a close. Some well-grown plants were sent for exhibition by Mr. Frank Lloyd, Coombe House, president of the society.

ROYAL BOTANIC SOCIETY.

ON the 1st inst. the spring show of this society was held in the grounds at Regent's Park in very wet weather. The exhibits were more numerous than during previous years, and the show considerably better than usual.

Messrs. Barr and Sons, King Street, Covent Garden, exhibited *Narcissi* in great variety and quantity, as well as *Hyacinths*, *Tulips*, *Muscari*, forced *Azaleas*, alpine plants, &c. The *Narcissi* were the best feature, and they comprised a large number of the finest varieties. *Ahemone fulgens*, *Saxifraga Progress* (a deep-coloured variety of the *Megasea* type), several very pretty *Primulas*, viz., *P. rosea*, *P. r. splendens*, *Primrose Wilson's Blue*, *Aubrietia Dr. Aules*, and other interesting flowers were included in Messrs. Barr's exhibit.

H. T. Pitt, Esq., Stamford Hill (Orchid grower, Mr. F. W. Thurgood), showed a group of *Orchids* that contained several very good *Odontoglossums*, *Cattleyas*, and *Dendrobiums*. *Cymbidium eburneo-lolanium*, *Zygopetalum hybrid*, *Odontoglossum crispum Perfection*, *Dendrobium Victoria Regina*, *O. wilckeanum Pitt's variety*, and *Cypripedium niveum* were especially noticeable.

Messrs. T. S. Ware, Limited, Feltham, Middlesex, exhibited a good display of *Narcissi* and hardy flowers in great variety. *Incarvilleas*, *Crown Imperials*, *Primulas* of sorts, *Ranondia pyrenaica*, *Anemones*, *Aubrietias*, &c., were included.

Mr. John Odell, Florist, Colham Green, Hillingdon, exhibited a collection of *Cyclamen*, well-grown and well-flowered plants.

† "Home Floriculture." By Ebenezer E. Rexford. London: Kegan, Paul, Trench, and Co., Paternoster Row.

Mr. W. J. Caparne, Rohais Nursery, Guernsey, exhibited a collection of his new alpine hybrid flowers in many charming shades of colour, for instance, Elfrida (pale rich yellow), Nimrod (deep purple), Rosine (white), Uranus (rich purple), and others.

Messrs. B. S. Williams and Son, Upper Holloway, N., showed a group of Daffodils and other spring flowers. Duke of Bedford (a large bicolor), Intermedium Sunset (very sweetly scented), Gloria Mundi (Incomparabilis), and Barri Sensation were conspicuous among many other well-known varieties.

Mr. L. H. Calcutt, Fairholt Road, Stoke Newington, exhibited an excellent display of artistic floral arrangements. A collection of Cacti in small pots was shown by Mr. Richard Anker, 54, George Street, Baker Street, W.

Messrs. William Bull and Son, King's Road, Chelsea, in a group of miscellaneous plants had Caladium thesames with huge silver-green leaves, C. Itapipoco (red-veined), and C. Acquisition (cream), all new. Dracena Victoria was notable among many well-grown Dracenas, and of Crotons C. Flamingo, C. Prince of Wales, C. Warrenii, and C. Reidii were the best. Dracena argentea striata is a new plant.

Messrs. R. G. Cuthbert, Southgate Nurseries, Middlesex, had a splendid group of forced flowering shrubs, Lilacs, Deutzias, Azalea mollis, A. indica, and others. Among the Lilaca Marie Legraye was the best. Foliage plants such as Acers, Ferns, &c., were used in the arrangement, which was very bright and pleasing.

Messrs. J. Hill and Son, Barronfield Nurseries, Lower Edmonton, showed a group of Ferns that included some grand specimens of Cibotium Schiedii, Asplenium caudatum, Osmunda palmistris, Polypodiums, &c. Doodia aspera multifida was well shown, the young leaves of this small Fern being beautifully coloured.

Messrs. Hogg and Robertson, Dublin, had an excellent lot of Tulips and Narcissi in variety. The Tulips were very bright, and included such as Prince de Ligny (yellow), Bacchus (deep red), Greigi (rich vermilion), Thomas More (yellow and red), Van der Neer (purple), and M. Tresor (rich yellow). The Narcissi also comprised some very good flowers of the best varieties.

Messrs. W. Cutbush and Sons, Highgate, N., showed forced flowering shrubs in variety, such as Magnolias, Lilacs, Azaleas, Viburnums, Cytisus, Spiraea, and Ribes. The standards of Cytisus, Ribes, Cateagrus, Spiraea, &c., were excellent.

Messrs. B. S. Williams, Upper Holloway, N., had a small group of Azaleas, Amaryllis, and standard Lilacs. Messrs. R. H. Bath, Limited, Wisbech, showed Narcissi in great variety. Some of the finest blooms were Duke of Bedford, Glory of Leiden, Victoria, M. J. Berkeley, Glory of Nordwijk (all bicolors), Barri conspicuus, and stella superba.

Messrs. Frank Cant and Co., Braiswick Rose Gardens, Colchester, had some excellent blooms of cut Roses, the new Lady Roberts being conspicuous among blooms of many of the best Teas, even Hybrid Teas.

Mr. John Russell, Richmond and Haverstock Hill, exhibited a group of decorative plants. Campbell Newington, Esq. (gardener, Mr. Thomas Abbott), The Holme, Regent's Park, N.W., showed a group of Tulips, Hyacinths, and Narcissi in pots, also a group of miscellaneous plants in flower very well set up. Azaleas, Anem Lilies, Amaryllis, Tulips, &c., were in the majority.

Messrs. Carter and Co., High Holborn, had a splendid display of Cinerarias in many bright and good colours. Miss Adams (gardener, Mr. George Kelf), South Villa, Regent's Park, exhibited a group of miscellaneous plants in flower, the plants being very well grown and arranged.

Dinner table decoration and floral designs were shown by the Practical Gardening School of the Royal Botanic Society. Rural table decorations were shown by Mr. J. Williams, 4A, Oxford Road, Ealing. Miss Annie Green, 25, Grove End Road, St. John's Wood, N.W., also showed table decoration, simple but effective; Daffodils and Lily of the Valley were used.

Messrs. Hugh Low and Co., Bush Hill Park Nursery, Enfield, showed forced flowering shrubs, Malmaison Carnations, Choisya ternata, Bononias, Dracaenas, Paeonies, and pot Roses.

TRURO DAFFODIL SHOW.

ON the 31st ult. the show of the Cornwall Daffodil and Spring Flower Society was opened in the commodious Market Hall, Truro. The season has undoubtedly been a most unpropitious one for Narcissi, the continuous blustering wind and almost daily heavy rainfall which had been experienced in the south-west for some six weeks prior to the last day of March having sadly marred such blooms as were permitted to expand their petals in the open air. Presumably, however, every flower staged in the Market Hall was cut before its petals unclosed, and thus no evidence of the inclement weather was afforded by the thousands of blooms that created such a bright display. The show was, as usual, excellently managed by the hon. secretary, the Hon. John Boscawen, and, whatever may have been the case in former years, in the present instance no complaint on the subject of overcrowding could be made, both flowers and visitors being afforded ample space. Of visitors the counties of Cornwall and Devon naturally contributed the greater proportion, the music of the band of the Royal Marines doubtless proving a magnet in some instances, but many flower-lovers journeyed from the Metropolis, the Midlands, and other distant centres in order to be present at the spring show of the Cornish society. In comparing a show of Narcissi in the present day with those of former years, one cannot fail to be struck with the greater brightness of the general effect produced by the inclusion of many varieties having highly-coloured cups. A few years ago C. J. Backhouse stood almost alone in this respect, and even to-day is hard to beat for colour, but of all brightly-tinted Daffodils Lucifer, when at its best, stands pre-eminent. Its extended cream-white petals, which admittedly lack stiffness, and long, glowing, orange-scarlet cup form a striking contrast which is not equalled by any of the Parvi-

Coronati section, even though their cups be as bright in colour. Perhaps one day we may get a specimen of the Magni-Coronati with an orange-red trumpet that will add still more to the lustre of the Narcissi.

Among the honorary exhibits the most striking was a pot plant of Rhododendron Nuttallii in bloom, shown by the president of the society, Colonel Tremayne of Cardew.

PRIZE LIST.

Class 1.—The best collection of not less than thirty or more than forty varieties of Daffodils: First, Mr. J. C. Williams, with Lulworth, Firebrand (a striking flower of the Parvi-Coronati section, with bright orange-scarlet cup and pale yellow perianth), Cassandre, White Lady, Homer, Cardinal, Una, White Queen, Homespun (a very attractive clear yellow flower), Minnie Hume, Incognita (a valuable flower, unique in the buff colouring of its spreading cup), Golden Eagle, Weardale Perfection, Golden Bell, Mme. de Graaff, King Alfred, Jacko, Monarch, Snowdrop, Horsfield, and fifteen unnamed seedlings, many of them of a high order of merit; second, Lady Margaret Boscawen. In this stand the drooping white Waterwitch was one of the loveliest flowers in the show, and King Alfred, Lovelace, and Lucifer were fine; third, Rev. A. T. Boscawen, whose Onihamme (a small flower with cream-white perianth and glowing orange-scarlet cup) was noteworthy.

In classes 2 to 9 inclusive, only flowers from bulbs not exceeding 10s. in value were admitted.

Class 2.—Six distinct Magni-Coronati: First, Mr. R. J. Daniell, with Glory of Leiden, Mrs. Walter Ware, Emperor, Empress, Victoria, and M. J. Berkeley; second, Mrs. W. Tyacke; third, Mr. Jonathan Rasleigh; fourth, Mr. E. H. Williams.

Class 3.—Six distinct Medio-Coronati: First, Mrs. W. Tyacke, with Barri conspicuus, Katharine Spurrell, Mrs. Langtry, Duchess of Westminster, Princess Mary, and Maurice Vilmorin; second, Mr. E. H. Williams; third, Mrs. R. Nowell-Usticke; fourth, Miss C. Williams. In this class there were thirteen entries.

Class 4.—Six distinct Parvi-Coronati: Second, Mrs. W. Tyacke; third, Mr. W. N. Carne.

Class 5.—Six distinct Polyanthus Narcissus: Second, Mrs. R. Nowell-Usticke.

Class 6.—Fifteen distinct varieties, any section: First, Mr. A. Blenkinsop, with Horsfield, Emperor, Empress, Mme. de Graaff, Victoria, Maurice Vilmorin, Mrs. Langtry, Autocrat, King of Spain, C. J. Backhouse, Leeds amabilis, Barri conspicuus, Cynosure, Duchess of Westminster, and Figaro; second, Mrs. W. Tyacke; third, Mrs. R. Nowell-Usticke; fourth, Mr. E. H. Williams.

Class 7.—Finest bloom of Magni-Coronati: Third, Mr. R. J. Daniell.

Class 8.—Finest bloom of Medio-Coronati: First, Mrs. W. Tyacke, with a superb Mrs. Langtry; second, Mr. R. J. Daniell, with Katharine Spurrell.

Class 9.—Finest bloom of Parvi-Coronati: First, Mrs. W. Tyacke, with Almira; second, Mr. R. J. Daniell, with Falstaff; third, Mr. E. H. Williams.

Class 10.—Nine distinct Magni-Cornati: First, Mr. A. P. Nix, with M. J. Berkeley, Horsfield, Emperor, Glory of Leiden, Empress, Mrs. Camo, J. E. M. Camm, Mme. Plemp, and Siren; equal second, Lady Margaret Boscawen and Mr. P. D. Williams.

Class 11.—Nine distinct Medio-Coronati: First, Rev. A. T. Boscawen, with a very bright stand containing Magdaline de Graff, Princess Mary, Gloria Mundi, Dr. Fell, Lucifer, Sea Gull, Commodore, Madge Matthew, and Dorothy Yorke; second, Mr. P. D. Williams.

Class 12.—Six distinct Parvi-Coronati: First, Mr. P. D. Williams, with Cassandre, a fine poeticus, John Baio, Almira, Bullfinch, Scarlet Ruoner, and Redbreast; second, Mr. C. Dawson, in whose stand were Horace, the best of all the poeticus section and Chaucer, another good pheasant's eye.

Class 13.—Three double Narcissi: Second, Mr. P. D. Williams.

Class 14.—Finest bloom of Magni-Coronati in commerce: First, Mr. P. D. Williams, with Weardale Perfection.

Class 15.—Finest bloom of Medio-Coronati in commerce: second, Mr. P. D. Williams, with White Queen; third, Mr. E. H. Williams.

Class 16.—Finest bloom of Parvi-Coronati in commerce: second, Mr. P. D. Williams, with Homer (a large poeticus slightly lacking finish owing to the petals failing to lie evenly); third, Mr. C. Dawson, with Horace (a bloom which, though scarcely at its best through insufficient maturation, in the opinion of many good judges should have beaten Homer). In the last two classes all the winning blooms were worthy of the first prize honours withheld by the judges who apparently required a standard of absolute perfection that was not attained in cases where the premier honours were not awarded.

Class 17.—Finest bloom of English-raised Magni-Coronati not in commerce: First, Mr. P. D. Williams, with Diogenes (a pale sulphur trumpet); second and third, Mr. J. C. Williams.

Class 18.—Finest bloom of English-raised Medio-Coronati not in commerce: First, Mr. P. D. Williams, with a hybrid between N. triandrus and N. maximsii, a fine clear yellow; second, Mr. P. D. Williams; third, Mr. J. C. Williams.

Class 19.—Finest bloom of English-raised Parvi-Coronati not in commerce: First, Mr. P. D. Williams, with a pale yellow (twin-flowered hybrid between N. triandrus and N. poeticus ornatus); second, Mr. P. D. Williams, with Incognita (already referred to, which some thought should have beaten the first prize winner).

Class 21.—Three bunches of Anemones (excluding A. fulgens): First, Miss M. Wright; second, Mr. R. Fox.

Class 22.—Three bunches of Anemone fulgens: First, Miss A. Williams; second, Mrs. W. Tyacke.

Class 23.—Six varieties Polyanthus: First, Mr. P. D. Williams, with a large and brightly-coloured collection; second, Mr. J. C. Cole; third, Mrs. E. H. Williams.

Class 24.—Three varieties Primroses: First, Mr. P. D. Williams, with an excellent stand, including a large white

with orange eye, and a deep violet with yellow eye; second, Mrs. E. H. Williams; third, Mr. C. E. Tregoning.

Class 25.—Three varieties double Primroses: First, Mr. P. D. Williams, with lilac, white, and the crimson Pompadour (a very difficult plant to grow); second, Mr. D. H. Shilson.

Class 26.—Collection of not more than thirty varieties of unforced herbaceous spring flowers: First, Mr. P. D. Williams, with Iris varleyensis, I. orchoides, I. pumila azurea, Primula denticulata, P. rosea, P. cashmiriana, Cyclamen Coum, C. repandum, Tulipa florentina major, T. saxatilis, Myosotidium nobile, Galanthus Whitalli, Erythronium revolutum, E. giganteum, Lithospermum prostratum, and other flowers; second, Mr. D. H. Shilson.

Class 27.—Collection of twelve varieties of spring flowers: First, Mrs. Powys Rogers; second, Mr. D. H. Shilson.

Class 28.—Three bunches of single Violets in three varieties: First, Mr. R. Fox; second, Mr. D. H. Shilson; third, Mrs. J. Williams.

Class 29.—Three bunches of double Violets in three varieties: First, Mr. J. C. Daubuz; second, Mr. R. Fox; third, Colonel F. Hext.

Class 30.—Three bunches of single Violets, one variety: First, Mr. R. Fox, with Princess of Wales; second, Mrs. H. Spottiswoode; third, Colonel F. Hext.

Class 31.—Three bunches of double Violets, one variety: First, Colonel F. Hext, with superb Lady Hume Campbell; second, Mr. R. Fox; third, Miss M. Williams.

Class 32.—Best collection of Rhododendron blooms: First, Mr. D. H. Shilson, with a bright stand that was, however, inferior to that with which he won the first prize last year. Among the blooms shown were ciliatum, the large white Edgworthi, Shilsoni, barbatum, Williamsi, Princess Alexandra, Lady Alice Fitzwilliam, formosum, glaucum, guttatum pictum, arboreum album, arboreum roseum, arboreum cinnamomeum, and numerous seedlings; second, Mrs. J. Williams.

Class 33.—Six varieties of Rhododendron blooms grown in the open: First, Mr. D. H. Shilson; second, Mr. R. Fox; third, Mr. J. C. Daubuz.

Class 34.—Six varieties of Rhododendron blooms grown under glass: First, Mr. D. H. Shilson; second, Mr. J. C. Daubuz, in whose stand was a grand R. dalhousianum.

Class 35.—Finest bloom of Rhododendron grown in the open: First, Mr. R. Fox, with Glory of Penjerick, a flower with spreading cup 3 inches in diameter of a soft rose colour, lighter in the interior; second, Mr. J. C. Daubuz.

Class 36.—Finest bloom of Rhododendron grown under glass: First, Mr. J. C. Daubuz, with R. javanicum; second, Mrs. J. Williams.

Class 37.—Six varieties of Camellia blooms grown in the open: First, Mr. D. H. Shilson; second, Mrs. J. Williams.

Class 38.—Six varieties of Camellia blooms grown under glass: First, Mr. J. C. Daubuz; second, Mr. D. H. Shilson.

Class 39.—Finest bloom of Camellia grown in the open: First, Mrs. J. Williams, with C. reticulata.

Class 40.—Finest bloom of Camellia grown under glass: First, Mr. J. C. Daubuz, with the pink and white Lavinia Maggie; second, Mrs. J. Williams.

Class 41.—Blooms of Azalea mollis in six varieties: First, Mr. D. H. Shilson.

Class 42.—Collection of flowering shrubs grown in the open. This class showed the mildness of the Cornish climate, for four fine groups were staged. The first prize was won by Sir A. P. Vivian, whose collection contained fifty species and varieties, amongst which were Berberis dulcis nana, B. Knighti, Akelbia quinata, Andromeda japonica, Olearia Gunnii, Malus floribunda, Embotribum coccineum, Azalea amena, Skimmia japonica, Acacia floribunda, A. armata, Magnolia stellata, Prunus pendula, Clematis indivisa, Pittosporum Tobira, Stauntonia latifolia, Coronilla glauca, C. Emerns, Daphne pontica, Spiraea Thunbergi, Choisya ternata, Staphylea colchica, Ceanothus paniculatus, Forsythia suspensa, Grevillea sulphurea, and G. rosmarinifolia; second, Mr. R. Fox, in whose stand was a flowering cane of Arundinaria Simonii; third, Mr. D. H. Shilson.

Class 43.—The best collection of dessert Apples: First, Mr. J. C. Daubuz.

Class 44.—The best collection of cooking Apples: First, Mr. J. C. Daubuz. Five nurserymen had stands in the hall. Messrs. Barr and Sons exhibited a large and representative collection of Narcissi, including the large white trumpet Peter Barr, with gracefully flanged perianth, and Henry Vilmorin, a seedling of exceptional merit, belonging to the Magni-Coronati section, creamy-white in colour, with flat perianth. The firm also showed a small group of rock plants, among which were Soldanella alpina, Houstonia eurtula and its white variety, Shortia galacifolia, and Gerbera Jamesoni in flower. The Devon Rosery, Torquay, had a fine stand of pot Roses in bloom, some of the best being Sunrise, Bridesmaid, Margaret Dickson, Caroline Testout, Mme. Abel Chateauy, Mrs. John Laing, Clio, Duke of Connaught, Ulrich Brunner, Mme. Victor Verrier, Rev. Alan Cheale, and Comte de Raimboud. Some hundreds of cut blooms were also displayed, as well as a large variety of Violets, including the new Beauté de Sumonte, Italia, Kaiser Wilhelm, Primavera, Perle Rose, Queen Charlotte, and La France, as well as some of the older varieties.

Messrs. Robert Veitch and Son, Exeter, staged a large collection of flowering shrubs and plants, amongst which were the new Jasminum primulinum, Primula kewensis, and Loropetalum chinense, Berberis congestifolia baekewiensis, Deutzia Sieboldi, D. gracilis carminealis, Petrea volutulis, Cerasus Watereri, Ceanothus Veitchi, Rhododendron fosterianum, R. sterianum, R. veitchianum, R. exoniensis, R. Conness of Haddington, Acacia armata, A. Drummondii, A. verticillata, Kalanchoe flammula, Eriostemon buxifolium, Richardia Chidisi, Lotus peliorhynchus, Dimorphotheca Ecklonis, Magnolia lennei, M. stellata, Correa, and Bononias. Mr. G. Renthle, Weston, Kent, had Erythronium Johnsoni, E. gigantea, E. Hendersoni, E. grandiflora, Saxifraga Boydi, S. Grisebachi, S. Wallacei, Primula nivalis, Fritillarias, Ramondia pyrenaica, R. Nathalie, Lithospermum prostratum, Shortia galacifolia, Hypericum repens, and other plants. Messrs. Treseder and Co., Truro, staged Tree Ferns, Palms, Eucalypti, Acers, &c.

THE GARDEN

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GHEENT QUINQUENNIAL EXHIBITION.

TO-DAY His Majesty the King of the Belgians will open the great international horticultural exhibition which is held at Ghent once in five years. It is an event of sufficient importance to attract horticulturists from all parts of the Continent and from this country. British-grown plants have been well represented at this show on past occasions, and it is to be hoped that the exhibits from home will this time do full justice to the remarkable progress that of late years has been made in gardening in these isles. This quinquennial event is of value in that one is able to compare exhibits from expert growers of the most important European countries, to see the newest plants raised or introduced by home and foreign plant merchants, to exchange opinions with the leading horticultural experts of various nationalities, and probably to learn much that we might practise with some modification in this country.

Bearing in mind the arrangement of the Ghent Show, or of any other important continental exhibition, it seems to us that some at least of the methods there employed might be imitated at home. Even the best of our large flower shows, the Temple Show, is not to be compared in beauty of arrangement and general effect with that at Ghent, or the one in the Tuileries Gardens in Paris. The fact of the plants being arranged in bold groups upon the floor enables one to judge of their true value in masses or in association with other things; and, generally speaking, it is the effect of plants in such relationship that determines their true worth. New plants are always an important and very interesting feature of this quinquennial show, and the administration wisely encourages their culture and exhibition. Those present at the Ghent Exhibition in 1898 will remember the display made by Messrs. Sander and Sons with a group of stove plants, *Acalypha hispida*, then shown for the first time. If report be true, new plants will again be well represented in the collections from British growers.

This great exhibition affords much food for reflection. Nothing is more noticeable perhaps than the cultural excellence of the plants shown, and though allowance must be made for the favourable climate, it is good to see how well plants can be grown. The Ghent horticulturist knows how to grow his plants

thoroughly, otherwise, even with the aid of the favoured climatic conditions, he could not possibly produce the excellent plants of Azaleas, Odontoglossums, Anthuriums, Bay and Orange trees, &c., that are seen, not at the exhibition only, but in the nurseries in and around Ghent also. Perfect culture has been the motto of the Belgian gardener, otherwise the remarkable increase in the number of nurseries at or in the near neighbourhood of Ghent would not have risen from some twenty odd fifty years ago to between four and five hundred at the present day.

Such an important industry in Belgium as that of plant growing receives both royal and municipal encouragement and support, hence its great success. We hope to describe fully the most important features of this year's display, and particularly the new and noteworthy plants which are always so prominently in evidence. Such an opportunity as the Ghent show affords of seeing much that is best of horticultural produce so far as plants are concerned, and more particularly plants grown in pots from various Continental growers, rarely occurs elsewhere.

THE BEST SWEET PEAS.

I HAVE just been reading Mr. R. Sydenham's critical remarks on page 205 of THE GARDEN on the list of varieties I quoted in a previous issue. Of course he has a perfect right to question the same, and perhaps it is not altogether to be wondered at when the large number of varieties now in cultivation and the slight difference there is between many of them are considered. I purposely made my list a short one, though I may say I am fully acquainted with nearly all in cultivation, and gave the names of those which are, in my opinion, among the most beautiful, useful, and distinct only, for the benefit of those who are taking up their culture.

In the case of the best white I gave Dorothy Eckford the first place. Mr. Sydenham says it certainly may be the best white. I will go farther by saying not only is it the best white Pea in commerce, but that it is the finest and most serviceable variety in cultivation. I have grown it for two seasons, and last year rather extensively. It has a splendid constitution, producing large, bold spikes of flowers, which are of the best quality in every way, and continues to flower longer than any variety I am acquainted with, and it withstands the weather during autumn.

I referred to Mr. Sydenham's list to see what he says respecting it, but I find for some reason or another, as far as I can see, he does not catalogue it, not even in his selection which he gives as the very best twelve

varieties. He says I should have mentioned that it is a new variety and that the seed is very expensive compared with other standard varieties, being 1s. per packet for ten seeds. Had it been three times the price, considering its worth, I should have said it was not dear, and lovers of this charming plant will, I am sure, generally agree, as ten seeds properly grown will produce ample flowers for all ordinary purposes, and at the same time practically ensure a good stock for another season.

As to the next best white, Mr. Sydenham acknowledges there is a great diversity of opinion, Sadie or Blanche Burpee, and he quotes the number of times each was exhibited at the principal shows in the country. I have grown these side by side for several seasons, and have come to the conclusion that Sadie Burpee is the best for all general purposes. Its long stout stems and the fine substance of the flowers fit it for the second place as a white. Referring to the crimson shades he says: "To place George Gordon and Salopian together is most misleading." Certainly the last named is one of the best bright crimsons, and though George Gordon may be, strictly speaking, a bicolor, the crimson shades in this variety predominate.

When we come to the lavender varieties, Mr. Sydenham has but little to say, stating: "Those I named may be very well as they are. But I am again called to question over those I gave as pink varieties, namely, Countess of Lathom and the Hon. F. Bouverie." Mr. Sydenham himself in his catalogue, collection No. 2, describes the Hon. F. Bouverie as a pale salmon-pink, and in his very best twelve varieties, collection No. 3, describes Countess of Lathom as a rich pinkish buff, so that surely this is an attempt at splitting straws. The best are described as Prima Donna and Lovely, but at the same time the Hon. F. Bouverie may come as a third. In the orange section I am again a long way from being correct, but anyone who has grown that magnificent variety Miss Willmott will, I think, be satisfied by placing it, as I did, with Triumph and Gorgeous, though neither of these may be strictly called orange, or is there, indeed, any variety that could? These are sufficiently alike, and the nearest approach to that colour, so that I may be pardoned if I, like other experts, class them together as such.

We now come to those placed under the heading of magenta. I am again wrong for putting Captivation in that class, and then putting Duke of Westminster, Dorothy Tennant, and Othello among rose and dark colours also, in his opinion, is very misleading. I still cling to the one, and I claim that I am right in naming Captivation as a magenta.

I will now ask Mr. Sydenham to read my notes again, when he will find that I did not put Duke of Westminster, Dorothy Tennant, and Othello under the heading of rose and dark colours, but as maroon and dark colours.

He states that he does not care much about Othello, but on turning again to his list I am surprised to find that he should sell it in collection No. 1, as the other varieties he names are much superior.

The pale primrose varieties are correct, but Mr. Sydenham disagrees with the names under the heading of rose colour, namely Prince of Wales, Lord Rosebery, and Prince Edward of York.

With regard to the other classes, Mr. Sydenham questions the inclusion of Colonist and Lady Skelmersdale, and mentions that they are two varieties seldom seen on the exhibition table. I had, however, in my mind varieties which I considered best for general purposes and not for exhibition only. I still regard these two varieties as among the best for the garden generally, and both have received first-class certificates, and in my opinion will hold their own for some years to come. A GROWER.

GERMINATION OF SEEDS UNDER SNOW.

This method of hastening the germination of seeds of alpine and other hardy plants, mentioned by M. Magne in *Le Jardin*, and quoted from his words translated from that journal in THE GARDEN of the 14th ult. as one of some "new and curious facts," is undoubtedly most curious but is not new.

It is fairly obvious that the knowledge of this remarkable property of snow was derived by M. Magne from M. Correvon, who practised the result of his observations quite twenty years ago in the Jardin alpin d'acclimatation at Geneva, and has frequently advocated it in the horticultural press. An account of the use of snow in the germination of seeds may be found in the following of M. Correvon's books: "Les plantes des Alpes," Geneva, 1885, page 118; "Les plantes alpines et de rocaille," Paris, 1895, page 22 and onward. M. Magne does not in so many words claim the merit of this discovery, but allows such a claim to be inferred. At any rate, he makes no mention of M. Correvon, as we consider that he most certainly should have done. Such a want of common justice—to say nothing of generosity—does not impress us in favour of a writer on any subject.

NOTES OF THE WEEK.

FORTHCOMING EVENTS.

April 18.—Ghent Quinquennial Show (opening day).

May 5.—Annual dinner Royal Gardeners' Orphan Fund, Hotel Cecil. Chairman, the Right Hon. the Earl Carrington, P.C., G.C.M.G.

Notes from Baden-Baden.—During March Cyclamen libanoticum was very showy; the flowers first appeared on seedlings, and certainly were an advance upon those of the type, in size, shape and colour; the latter pale and bright rose, with a crimson rim. Among Iris reticulata vars. Melusine is very floriferous, each bulb showing three and four flowers of bright sky blue, with an orange crest; the rainbow-coloured var. Ariadne is also very striking. Among seedlings of Aubrietia a white one has made its appearance, and promises to be a very desirable companion to the crimson, violet, rose and blue varieties. Fritillaria Tuntasia (Heldr.) is very striking, and flowers as early as March; it is about 1 foot in height, well clothed with glaucous foliage, and has one to three flowers, which are almost black and comparatively large. This winter, though a

comparatively mild one, was not a good season for bulbs; they do not look so happy as in former years, and their growth and development are unequal.—MAX LEICHTLIN, *Baden Baden*.

Tulipa wilsoniana.—When Tulipa wilsoniana was first described (*Gardeners' Chronicle*, vol. xxxii, July 26, 1902) its relationship to the small group of Tulips to which T. linifolia, Batalini, and Maximowiczi belong was distinctly pointed out. These species, as is well known to Tulip fanciers, all produce small-sized flowers, and in no instance has T. wilsoniana been spoken of as possessing special vigour or as being a large-flowered species. It is therefore absolutely erroneous to say of this brilliant Persian Tulip that it is disappointing on account of the small-sized blooms it produces. There are plenty of large and very large-flowered Tulips in our gardens, but there are few that possess the charm and refined beauty of the exquisite T. linifolia, to which the new Tulipa wilsoniana bears a great resemblance.—J. HOOG, *Haarlem, Holland*.

A few notable trees.—Travellers in the West Indian Islands are tolerably familiar with the "Whistling Tree," the monotonous moaning sound in connexion with which has a somewhat weird and uncanny effect on a dark night. This curious "whistling" effect is produced by the winds striking the split edge of the pods when they burst. In Veragua, Trinidad, one of the most remarkable trees in the whole universe is to be met with. It is known as the "Paradise Tree," of which there are only seven specimens, which are all to be found within the space of half a square mile at the place mentioned. Each tree bears a beautiful white blossom, which takes about a month to develop. When it is complete, the petals unfold and disclose a perfectly formed flower dove with outstretched wings and upraised head, then the tree withers and disappears till the following spring, when it buds again and produces a flower as before. In China there is a "Grease Tree," which has also been cultivated in India, and from which a thick yellowish fat is procured from the seeds, which is used for lubricating railway wheels, and also for candles, which emit no odour or smoke, and burn with a bright blue flame. In South America there is the "Cow Tree," which yields a nutritious milk and wholesome bread to the people in its neighbourhood. In British Guiana there is to be found the "Cannon Ball Tree," the product of which is a rough brown ball about the size and weight of a 32lb. shot. These constitute a few of the peculiarities of the arboricultural world, which will doubtless interest some among my readers.—W. N. BROWN.

Proposed gardeners' dinner and reception.—By kind permission of the Horticultural Club a meeting of gardeners, members of the Royal Horticultural Society's fruit and floral committees, was held at the Hotel Windsor on the 7th inst. to consider a proposal to organise a great gardeners' dinner and reception in London on the first day of the Chiswick fruit and vegetable exhibition and conference on September 29 and following days. Mr. Owen Thomas, V.M.H., was appointed chairman; Mr. J. Hudson, V.M.H., treasurer, and Mr. A. Dean secretary. The members of the committee as constituted are Messrs. Norman (Hatfield), Reynolds (Gunnersbury), Willard (Highgate), Jaques (Wendover), Beckett (Elstree), Pyfe (Lockinge), Woodward (Maidstone), Gibson (Marlow), Markham (Barnet), Dixon (Holland House), Howe (Streatham), McLeod (Roehampton), J. Smith, and Fielder (North Mymms). It was resolved that the dinner be held on September 29, that the charge for tickets does not exceed 5s., that ladies be included in the attendance, and that a distinguished amateur gardener be invited to preside at the dinner. It was also agreed to invite one or more eminent gardeners in each district to act as provincial stewards, using their influence to promote the success of the dinner. A list of such gardeners was prepared, but will not be published until it is more complete. Every effort, it is hoped, will be made to render the dinner and gathering a marked success, and it is hoped that many country gardeners who may come up to the exhibi-

tion will also attend the dinner. Of course any horticulturist will be welcomed, but the primary object of the dinner is to render it a great gardeners' social gathering.

Arbour day in America.—The interest in Arbour day throughout the country, east, west, north, and south, while not so demonstrative in its manifestation as in the early years of its observance, is now marked by far greater intelligence in its exercises, and has really become a permanent calendar day for the beginning of the year's outdoor gardening work. There is still room for improvement in many localities, the chief cause of failure to realise substantial benefit from the day's exercises being the lack of intelligent and practical direction. In some States the spirit of the day is mainly brought to bear on the school grounds, and is therefore likely to become a powerful agency in the general improvement of these neglected spots, and, indeed, were Arbour day to result alone in this reform, it were enough to secure perpetual homage to its founder. In other progressive sections of the country public-spirited citizens are offering prizes to the school children, both for the best programmes of exercises for the occasion and the best practical planting efforts. Teachers of the public schools in the country places are beginning to appreciate the import of Arbour day, and to understand that the planting of trees is not the only object of its observance, but that far beyond that even is the fact that it affords opportunity to endeavour especially to concentrate the children's minds on out-of-doors beauty, and to direct them into making use of Nature's material so lavishly offered them to improve the immediate surroundings of their homes and school-houses.

Royal Horticultural Society.—The next fruit and flower show of the above society will be held on Tuesday next, in the Drill Hall, Buckingham Gate, Westminster, from 1 to 5 p.m. The National Auricula and Primula Society will hold its annual show at the same time and place. A lecture on "Horticultural Education" will be given by Mr. R. Hedger Wallace at three o'clock. At a general meeting of the society held on Tuesday, the 7th inst., seventy-eight new Fellows were elected, among them being General the Right Hon. Sir Dighton Probyn, V.C., G.C.B., G.C.V.O., Sir Archibald Edmondstone, Bart., Sir H. M. Hawley, Bart., Lady Stewart, Lady Percy St. Maur, Lady Wharton, Rear-Admiral R. F. Britten, R.N., Colonel Dudley Ryder, and the Hon. Mrs. A. M. Dale, making a total of 546 elected since the beginning of the present year.

Botanical appointments.—We are glad to hear Mr. G. T. Lane, curator of the Royal Botanic Gardens, Calcutta, is out again. He went home last year very ill. Mr. A. C. Hartless, who has been officiating for Mr. Lane, reverts to the Cinchona Plantations in Sikkim. Mr. Hartless has done some excellent work at Calcutta, to which we may refer later. Mr. Leslie, from Kew, is now assistant curator, and Mr. Long, also from Kew, is the latest importation at the gardens. Mr. Ridley has returned to Lucknow, and Mr. Davies has reverted to Allahabad. It is not yet settled who will take the place of the late Mr. Charles Maries at Gwalior.—*Indian Planting and Gardening*.

Judging Cactus Dahlias.—Mr. Tulloch, honorary secretary of the National Dahlia Society, sends the following: "At a meeting of our committee held on February 10 last, the subject of the judging of Cactus Dahlias grown this year for trial at Chiswick by the Royal Horticultural Society was discussed, and the committee resolved to ask the Royal Horticultural Society to include amongst the judges on that occasion some of the members of the committee of this society who are not on the Royal Horticultural Society floral committee. To this request the Royal Horticultural Society has, however, been unable to accede, and in consequence our committee at its meeting yesterday desired me to express to you the committee's hope that you will make a special point of being present on the day or days fixed for the judging, in order that the interests of this society may be represented as strongly as possible."

Flowering shrubs at Truro.—

There was a surprising variety of hardy flowering shrubs exhibited at the recent spring show at Truro. The first prize collection from Bosahan Castle contained over forty species, for which the allotted 24 superficial feet was not nearly space enough. The group included some well-flowered sprays of *Azalea amena carminata splendens*, quite brilliant in colour, and a great advance on the type, *Skimmia japonica*, and *Pittosporum Tobira*. The scarlet *Embothrium coccineum* attracted attention at once; one scarcely expected to see it in flower so early in the year. This has been largely planted in Cornwall during the past decade, and well repays care and attention. *Acacias* were represented by *A. arnata* and *A. floribunda*. The snowy white *Eucryphia* was quite charming, and the bright red *Salmon Berry* (*Rubus spectabilis*) was placed between it and the valuable *Choisya ternata*. With a little judgment in selecting various aspects the flowering period of the latter can be greatly prolonged. It flowers well when grown against a north wall. There were several exhibits of *Erica mediterranea* and one good bunch of the more compact *E. m. rubra*, or *hybrida* as it is sometimes called. From Penjerrick came a flowering branch of that rare Holly, the West India *Ilex dipyrrena*; *Cephalotaxus Fortunei*, in flower and fruit; and the curious brown-flowered *Pittosporum Blackenii*. Messrs. R. Veitch and Son tastefully arranged a non-competitive collection. Prominent were some well-flowered Tree Paeonies, the new *Jasminum primulinum*, *Magnolias* in variety, *Dimorphothea Ecklonii*, and the beautiful blue *Petrea volubile*.—A. C. B.

Primrose time.—"A Reader" sends a photograph of Primroses which now thickly cover many an English hedgerow and woodland with pale yellow. Judging from the illustration these are on a "Primrose soil," as the flowers appear unusually large individually and in dense strong tufts.

Tulipa micheliana.—Another rare Tulip of recent introduction. It combines the chief characters of two standard Tulips—*T. Greigi* and *T. montana*. Its leaves are broad, robust, and irregularly striped a ruddy tint as in *T. Greigi*, from which the plant cannot be distinguished when out of flower, but 10 per cent. of the specimens of *T. micheliana* have plain glaucous leaves. The flowers are 5 inches across, short and stout as in *T. montana*, silvery tinted on the outside, and flushed with a central broad line of brown. The inner colouring is a rich crimson, with a heavy and intensely black basal spot, surrounded by a narrow ring of straw yellow. It is a bold-flowered species, well adapted for border planting, but the flower lacks refinement, the petals being a trifle coarse, and the colours are not sharply defined to be pleasing in a blotched Tulip. Some forms of it are really good, and these, if selected and seeded, may give a faultless strain, in which the leaf colouring may be persistent.

Tulipa triphylla.—An older species, which gains in popularity every year. It has always been a scarce plant, and one rarely sees it outside bulb collections of note. It has pretty pointed buds flushed with greyish green on the outside, showing a clearly defined margin of yellow or orange. The interior of the expanded flower is rich yellow or orange without a basal blotch, being entirely self-coloured, and the petals at this stage are undulating, long, tapering, and elegantly recurved. This colour varies from pale lemon-yellow to orange. The leaves, as the name implies, never exceed three. It is a fascinating little rock garden plant, and succeeds well anywhere so long as the bulbs are well ripened in autumn, an important cultural detail in all Far Eastern Tulips.

Blue Hydrangeas.—Judging by "F. J.'s" remarks on the 4th inst. (page 225) upon producing

blue *Hydrangea* flowers, I am afraid he must have been very careless. I should never think of putting 1oz. of alum into a gallon of water for the purpose of watering any plants, as such a mixture would kill them. I have produced intense blue flowers on *Hydrangea* plants many years in succession, but as soon as the flowers fade the plants must be carefully cut back to the leading eyes and treated liberally (but not repotted) and well ripened off. In this way good sized flowers of an intense blue can be got for many years. I have grown blue *Hydrangeas* for seventy years.—RICHARD BUTLER, *St. Dunstan's, Regent's Park, London.*

Notes from the Drill Hall.—At both the meetings of the Royal Horticultural Society, on the 10th and 24th ult., hardy plants were shown in great profusion, and many beautiful things were noticeable. On the former date the new *Fritillaria askhahadensis* was well represented, and, though it is perhaps more interesting than showy, should be grown by those who appreciate its near relatives, the Crown Imperials. *Epigaea repens* is not often seen in good condition even in the collections of an advanced class, and it was pleasing therefore to see a delightful pan of it in

proved a failure when only weak, freshly imported plants can be obtained. Yet when it becomes established it is a lovely hardy plant, and on my last visit to Kew I was greatly struck with its beauty. *Incarvillea grandiflora* is a plant many of us have failed to grow, although Messrs. Jackman's able foreman, Mr. Scaplehorn, seems to have discovered the right method of treatment. The plant exhibited was in fine condition, and, although only one flower was expanded, there were others in plenty to follow at the base of the flower-stem. Nevertheless, fine as this species is, my own impression leads me to think that it will never occupy the same position in gardens as its near relative *I. Delavayi*. Of late years we have had new Irises from several parts of the globe, and all welcome additions to our gardens. I do not consider that enough has been said about *Iris bucharica*, which is certainly a magnificent plant. Messrs. Jackman had several examples of it which had been grown in a cold frame, and, as a result, its lovely satiny white and yellow flowers, further enhanced by the shining leaves, were of exquisite beauty. In Messrs. Wallace's exhibit on the 24th ult. I noticed *Tulipa prestans*. It can be confidently



A HILL SLOPE OF PRIMROSES.

Mr. Reuthe's exhibit bearing several clusters of fragrant wax-like blossoms. Several *Snowdrops* were noted, perhaps the finest being *Galanthus Ikarie*, with charming flowers of a large size and broad foliage of a distinctive shade of dark green. *Saxifraga Aizoon* var. *Malyi* is rarely seen. The tufts are covered with soft yellow flowers and the plant grows freely. Two *Androsaces* call for special mention, these being *pyrenaica* and *Laggeri*. The first is a little species which covers itself with tiny white blossoms, while *Laggeri* is yet more beautiful with its little dark green tufted rosettes and myriads of pink flowers. *Primulas* were on both occasions extremely well represented by such species as *marginata*, *denticulata* and its varieties, and *clusiana*. A splendid pan of the last-mentioned in full bloom proved attractive with its rich violet-carmine flowers and deep green leaves. *P. rosea* and *P. pubescens alba* were noticed in several exhibits. *Shortia galacifolia* was greatly in evidence, and is deservedly one of the most popular of hardy plants, and one can scarcely imagine a more useful subject for the unheated greenhouse. Of *Schizocodon soldanelloides* I noted a few examples, but these were poor, and one cannot wonder that in most gardens it has

said that this is one of the most beautiful species which has yet been introduced to cultivation. Exhibited for the first time, I believe, in this country it attracted immediate attention on account of its unique colour and distinct appearance. The foliage, considering the size of the plant, is wide, and the fine silky hairs with which it is covered give it a most pleasing glaucous hue. The colouring is most effective, being an intensely rich scarlet shaded with orange, and this colour extends down to the base of the flower. The anthers are of a very dark shade of chocolate. Mr. Wallace informed me that the buds of this Tulip possess their brilliant colouring immediately they appear above the ground. Those exhibited were lifted from the open ground, which proves that it will be a most valuable addition to the early blooming species now in cultivation. *Tulipa prestans* is a native of Bokhara, and was introduced by Mr. John Hoog of Haarlem. Messrs. Barr's display of *Daffodils* on the 24th ult. was very fine, and in some respects it was perhaps unique. Two bulbs of the magnificent white *Ajax*, Peter Barr, had been grown in pots, and these carried between them three superb blooms. There cannot be the slightest doubt as to the



ROCK GARDEN IN NEW PUBLIC PARK AT WELLINGTON (SOMERSET) UNPLANTED, SHOWING IMITATION OF NATURAL STRATA AND GENERAL ARRANGEMENT OF STONES.

vigour of this noble Daffodil, and, indeed, this was the subject of considerable comment. It is, in fact, a veritable giant amongst white Daffodils, yet there is nothing to suggest coarseness; the large size and extreme purity of the flower and the bold massive leafage are most striking characteristics. The beautiful Leeds variety, Maggie May, which gained a first-class certificate from the Royal Horticultural Society a year or two ago, was also shown grown in pots. Mrs. R. O. Backhouse received two awards of merit from the Narcissus committee for Firelight, which may be described as a small C. J. Backhouse of brighter colouring, and Mobican, a richly coloured Burbidgei of fair size, and with chaste white perianth.—ARTHUR R. GOODWIN.

Swanley Horticultural College.—In the report just issued we learn that "owing to the fact that women enter as students in increasingly larger numbers than men, the governing body determined to reorganise the college in September, 1902, as a women's college only, under Miss F. R. Wilkinson as resident principal. This change will secure greater economy, and will greatly promote the comfort of the women students. . . . The system of practical work done by students has been much improved, and is now under the superintendence of Mr. Charles Herrin, the well-known horticulturist and writer on gardening topics. Each second year student is now placed in charge of one house or section of garden for a fixed period; during this term of responsibility thorough insight into the successive departments is obtained. The college has joined the National Fruit Growers' Federation, and it is hoped that by a combination of growers the present defective transport system may be improved. A fruit room has been constructed for storage of Apples and Pears. In this building students can learn 'varieties' and the care needed in storage of fruit."

Royal Horticultural Society.—The council wish to draw the attention of the exhibitors to regulation 2 on page 50 of the book of arrangements, 1903, which orders that notice of intention to exhibit groups must be given not later than the Friday before. The council interpret this to mean

that the letter should reach the superintendent at Chiswick, or the secretary at Victoria Street, on the Friday—preferably the former. The rule further states that exhibitors must at the same time state the nature of their proposed exhibit. Notice will be sent to the exhibitors by post despatched on Saturday or by telegram as to whether the space they desire can be placed at their disposal. Exhibitors are also requested to note that Lilies sent with the stamens cut out will not be allowed to be put on the stages, but will have to be taken back at once.

Flowers in Park Lane, Hyde Park.—As usual at this season spring flowers are a beautiful and attractive feature here. It may prove of practical service to refer briefly to some of the best beds noted on a recent visit. Hyacinth Leonidas, light blue, extra large truss; H. Baroness Van Thuyll, pure white, very fine; and Jonquil Campernelle, mixed. Also a very good mixture was the noble Narcissus Sir Watkin, with Hyacinths Lord Macaulay, fine carmine, large truss, and Grand Maitre, deep porcelain blue. The same remark applies to Hyacinths Van Schiller, a good pink; alba superbissima, large pure white; and Narcissus rugilobus, with its fine primrose perianth and yellow trumpet; Hyacinth Fabiola, pink; Grand Maitre, blue, and Narcissus Horsfieldi, effective. A band of Hyacinths Leonidas, light blue; La Grandesse, pure white, extra large, with Jonquil Campernelle in the centre, made a most effective combination. Two good self beds of Hyacinths were Marie, dark purple-blue, immense truss; and La Franchise, pure white, large bells. Near Mount Street gate noticeable arrangements were as follow: Jonquil Campernelle, carpeted with the beautiful Scilla sibirica; some good self beds of Hyacinths, viz., Leonidas, light blue; Regulus, blue; Mont Blanc, pure white, fine; Robert Steiger, fine red; Grand Maitre, blue; and Charles Dickens, splendid rose, large truss. A mixture of Hyacinths, Robert Steiger and Baroness Van Thuyll, with the imposing Narcissus maximus, was a fine association. Hyacinths Orandates, porcelain blue, and Lord Hartington, purple, with Jonquil Campernelle also merit notice. A brave floral display is made in the borders near the Marble

Arch, consisting of Tulips, Narcissi, and Hyacinths, planted in groups and in separate colours.—QUO.

The Dowdeswell Galleries, New Bond Street.—"An Exhibition of Little Landscapes of Italy." The title has a curiously familiar ring that one understands when one finds that the artist, Mr. Kerr-Lawson, has had for his travelling companion, at the time these pictures were painted, Mr. Maurice Hewlett. The author of "Little Novels of Italy," in an appreciative note as a fore-word to the catalogue, tells how he came to be "called to the christening" of these landscapes, and pays enthusiastic tribute to Mr. Kerr-Lawson's love of Italy and the insight which enables him to grasp the character of what he sees. Of those with this faculty, as he quaintly puts it, "Few there be." The first picture is "Venice," perhaps one of the best, if not the best, in the exhibition. It might almost be called a study of mist, everything is merging into a wall of grey mist or sea fog, sky and water meeting impalpably in a way you feel rather than see. The study is intensely quiet and yet full of charm. No. 22, "San Juan di Dios, Granada," comes rather outside the present exhibition, but is, nevertheless, particularly noticeable. In an entirely different mood to any of the surrounding pictures, its brilliant, sparkling colour serves to enhance the values of those in a quieter key. In No. 33, "L'Osservanza, Siena," the charm lies in the vast expanse of sky of soft melting blue, even in tone, yet without a trace of monotony. Not altogether satisfactory, perhaps, but delightful in colour, is "Pont-a-Sieve" (No. 19).

Very pleasing in their widely different effects are "Via Principe Amedes, Florence" (No. 12), with its brilliantly sunny sky, and No. 26, "Salute, Venice," a quiet, grey study. Nos. 4 and 39 are two other studies that should not be missed in this small but very interesting little exhibition of landscapes.

Dumfriesshire and Galloway Chrysanthemum Show.—It has been long felt that a Chrysanthemum show would be likely to be well supported in Drumfries. The Dumfriesshire and Galloway Horticultural Society have therefore resolved to hold one in the Drill Hall there on November 18. It will not be confined to the counties within the society's district, but it is expected that there will be a good competition among local growers. The proposal is being well received, and the schedule is almost ready.

THE ROCK GARDEN.

ROCK GARDEN-MAKING.

IX.—MORE PRACTICAL HINTS ON CONSTRUCTING STRATIFIED ROCKS.

IN the last chapter I gave an example of a small rock garden constructed of stones belonging to the "Devonian" group. I will now give an illustration of rocks built entirely with stones of the carboniferous period, viz., limestone. All limestone is, of course, sedimentary rock, but in its stratification it is irregular. This is owing partly to mechanical force, such as upheavals, &c., and partly to the chemical action of water, which, in passing through the rocks for countless ages, has dissolved a considerable portion of the calcic carbonate, often leaving large hollows or caves. Sometimes these caves are formed by the toppling over of large masses of rock previously undermined by the action of the water.

Owing to these various causes irregularity in the strata of natural limestone rock is always

more or less apparent. We may see in one place strata of absolute regularity, in another layers of rocks that have become dislodged and run in irregular lines, while in others no lines can be recognised at all. When imitating Nature in a small way by the construction of a rock garden, we will do well, therefore, to bear these facts in mind.

Photographs and illustrations of rock gardens which have been planted for a year or two may sometimes show pretty and natural effects, but since the stones are partly hidden by the plants it is next to impossible to glean from such a picture how the former were actually placed. But, since this is of the utmost importance in rock building, I venture here to introduce two views taken recently and showing a rock garden photographed during its actual construction before any plants were put in, and again immediately after the planting was completed, but, of course, before the plants had time to start into growth. From a picturesque point such views, showing practically nothing but bare stones, are, of course, a failure, but they show at a glance how the work was done. That even the picture which shows the planting completed does still look too bare to be effective I most readily admit, but it shows how the stones were placed and where the plants were put, and that is the object of the illustration. When, after a season's growth, the same scene should again be photographed (as I hope it will be), the bareness will have vanished, but it would then not be so easy to recognise how the rock garden was constructed. I will now give a short description of the work illustrated.

The illustrations No. 1 and No. 2 show a newly-constructed rock garden in the public park at Wellington, Somerset. By the kindness and liberality of Messrs. Fox Brothers that town will be presented with a new park, which will not be handed over to the corporation of Wellington until it is quite complete in every detail, the donors themselves bearing the entire cost of laying out, planting, fencing, buildings, &c. Since the ground is, on the whole, rather flat, a small valley was produced by means of excavation for the double purpose of greater undulation and gaining soil needed for filling up in other portions of the park. Into the lowest part of this valley a fair-sized pond was introduced, and the rock garden was constructed chiefly against the steep banks forming the head of the pond, and spread out also to some of the projecting portions of the shoreline a little further away.

For the construction 80 tons of limestone were used, and of these about 50 tons or 60 tons are represented in the accompanying illustration. The fixing and planting only occupied about a fortnight. The stones were blocks varying from 1 cwt. to 20 cwt. For shifting them about a small two-wheel trolley with a long handle (to serve as a lever) was found most convenient. A fair idea of the size of the little rock garden may be obtained by comparing the size of the rocks with that of the spade shown to the left in the first picture. Only a very small corner of the pond is visible in the second picture. The first appearance of the water is in the form of a spring, which is partly hidden by rocks, and, falling over a dark cave, forms a

waterfall which feeds the pond. Building operations naturally began with the cave, which was made deep enough to have its actual end hidden from view, and was then lined with Ferns, &c. Around this cave the rocks were given a more massive appearance. "Strata" were imitated by using mostly flat stones, and putting them into successive layers, each separated from the next layer by small stones and soil. These small stones are of great importance, as they prevent the weight of the stones from pressing too hard on the soil, and thereby, perhaps, crushing the roots of plants put in after the completion of the stonework. In Fig. 1, almost in the centre of the illustration, and just to the right of the cave, may be seen great holes between the stones; but in illustration No. 2 it will be observed these holes are filled up with small stones and plants, which will soon spread and give the whole a more natural appearance. Above the block referred to will be noticed a little plateau, which in the second illustration appears filled with *Rhododendron ferrugineum* and *R. hirsutum*, while a still higher plateau is filled with *Juniperus Sabina*, *Taxus Dovastoni*, &c., backed by *Picea polita*, *P. Remonti*, and various shrubs to form a background. Among these shrubs are *Osmanthus myrtifolius*, *Rhododendron Wilsoni*, *R. myrtifolium*, *Cytisus purpureus incarnatus*, *Euonymus radicans fol. var.*, various *Berberis*, &c. Immediately to the right of the plateau referred to is a narrow rocky path between boulders of rock. This not only makes a variety, but constitutes an easy means of access to the various plants, &c.

The rocks to the left of the cave, seen from the spot from which the photograph was taken, appear to have their strata running at the same angle as the rocks on the right, but they only appear to do so from this particular point. When seen from the main path (which in the

illustration is hidden by the rocks in the foreground) the strata in this part are seen to run backwards, the idea being that they have become separated from the main body of rocks and thus formed the cave. The level spot where in illustration No. 1 the spade is seen has been planted with very dwarf plants only, such as prostrate *Veronicas*, *Primulas*, &c., which will soon form a complete carpet. Had taller plants been put here the effect by way of contrast would have been lost. The block to the left of this comparatively level spot looks now like small terraces without any particular shape or form, but when the rock plants have had a season's growth the joints between the stones will appear completely hidden. The result of this will be that the now unshapely block will then look like a huge block of real rock, with strata running at an angle quite different from that in the adjoining group.

When stones are placed endwise against each other, but are laying on their flat sides in such a manner that the top edges form an approximately continuous line, they will not look like continuous layers of real rock until the transverse joints are obliterated, or, in other words, till the spaces between the stones have been filled up. One method of doing this is by means of cement, but this is seldom quite satisfactory, since the slightest settlement will cause the cement to crack and look extremely artificial. It is difficult, too, to colour cement so exactly like the stone as to be undistinguishable.

But even when this has been accomplished successfully, and we have the exact tint, it will be liable to change according to weather. Cement has, during fine dry weather, an almost white, or at any rate a very light grey colour, which changes to quite a dark shade with the first shower of rain, and if the cement was coloured red or brown or any other tint, it would always look several shades



THE SAME ROCK GARDEN PHOTOGRAPHED A FEW DAYS LATER, SHOWING PLANTING COMPLETED BUT NOT DEVELOPED.

lighter during dry weather. This change of colour may be avoided by using metallic cement, but this is very expensive and difficult to use, since it has to be mixed with hydrochloric acid, instead of water. For these various reasons I never use cement when it can be avoided.

(To be continued.)

TREES FOR THE NEW GARDEN.

"The brotherhood of trees."

SOMETIMES a day arrives when it is necessary to start afresh and plant a new garden. Nothing at this hour is so fatal as flurry, yet in the anxiety for immediate effect we are often a prey to it. There is no more critical moment than that on which is decided the question of our trees. It is almost like engaging servants or fixing upon a wife, for in character trees vary as much as human beings, and we must



FLOWER OF IRIS TINGITANA (REDUCED).

not allow ourselves to be influenced by mere beauty, remembering that every tree we put in, unlike the passing flowers, will be a life companion, most likely outstaying us, and wherever we place a tree it will rule the lesser things around it. Some trees, like some men and women, are good to live with (and under), and some are not; some are friendly to the grass and smaller flowers about their feet, and others either kill with a basilisk glance or are too selfish and greedy to let anything flourish but themselves.

Who does not love the garden wherein we find the shady lawn with overhanging boughs, where sunbeams, leaf-entangled, make patterns on the grass? To secure fair havens such as these we (or someone before our time) must have planted trees that allow green blades to grow. There are plenty of such trees to choose from. Grass will grow under Ash, Alder, Cypress, Elm, Plane, and Sycamore, nor should we omit to mention the generous Mulberry,

which Lord Beaconsfield said was a "patent of nobility to any lawn;" no upstart plot can expect to show a fruiting Mulberry tree.

There cannot be a doubt as to which is the very best tree to plant on any lawn. It is the Weeping Willow, a tree specially welcome to the impatient, as it grows with amazing rapidity, and has as many lives as a cat. I have one which has been transplanted three times, once blown down, and once struck by lightning, and it looks at the present moment more flourishing than ever. But the best of a Willow tree on a lawn is that grass will grow right under it, close up to the very trunk, and retains its verdant colour. We sometimes think one reason why the turf under Willow trees remains so good, no matter how fast the tree is growing, must be the fondness of the earth-worms for the Willow leaves. In autumn we watch ours being dragged down by their points in hundreds, held so tightly by their captors as to defy the gardener's broom. What good things in the way of mould-making and soil-improving are done by earth-worms we have heard about from Dr. Darwin. Oak trees for shade and shelter are delightful, and preferable to Elms, because less liable to be wrecked in windstorms, but Oaks are not so very kind to turf. They do, however, allow a soft, fine moss to grow, which if not destroyed by the ruthless rake is almost as agreeable. Miss Jekyll herself has a good word for the Oak.

Fir trees, most of us know from experience, are the worst things to put upon a lawn where we want grass to grow. In vain each spring do we lay down new turf beneath them, and for a month or two enjoy its sylvan beauty; our trouble and money are thrown away. First the grass dwindles and then it dies, and there is either a desert or a swamp, according to the weather and the soil. Twenty-four years of presiding over a garden that has too many trees for its size has taught us how to circumvent even the conifers. We have a corner planted with them that might be an eyesore, but is a joy.

A limestone rockery not far away was made to blend in with the ground below the trees by scattering boulders of the same stone carelessly between it and the feet of the Firs. Amongst the limestone *débris* Ivy flourishes as it never did before, and by turning over the ground a little and adding some good earth we have encouraged the growth of such hardy flowers as *Periwinkles*, plain and variegated, *Saxifrages*, *Mosses*, and wild *Strawberry*, with the emerald-leaved *Oxalis*, pink or white, a flower that seems to grow as well in shadow as in sunshine. So as not to interrupt the walk across the lawn we have arranged some flat and handy stepping-stones that look pretty and are useful. The idea given, on a small scale, is that of a pathway through a wood.

It is, to our minds, a matter of great importance so to manage that Fir trees may have a place in lawn and garden. Nothing is more useful as a screen, either to block out the unsightly or to protect from wind. It is interesting to know that the Firs, and I believe *Pines* also, do more than merely keep off draughts; they positively give out in winter some of the heat that has been stored in summer time, and a German *savant* who has been taking their temperatures can tell us exactly how much heat comes from each tree, by reading the degrees that are registered on

his thermometer. He invites us all to study this delightful subject, about which much remains to be found out.

Other trees under which grass will not grow are the *Aspen*, *Beech*, and *Chestnut*. There is no need to lengthen the list by naming a host of trees, such as the *Poplar* and *Elder*, that no one would dream of planting indiscriminately. *Apple* and *Pear* trees are a charming addition to any lawn, lovely both in flower and fruit, and pleasant to sit beneath, besides giving the most comfortable of boughs for birds to perch on or for creepers to climb up. With a little help in the way of liquid nourishment, they do as well here as in the kitchen garden. The *Alder* is said to nourish whatever plant grows in its shadow, and the drippings of the *Cypress* to be the least hurtful.

If the new garden we are planting happens to be by the seaside our difficulties increase. Seaside trees, as a rule, are deplorable. *Misshapen* and covered with lichen, one would almost sooner have their room than their company, at all events in winter, though in summer they put on their green mantles with the rest, and like *cocoa* are both "grateful and comforting." I wish someone would explain the reason of the grey-green lichen that does so beset all seaside boughs, whether of *Apple*, *Elm*, or *Oak*. Then as to the shape of the trees—we have only just discovered the "why" of that. All our lives we have thought the bent-backed seaside boughs to be wind-blown, but it is pointed out to us that wind does not blow them bodily aside as we imagined. It is the chilly breeze of spring that nips the tender buds on one side, so that the young shoots push out in the direction that is warmest, and thus is brought about the crooked shape with which we are familiar.

In most seaside places it is a safe thing to put in *Tamarisk* and *Sycamore* trees. *Sea spray* does not injure them, but here in the uplands of *Norfolk* we are advised to pin our faith on *Buckthorn* and *Black Poplar*. What will grow beneath such trees as these? That is the problem which is puzzling us, for if, as seems probable, we may—hermit crab fashion—shift out of our *Surrey shell* into a *Norfolk* one that has been deserted by somebody else, we may find ourselves in a sixty years old garden already surrounded by a thicket of these very trees. At the present moment—*January*—the undergrowth looks nothing but a hopeless tangle, with here and there a bush of *Butcher's Broom* or straggling *Laurel* and the coarsest kind of grass. *Bulbs*, they say, will be eaten by rats and rabbits. What is to be done? It is certain the trees will have to remain, for the garden is almost upon the cliff, which faces north, so that shelter is an absolute necessity.

F. A. B.

NOTES ON HARDY PLANTS

IRIS TINGITANA.

IRIS TINGITANA here figured was cut from the open border on March 2 of the present year. As described on page 143 of THE GARDEN, the bed is entirely sheltered from the north and east and is open to the south.

The dimensions of the flower were, from end to end of the drooping falls, 5 inches; spread with falls lifted, 8½ inches; width of fall, 1½ inches; height of standards, 4 inches; width, three-quarters of an inch. The other day I saw this *Iris* carrying two flower-spikes in Mr. *Archer-Hind's* garden, but he informed me that he had grown it thirty years without flowering it. The colouring of the flowers is delightful, the

standards being violet-blue and the falls a delicate French grey, set off by the glowing yellow of the central blotch.

S. W. FITZHERBERT.

PRIMULA MARGINATA.

VERY few of the earliest of alpine Primulas can surpass this pretty species when well grown. What is intended by the latter may best be gathered from an excellent example flowering in the alpine house at Kew at the present time, shown in the accompanying illustration. The plant is in one of the usual pans in which the alpiques at Kew are largely cultivated, and this receptacle is quite covered from view by the wealth of the leafage and the abundance of the pale mauve-blue flowers. These latter are closely arranged in clustered heads on short stems, the stems as well as the leaves being freely covered with a rather thickish meal. The flowers are about three-quarters of an inch across. The oblong-obovate leaves are rather irregularly toothed at the margin, and as here protected in the cold house are much more freely covered with mealiness than is usual with plants in the open. It prefers a loamy soil in which grit or even charcoal or well-burnt clay finely sifted is mixed. Indeed, the latter is excellent for many alpiques, and the soil may be quite freely charged with it. This, with good drainage and occasional low repotting so that the rooting may continue on the tree-like stems of the plant, may be said to constitute the chief cultural items. There are one or two varieties differing slightly in size and colour of the flowers, but all are beautiful. The species is a native of the Alps of Dauphiny and Piedmont, and has long been known to cultivators of good alpine or hardy plants.

E. J.

NOTES FROM SWANSWICK.

SOME of the puzzles offered by auction catalogues under the guise of names for plants are remarkably ingenious. A small selection of these gems of clerical imagination is subjoined, headed by a few which, so far, I have been quite unable to solve:—

Angolierca: double.

Sambucus Peterseli-bladii (? Sambucus).

Azose (sic).

Darra, William Paul.

Korus Spatti—phonetic, evidently, for *Cornus Spæthii*, and not a bad shot.

Lancieria (Lonicera).

M. Emalina (name of a Rose).

Ipenveerens.

Calcantus Virginia (quite a creditable shot at *Calycanthus*, if, indeed, that is what it was).

Kleteria spectabilis.

Boraborist Aquivalia, and, to end with an easy one, showing that the phonetic millennium is not so far off,

Vascinium Fituo Idicea.

Occasionally, more wrath than mirth is provoked, as when, after carefully avoiding a bid for *Antirrhinum* under several peculiar guises, I fell into the trap of *Anthericum*, which so distinctly suggests *Anthericum* that I forgave myself, though execrating Fate. Probably a knowledge of Dutch would be a valuable auxiliary in the struggle with auction riddles, but failing this one can but wish that the finances of the firm or firms could run to a clerk with an, at any rate, elementary knowledge of the simpler plant names.

For a month past the prettiest group in this garden has been one of *Tulipa saxatilis*, raised to the level of the eye on a rockery. The Apple blossom flowers only open and show their gold bases in sunshine, but are lovely in all aspects, and the two fine large blooms on each supple stalk show so well against the highly polished



PRIMULA MARGINATA IN THE ALPINE HOUSE AT KEW.

green of the leaves. So great a success is this beauty that I contemplate extensive planting of other early Tulip species, as *T. kaufmanniana*, *T. præstans*, &c., and an attempt to naturalise *T. sylvestris* where the *Erythroniums* have been, and the *Daffodils* are, flourishing exceedingly in fine turf around a large old Cedar. Most of the grass about this little place has been neglected, and became very mossy and also poor from having been apparently taken continuously for hay and never manured by stock or otherwise, so that the part near the tree in question, which is beautifully close and velvety, and a tiny croft where wild *Daffodils* and *Primroses* grow very thickly, are all the grass sites at present available. *Orchis maculata* and a few *Cyclamens*, with *Fritillaria Meleagris*, chequered and white, are all I have so far ventured upon, besides some large Trumpet *Daffodils* to follow their small wildling relations.

If what I have—a little collection of perhaps twenty of what may or may not be species—in the way of mossy Saxifrages are rightly named, a fact about which I am very doubtful, as they have mostly been picked up at country nurseries, the gem of them all is decidedly *S. Lazarii*. This is a small thing, something like *S. oppositifolia* in habit, and the flowers, which are each nearly as big as a sixpence when fully open, are of a lovely bright violet-mauve, with a touch of red-orange in the centre. I have always kept the Saxifrage family as a kind of savoury to look forward to after a long series of courses, beginning with *Roses*, thence to flowering shrubs, and with herbaceous perennials to lead up to alpiques.

I find myself still very far, indeed, from the stage of knowledge at which one may be considered competent to begin their study, and perhaps this is as well, in view of the state of affairs disclosed in THE GARDEN'S leader of the 21st ult., since by the time I am ready the Kew lists may be the universal appeal. In the meantime, I feel like erecting a little altar to anyone able to distinguish at sight between the various encrusted, or to put an infallible label to some of the mosses when out of flower. Although we are not much slug-ridden here, such vermin as do come about are hideously mischievous among the Alpine *Phloxes*, ravaging all the new shoots as fast as they break upon the dried up, Jericho Rose-like stems of the past winter. Soot and lime, so universally recommended, I have always found perfectly useless against slugs, but only second to them in spoiling one's plants, and I generally rely upon tempting

pieces of sandstone shale laid close to the plant for the wretches to use as doss houses. If there is a more unpleasant sight than that of a slug itself, it is of our gardener's method of execution, performed by squashing the victim against a spade or trowel with his thumb!

I received one gift for which I was not at all grateful—a wireworm. The close resemblance of these insects to the mealworms we gave one insectivorous foreign bird in the days of our devotion to an avian hobby lessens my personal repulsion towards them, for it used to be thought a feather in one's cap if the breeding of mealworms in layers of flour and brown sugar between brown paper in a wooden box could be brought to a successful issue of thousands, and familiarity bred toleration. But none the less the visitor made an early Christian exit in two parts, and I am only sorry to perceive ocular demonstration that the Royal Horticultural Society's turfy loam has not had such careful attention from a competent staff of robins as ours gets.

What a good portmanteau word "stuff" is! To the farmer it bears only one interpretation—manure. From the exhibitor's point of view it is something quite different. "Look at the stuff he sends!" might sound to the ignorant uncomplimentary when overheard at a flower show, but in reality it means "What is the use of competing with him?" Into the other meanings of the word it is unnecessary to enter, as they regard drapery and upholstery, and are out of place here. But clearly such "stuff" as dreams are made of are my contemplated Sweet Peas and *Dablias* for market, for we are now in April, and it is still impossible to go on the land to sow or plant. The trenches for the Peas are made, and there we stick hopelessly.

The *Muscari* (botryoides) are now in full bloom, and the lovely white ones, so charming in bunch, are very much less pleasing than their commoner blue companions, owing to the sickly pallor of their foliage. As they are massed in a large clump, irregularly covering a space about 6 feet by 3 feet, in front of a larger clump of blues, there is no difference of soil or situation to account for the distinction, and the wholesome green leaves of the blues only serve to show up the anæmia of the white form. These would be good flowers for market growing, since they look so much better in the hand than on the ground that one would never grudge them to the picker. *Chionodoxa gigantea* carpeting the ground under orange-red *Crown Imperials* makes a lovely colour contrast, while in

the woodland part of this garden may be seen an example of mixed planting, in which Nature has been eminently successful—Daffodils (wild), white Wood Anemones, Primroses, scented Violets, and just a few early Dog Violets, all thick together and in full bloom.

Bicolor Victoria is a very fine garden Daffodil, and is blooming splendidly under an Apple tree, its wide glaucous leaves and substantial large flowers making a great show, while it is not coarse, although so sturdy. In Glory of Leyden, of which I have a small but most lusty group, I am rather disappointed, as I had expected it to be much larger and more solid in blossom. It really takes a very highly trained eye to see the immense superiority claimed for some of the newer Daffodils over varieties like the exquisite Emperor and Empress, which are growing deliciously here out of a bronze shaded small-leaved Wood Ivy carpet.

M. L. W.

FRUIT CULTURE IN SOUTHERN CALIFORNIA.

THE advance of fruit culture in California is well indicated by the fact that the output of Citrus fruits alone has increased fifty-fold in fifteen years. Four and a half millions of Orange and Lemon trees—about ninety to the acre—are now growing here, overwhelmingly in the southern counties. California exports over 5,700 tons of Almonds and English Walnuts; 70,000,000 lb. of Prunes; 50,000 tons of fresh Cherries, Apricots, Peaches, Plums, Pears, Grapes, Apples, Quinces, Nectarines, and Figs; and nearly 50,000,000 2½ lb. tins of canned fruits. According to official figures there are fifteen kinds of fruit trees, amounting to 9,179,741 in all, occupying about 115,000 acres, in Southern California. Broadly speaking, the deciduous fruits are grown in what is known as "Northern California," or in that region which lies north of the San Lucia and Tehachapi Mountains; the fact that almost nine-tenths of the Citrus fruit of California is raised south of these mountains, and nearly all the deciduous fruits north of same, seems to create a natural boundary between the two parts of the State. A great variety of climate may be found in California at all seasons of the year. Cool on the coast in summer, farther inland it becomes warmer, and in places decidedly hot at times, though owing to the dry atmosphere a temperature of 100° here is less oppressive than 80° elsewhere. There is a climate here to suit everyone, and winter and summer in the lowlands are represented only by the wet and dry seasons.

This variety is due not so much to the size as to the physical form or topography of the State; the chief elements in this are the sea and the mountains, and the relation which they bear to one another. Like the climate, the soil of

Southern California varies greatly, and within the limits of a quarter section of land may be found several sorts of soil, ranging from heavy black material to the lightest of sandy loam. The heavy soil is usually devoted to grain, and the light soil to fruit growing, and almost every product raised in the temperate and semi-tropical regions may be successfully grown here. But, while this region contains hundreds of thousands of acres of the most valuable land in America, it also contains a great deal of land which is practically worthless. Roughly speaking, the land east of the mountains and also lying in them is not available for cultivation, while the rest is for the most part good, but with varying degrees of goodness. Following a natural evolution, the chief interest of the State was formerly centred in "dry farming," the stock being fed on natural grasses; then water was introduced for irrigation, and it at once became clear that more wealth could be produced from a few acres properly irrigated than from a large tract devoted to dry farming. At first a stock range, then a Wheat farm, and, lastly, a well-watered, carefully cultivated fruit ranch is the story of thousands of acres that have already achieved their destiny of full productivity, and it will be the story of millions more.

It is estimated that there are 10,000,000 acres of good land in the San Joaquin Valley alone, which would support a population of 2,500,000 bountifully, whereas there are now but 190,000. As irrigated agriculture is intensified agriculture, the question of "water rights" is a most important one here; by this method alone can the land be made to yield its fullest measure. When a man purchases a ranch in Southern California he expects to secure some form of "water right" as a part of his ownership, and this right constitutes a large element in the value of the land. A fruit ranch that would not be worth more than £10 an acre without the possibility of purchasing water might be worth £40 an acre with an ample water right. The latter, as a rule, is included in the original purchase price, and may be in the form of water stock in some neighbouring irrigation company or paid sometimes as annual taxes.

The actual maintenance expense averages

from 4s. to 8s. per acre per year. The water is obtained either from wells or from the streams, rivers, and creeks of the region; in other cases it is stored in mountain reservoirs and brought down in ditches. Six irrigations a year are the maximum number, and many irrigated products are wet only twice. The cultivator is used in between times, so that the ground is not allowed to cake and harden; thus the moisture is made to last longer and to bring the best results to the growth on which it has been applied.

Los Angeles.

HERBERT ARNOLD.

(To be continued.)

ORCHIDS.

EULOPHIELLA PEETERSIANA.

OBTAINED from Messrs. Peeters of Brussels, in June, 1898, was the plant of *Eulophiella peetersiana* which has just flowered. It was a small healthy plant with three pseudo-bulbs, the largest of which was 2½ inches long and 2 inches in circumference. It was put in a basket in peat and sphagnum, and grown in a warm moist house close to the glass. Here it progressed wonderfully, the last pseudo-bulb made in this house being 5 inches long and 7 inches in circumference, with 20 inches of stem between it and the flowering growth, which was made in the Orchid house, to which house it had to be removed, having outgrown its first quarters. The flowering pseudo-bulb is 7 inches long with ten leaves, the largest of which is 4 feet 1 inch long and 5½ inches across. Two inflorescences were produced, but unfortunately one was broken accidentally in staking when 3 feet 7 inches high. The remaining inflorescence reached a height of 5 feet 6 inches and carried twenty-eight flowers.

To avoid, if possible, the awkward shape of a long straight boat to suit the nature of growth of *Eulophiella peetersiana*, the experiment was tried of keeping the young growing stem tied to the basket, which succeeded admirably. A piece of raffia was tied near

the growing point and attached to a stake in the basket. Every few days this was slightly tightened, the young growth yielding to the pressure and growing inwards, so that 7 feet 11 inches of stout stem, carrying six pseudo-bulbs, lies comfortably in three coils in the compass of a 14-inch Orchid basket.

F. W. MOORE.
Glasnevin.

SOME WHITE ORCHIDS.

WHITE-FLOWERED Orchids always have an attraction, probably because they are in a great



DRYING RAISINS IN SOUTHERN CALIFORNIA. PORTION OF AN ESTATE WITH MEN AND WOMEN AT WORK.

minority in the Orchid family, partly because they are individually very beautiful, and also because usually they are not of easy cultivation. In the group of Orchids exhibited by Mr. W. P. Bound, gardener to Jeremiah Colman, Esq., Gatton Park, Reigate, on the 7th inst., before the Royal Horticultural Society, several interesting white forms were shown, and the plants were in the best of health, bearing robust leaves, and flowering well. A plant of *Cattleya intermedia alba* had two racemes, each carrying two flowers, pure white except for the palest tinge of yellow beneath the end of the column. *Lycaste Skinneri alba*, with its waxy white sepals, slightly frilled lip, white petals, whose recurved edges are faintly tinged with pink, and throat in which is some yellow marking, was bearing two flowers, and contrasted well with some rose-coloured forms and the type close by. *Celogyne cristata alba*, with pure white flowers, was splendidly shown by Mr. Bound. The plants were blooming very freely, and reminded one of the remarkably fine plants of the white *Celogyne* that Mr. Ballantine used to have, and probably still has, in The Dell Gardens.

ODONTOGLOSSUM CERVANTESII ROSEUM.

PROBABLY many visitors to the Drill Hall on the 7th inst. failed to notice this Orchid, for it was represented only by a cut raceme of four flowers, shown by Messrs. Stanley Ashton and Co., Southgate, yet one may say without exaggeration that it was one of the most pleasing and attractive Orchids there. The rose-coloured form of *O. Cervantesii* is rarely exhibited; it is a far prettier flower than the type. The sepals and petals are soft light rose-coloured, while the ring around the centre, which is made up of circular brown-red lines, is similar to that in *O. Cervantesii*.

LÆLIO-CATTELEYA DORA.

MESSRS. CHARLESWORTH AND Co., Heaton, Bradford, Yorks, have shown this plant on several occasions, and last year were given an award of merit for it. They exhibited it on the 7th inst., at the Drill Hall, in very good character, better even than when the award was made. It is undoubtedly one of the most attractive of the *Lælio-Cattleyas*, although by no means of the showiest. *L.-C. Dora* is a secondary hybrid, the result of a cross between *L.-C. Phoebe* and *Cattleya Schroderæ*. The sepals are a lovely soft apricot colour, slightly tinged with faint purple, while the petals are similarly coloured, except that they lack the purple tinge. The throat is rich yellow, and the lip purple; the flower is about the size of *Cattleya Schroderæ*.

LÆLIA BRISEIS.

LÆLIA HARPOPHYLLA and *L. purpurata* are the parents of this hybrid *Lælia*, also exhibited by Messrs. Charlesworth before the Orchid committee of the Royal Horticultural Society, at the Drill Hall, on the 7th inst. Mr. James Douglas showed a plant, the result of a similar cross, a year or two ago, but the lip of the flower lacked colour, whereas that from Messrs. Charlesworth has a bright purple lip. This latter, although small, improves the appearance of the flower a great deal, and is rendered prominent by the rich yellow of sepals and petals inherited from one of the parents *L. harpophylla*.

GOODYERA DISCOLOR.

This Orchid is well adapted for growing in a warm, moist, shady house; the leaves then take on a pretty velvety sheen, which shows to great advantage in association with brightly coloured flowers.

THE FLOWER GARDEN.

THE DELPHINIUM

(Continued from page 164.)

THE following are some of the best varieties, not all novelties, though of striking shades of colour. I will take the light blues first, seeing that for bedding purposes these are as effective as any.

LIGHT OR PALE BLUE SHADES.

Cantab.—A splendid pale blue; large flowers and fine spike, centre dark brown and black.



THE RARE *EULOPHIELLA PEETERSIANA* AT GLASNEVIN.
(About two-thirds natural size.)

Claribel.—Rich peacock blue with pale mauve, a most striking and beautiful variety.
Conspicua.—An old sort, yet it remains a bold and conspicuous variety even in a large assembly. The nearly pure white centre is a strong feature.
Miss Braddon.—Clear turquoise blue; a fine variety.
Lavender.—A noble spike of lavender-blue, which, with pure white eye, is seen to great advantage.
Leon Bart.—Forms a massive spike of lavender-blue flowers, and possesses a dark centre.
Jupiter.—Exceptionally fine massive spikes, uniformly filled with perfectly shaped blossoms of Cambridge blue, rose-tinted centre; certainly an excellent sort in every way.

Argus.—Fine clear sky blue, with metallic shade; very handsome, well-filled spike.
The above are all single-flowered. The following are of light shades, but with double flowers:—
Mark Train.—Sky blue, fine compact spike.
Mrs. James Helew.—Soft silvery blue suffused rose; long, slender spike.
Splendidissima.—Clear sky blue, shaded lavender, a magnificent spike, and very handsome.
Souvenir de Jubilee.—Clear sky blue, semi-double, large flowers, and fine compact spike, extra good.

DARK BLUE SHADES.

Cleopatra.—Dark blue, white eye, handsome and showy.

Bach.—Rich dark blue, white centre, massive spike of good formed flowers.
Humboldtii.—Indigo blue, shaded bronze, bold massive spike.
Lije Guardsman.—Intense deep blue with white centre.
Augusta Sala.—Royal blue and rosy mauve, centre dark.
Neptune.—Rich violet-blue, large handsome single flowers, and producing a magnificent spike of blossom.
Prince of Naples.—Dark blue, semi-double; inner petals plum colour, centre white.

Mars.—Rich azure blue, centre beautifully flushed with pale rose and white eye; a handsome spike of finely formed flowers.
Mrs. Roper.—Light cobalt blue and mauve, white bee-like centre, large prepossessing spike and very distinct; double.

The following are among recent novelties:
Beauty of Langport.—Creamy white with yellow eye, the nearest approach to white in this group. The spike is good and the flowers well formed, and we doubt not this variety will prove a stepping stone to a Larkspur of snowy purity.

Blanche Fitzmaurice.—Lovely bright blue, with inner petals of a rosy pink, and white eye; semi-double.

Captain Lambton.—Rich plum colour, edged violet; large dark centre; a fine symmetrical spike, and very handsome; semi-double.

Dorothy Daniels.—A single variety with light bluish plum-coloured flowers and conspicuous white eye; excellent for massing.

Queen of Huish.—Gentian blue, with dark bee-formed centre; semi-double. This is one of the most remarkable in the real blue shades we have yet seen, the colour being of a most intense hue.

Britannia.—This is also a gentian blue of a deeper tone than the last, and rendered far more conspicuous, we think, by the pure white eye; single.

Imperial Majesty.—A semi-double flower of rich imperial purple, stained with rosy lavender, and very striking.

Sir George Nevenes.—Semi-double flowers rich cobalt blue, inner petals plum-coloured, and of velvety lustre.

Sir Walter Scott.—Very deep blue and violet, with large, dark, bee-formed centre. A grand variety; semi-double.

Athos.—Richest violet, merging into purple; white centre. A strikingly handsome single-flowered variety.

Albert Edward.—Deep plum colour, violet at the margin, dark eye, and semi-double flowers.

King of Delphiniums.—Gentian blue and plum, with white eye; flowers semi-double. Probably one of the finest yet raised.

Mrs. Rushton.—A single-flowered sort, with clear cobalt blue flowers, veined with rose; a magnificently formed spike of the very best type.

Persimmon.—One of the finest Delphiniums ever raised, and one, moreover, that brings these noble hardy flowers to a very high standard of excellence. It is single-flowered, recalling the old *Bella Donna* in the purity of its bright pale blue flowers, yet with all the majesty and boldness of

the newer hybrids. No one will be disappointed with this when well grown.

Hampton Hill.

E. JENKINS.

ORCHIS MACULATA SUPERBA.

THIS is one of the finest of the hardy Orchises, and it is, when in suitable condition, one of the most attractive of our garden plants. Although *O. foliosa* is, possibly, easier to cultivate in the border in many gardens, yet that Madeira species lacks the symmetrical spike and general aspect of perfection which marks this truly superb form (according to general repute) of our common spotted-leaved Orchis. I have long known it as the Kilmarnock Orchis, and was not aware until a few years ago that it has also been known as Miss Hope's Orchis. It was distributed by that much-regretted lady from her garden at Wardie Lodge, Edinburgh. This I was made aware of by reading Mr. A. D. Webster's useful little work called "British Orchids." Miss Hope may have discovered it in a cottage garden at Kilmarnock, as is said, but the plant has been frequently collected on a moor not far from that busy town, and I have met with plants collected there which were quite as good as can be procured under any name. Mr. Webster tells us that he has found plants in the bogs of Carnarvonshire which were undistinguishable from those he knew as Miss Hope's, and I recollect seeing in the Royal Botanical Gardens, Glasnevin, what is known as the Glasnevin Orchis, and which is remarkably like, if not exactly similar, to what I have long known as the Kilmarnock Orchis. Mr. Webster opens up an interesting question by referring to the supposition that it is really a hybrid between *O. latifolia* and *O. maculata*, and I imagine most people who have grown both of these species and the fine Orchis now under consideration will agree that its appearance gives strong support to the theory. It grows from 9 inches to 18 inches or so in height, and the long flower-spike is so symmetrical and attractive, combined with the purple colour of the blooms, that it is coveted by many persons who do not possess it. The finest lot of *O. maculata superba* I have met with is in the garden of Mrs. Maxwell-Witham, of Kirkconnell, Newabbey, N.B., where it has been cultivated with great success for some time. The peaty soil appears to suit it perfectly, as it increases as freely as one could expect, and flowers with great freedom, giving splendid spikes as a rule. There is some difference of opinion among growers as to the desirability or otherwise of occasional removal. My own experience is in favour of occasional removal, replanting the Orchis in fresh soil with some peat and chopped sphagnum; but in a moister and more peaty soil there is less need to do this. In dry soils it requires a good deal of water when making growth and while in flower, and I believe that it is better if the soil about it is carpeted with some surface-rooting plant which will prevent the sun from striking directly upon the base of the stem and the soil near.

Carsethorn, by Dumfries, N.B.

S. ARNOTT.

NOTES FROM CORNWALL.

THE annual exhibition of the Cornwall Daffodil and Spring Flower Society is quite the most important event of the year among horticulturists in the West, and invariably attracts large numbers of visitors to Truro. This year the fixture, which took place at the Market House on the 31st ult. and 1st inst., proved more popular than ever. Though the quality of the exhibits was not considered to be quite up to the usual standard, owing to the rough season, there were several classes in which flowers of superb quality were to be seen. In the classes for seedlings especially there were several unique varieties, and it is already perfectly evident that many of the best flowers now in commerce are being rapidly eclipsed both in form and colour by the new comers.

Perhaps the most important class at Truro was that for the best collection of not less than thirty nor more than forty varieties of Daffodils, exclusive

of Polyanthus Narcissus, staged in three groups, Magni-Coronati, Medio-Coronati, and Parvi-Coronati. The competition in this class was keen, and resulted in Mr. J. C. Williams being placed first, while Lady Margaret Boscawen followed as a close second, and the Rev. A. T. Boscawen third. Mr. Williams' stand contained some magnificent flowers, chief among them being White Queen; Cassandra and Homer, both splendid poeticus varieties; Monarch, King Alfred, Weardale Perfection, Mme. de Graaff, incomparabilis Lulworth, very well grown; triandrus Snowdrop, a chaste white drooping trumpet, one of Mr. Engleheart's most beautiful seedlings; Minnie Hume, Incognita, a lovely variety, with bold white sturdy segments, slightly reflexed, and extended flattened crown 1 inch across, crinkled, and in colour citron-orange. Yet another lovely thing was Homespun, a magnificent yellow incomparabilis almost 4 inches across, with a splendid stiff perianth. Several unnamed seedlings were included in this exhibit, and another year the committee would be well advised if they insisted that all seedlings exhibited in competition should bear names instead of numbers. In Lady Boscawen's exhibit, I noted King Alfred (very fine); Edith Barber, with long yellow trumpet and primrose perianth; Waterwitch (Leeds), a pure white drooping variety, very chaste; Artemis, a splendid incomparabilis just over 3 inches across, with bright yellow expanded corona, and stiff white perianth segments. A flower of that magnificent Leeds, White Lady, in this exhibit measured 3½ inches across. In the Parvi section, Firebrand is about the brightest coloured variety extant, and this was shown in good condition. The cup is an intense orange-scarlet, forming an exquisite contrast to the slightly reflexing creamy yellow perianth. Princess Mary was one of the finest varieties in Mr. Boscawen's exhibit, and one flower when measured proved to be 4 inches across, and the cup 1½ inches. The broad perianth segments are of a creamy yellow, and the expanded crinkled cup is citron-yellow suffused with orange. Another fine flower was Oriflamme, a Barri, with an orange-red cup and creamy white segments. Lucifer, one of the late Mrs. Lawrenson's seedlings, was very attractive. It belongs to the incomparabilis section, the cup a rich glowing orange-red, and rather weak creamy white segments. Siren (triandrus) was another notable flower in this exhibit. The trumpet is very long and slightly recurved at the rim, and of a pale lemon colour, while the perianth segments are twisted and almost white. Commodore was also noted. It is a large incomparabilis—3½ inches across as exhibited—with wide open corona of a bright yellow, edged with pale orange. The soft yellow perianth segments are broad, round, and slightly incurved. Other good flowers were Gloria Mundi (finely coloured), Beauty, Captain Nelson, Flamingo, and Falstaff.

In the class for the finest single bloom of Medio-Coronati, grown from a bulb not exceeding the value of 10s., Mrs. Walker Tyacke was a good first, with a magnificent flower of Mrs. Langtry (Leeds), and for the best single bloom in the Parvi section, under the same conditions, was also won by Mrs. Tyacke, with poeticus Almira.

A most interesting class was that for nine distinct varieties of Medio-Coronati, which was won by the Rev. A. T. Boscawen, with fine flowers of Seagull, Gloria Mundi, Dorothy Yorke, Commodore, and Dr. Fell. The second prize fell to Mr. P. D. Williams, whose best flower was a seedling named Little Mary, midway between Leeds and incomparabilis, and closely resembling Maggie May, but with a paler cup. The class for six varieties of Parvi-Coronati brought two splendid exhibits. Mr. P. D. Williams was placed first, and his flowers included several noble poeticus, such as Cassandra and Almira, also such varieties as John Bain, Bullfinch, a lovely flower with fine creamy segments and orange and citron cup; Redbreast, with reflexed yellow segments and crinkled orange-red cup; and Scarlet Runner, with pure white segments of good substance and orange cup with citron-green centre. The second prize fell to Mr. C. Dawson, whose finest flower was Horace, a grand poeticus 3½ inches across, with stiff white perianth

and bright red crown. Another good poeticus variety in this exhibit was Chancer, with reddish crown and reflexed segments, but inferior to Horace in beauty.

Mr. P. D. Williams won both the first prizes offered for the best single bloom of Magni-Coronati and Medio-Coronati (in commerce), with Weardale Perfection and White Queen respectively. For the best single bloom of Magni-Coronati (not in commerce), Mr. Williams also won with a seedling named Diogenes, which may well be described as a small, pale-coloured Weardale Perfection. Probably the most remarkable flower in the show was that with which the same gentleman secured the first prize offered for the best Medio-Coronati (not in commerce). This was the result of crossing maximus with triandrus. The flower was of a fair size, and in shape the trumpet rather resembled that of Queen of Spain, but considerably larger and waved. The segments closely approached those of Autocrat, but were narrower. The flower was almost a self in colour, except that the trumpet was very slightly paler than the perianth, and the whole flower was of that soft yellow found in Queen of Spain, but several shades darker. The foliage was Jonquil-like and most distinct. Yet another remarkable seedling which gained Mr. Williams the first prize in the class for the best Parvi-Coronati variety (not in commerce) was a cross between ornatus and triandrus, and many connoisseurs declared this to be one of the most beautiful Narcissi they had seen. This variety bore two flowers on a stem, and the foliage rather resembled that of triandrus, though bolder. The flowers, which measured 3 inches across, had a flat lemon-yellow cup and chaste white reflexed segments.

ARTHUR R. GOODWIN.

NURSERY GARDENS.

MESSRS. BARR AND SONS' DAFFODILS.

DAFFODILS have been treated rather unkindly this season. The mild weather brought them into flower before we expected to see them, and the keen cold winds and heavy rains of late March and early April have now much to answer for. Yet despite the drawbacks of the season, Daffodil Land, as Messrs. Barr's Surbiton nurseries are popularly called, contains a wealth of colour; acres of Narcissi in their many charming shades of yellow, and swaying with the gentlest breeze that blows, provide a picture that is as delightful as it is unique. These great masses of bloom have no monotonous effect, for even at a distance one can easily discern differences in height of foliage, freedom of flowering, size, and form of bloom for instance, while closer examination reveals the wonderful variety and beauty among present day Daffodils, and one recognises how deep a debt is owing to the workers who have so greatly improved these popular and indispensable hardy flowers.

Adding greatly to the effectiveness of this veritable land of flowers are large patches of that most brilliantly coloured of the Grape Hyacinths, Muscari conicum var. Heavenly Blue. These masses of brightest blue at once attract one's notice, many passengers on the London and South-Western Railway, which runs close by, having seen the beds of this Muscari, have written to Mr. Barr enquiring the name of so striking a flower. It apparently is not fastidious as to soil and situation, for on a dry hedge bank it is flourishing equally as well as in the better cared for borders. This variety of Muscari conicum was sent to Mr. Barr by Mr. H. J. Elwes some twenty-five years ago from Trebizona, and proved to be such an excellent novelty that it is now grown by the thousand in the Surbiton nurseries. We have rarely seen Aubrietias so well represented as in the rockery adjoining the Daffodil ground. Dr. Mules, a brilliant rich purple, most strikingly coloured of



YOUNG STANDARD TREE OF THE NEW LATE APPLE KING EDWARD VII.

all the Rock Cresses; A. Lilac Queen, with large flowers of a soft lilac-rose; A. Bridesmaid, pale blush pink; A. deltoidea in variety, and A. Hendersoni were all in evidence, while the new *Arabis aubretioidea* with blush-coloured flowers and very free blooming, would at first sight almost be classed with them.

The first of the *Narcissi* to claim notice was Peter Barr, undoubtedly the finest white Trumpet Daffodil raised. It grows strongly and blooms freely, and the flower is of handsome and refined appearance. Although not pure white this may certainly be said to be the whitest Trumpet Daffodil yet sent out. Weardale Perfection, one of the most pleasing of the large Daffodils, is well represented; the flowers lack that coarseness that is so apt to spoil even a finely coloured Trumpet variety. The perianth is white and the trumpet pale primrose. Of yellow Trumpets, Glory of Leiden, that once was so highly praised, is now less valued than, for instance, King Alfred, a rich golden large and elegant bloom. Lord Roberts, a rich yellow, the large trumpet having an open and deeply frilled mouth; Emperor, Golden Spur, Duke of Bedford, the charming Johnstone Queen of Spain (unsurpassed for bedding and massing in grass), Obvallaris, the Tenby Daffodil (illustrated in THE GARDEN of the 11th inst.) are others of this class that were conspicuous.

The sulphur-coloured Trumpet varieties comprise some lovely flowers, and perhaps the best (at least it is most distinct) is Apricot. The perianth is white, but the long, somewhat slender trumpet, opening primrose, passes to a beautiful rosy apricot-buff, quite a new and distinct colour in Trumpet Daffodils. It is, moreover, sweetly scented. Others are Albicans, with a long, primrose trumpet, a splendid grower; Mme. de Graaf, still

one of the best; and Mrs. Thompson, pure white frilled trumpet, now recommended in place of F. W. Burbridge.

Among the chalice-cupped flowers we noticed C. J. Backhouse, still one of the very best, the cup a rich orange-red; Sir Watkin, the giant of this class; Stella Superba, a great improvement upon Stella; Vesuvius, with sulphur-white perianth and glowing orange-red cup; Lucifer, a striking flower with intense orange-red cup and white perianth; Red Coat, remarkable for the perianth being tinged with orange; and Frank Miles, soft clear yellow, grows well, and is grand for massing.

The Leeds section shows such lovely flowers as Maggie May (Edmond's white), large with white perianth, and citron-coloured frilled cup; Mountain Maid, snowy white, broad perianth, and pure white cup, a lovely drooping flower; Duchess of Westminster, with canary-coloured cup, and large white perianth; and The Sisterhood, a very attractive flower, with white perianth and pale buff-primrose fluted cup.

Barr's conspicuous, the dog-eared Daffodils (*N. Humei*), *N. montanus*, a pretty drooping flower, with silvery white perianth and cup; Jonquils, and of the Burbidgei section, Agnes Barr, with white perianth and yellow cup; Eyret, a beautiful bloom, with lemon cup margined gold and white perianth; John Bain, and Falstaff were all good. The mention of these varieties (many of which are quite new) may serve to show what a wealth of beauty there is in Surbiton Daffodil land, and as an early opening means an early fading, those who wish to see Messrs. Barr's Daffodils at their best should not delay.

THE FRUIT GARDEN.

A NEW APPLE.

An excellent late Apple is King Edward VII., the result of a cross between Blenheim Orange and Golden Noble. It was shown at a meeting of the fruit committee of the Royal Horticultural Society on Tuesday, the 24th ult., and given an award of merit. Many of the members of the committee were in favour, we understand, of a first-class certificate, which may, however, yet be given. It may be used for dessert, but it is chiefly valuable as a late cooking variety. It is of a pale golden colour very similar to Golden Noble, but in general outline it partakes more of Blenheim Orange, and is said to have its flavour. The raiser's description is as follows: Great and regular bearer, upright grower, short-jointed, very late bloomer, escaping many

frosts; fruit solid, heavy, about the size of a fine Blenheim Orange, and keeps well till June; excellent for dessert and cooking. It was exhibited by Messrs. W. B. Rowe and Sons, Barbourne Nurseries, Worcester, and is certainly one of the late Apples of the future.

FLAVOUR IN MELONS.

I THINK inferiority in the flavour of Melons may be attributed to several causes, but probably not so much to the varieties as to the conditions under which they are grown. It often happens that Melons have to be retarded to suit the convenience of supply, and apart from considerably lowering the temperature of the house, heavy shading is resorted to. This is bound to affect the flavour of the fruits. I think it far better to have no Melons at all than to send fruits to table without flavour, a flavourless Melon being very objectionable to the taste. Another cause of bad flavour is dull weather during ripening. The Melon is essentially a sun-loving plant, and its term of growth should be as short and uninterrupted as possible. If retarding has to be resorted to, it should be done after the fruits are cut by placing them in a cool chamber. Cutting the fruits, too, is a matter which requires care, especially with the yellow-skinned varieties, which become yellow several days before they are fit to cut. The time for cutting should be determined by the touch and not by the appearance of the fruits. Through all stages of growth the plants should be generously treated, and if good rich loam cannot be obtained feeding with manure must be resorted to. I have found liquid cow manure a splendid food; this should be given a week or so before the fruits commence to colour.

E. HARRISS.

GARDENING OF THE WEEK.

INDOOR GARDEN.

NERIUM OLEANDER.

SUCH plants as are approaching their blooming period must be afforded a light airy position in the greenhouse and a plentiful supply of water at the roots, with liberal doses of clear liquid manure.

Avoid overcrowding or the plants become drawn and of awkward habit. Sponge the foliage and young wood with a rather strong insecticide to prevent attacks of red spider or scale, both of which attack the plants if they are allowed to become too dry. After blooming keep the plants drier to induce a short period of rest, when the shoots may be shortened to bring the plants into more uniform shape. When the young growth is about an inch long repot such plants as require it, using a compost of loam with leaf-soil and well-rotted cow manure rubbed through a fine sieve, with some sand and rough charcoal. Drain the pots well and pot very firmly, leaving plenty of room at the top for water. Place them in a light sunny position and syringe them morning and evening, and see that the wood is thoroughly matured before the winter or the plants will not bloom satisfactorily.

CLIVIAS

will now be passing out of bloom, and such plants as have become too large, or for other reasons must be repotted, should be taken in hand. The original form of *Imantophyllum niniatum* is not now worth cultivating, and as all the hybrid forms are equally easy of culture, they should be secured if not already in stock. A compost of two-thirds fibrous loam and one-third leaf-soil, with an addition of crushed bones, sand, and charcoal, suits them well. As the plants should go for several years before being again disturbed, good drainage is important. Avoid undue injury to the soft fleshy roots during the potting. When completed place the plants in an intermediate house, where they can be syringed regularly and shaded during the brighter portions of the day. As growth commences give them a liberal supply of water

at the roots. Plants that have not been reported will be benefited by top-dressing or clear liquid manure.

IN THE PROPAGATING HOUSE

many things will require attention. The early sown Gloxinias, Streptocarpus, &c., should be placed singly in small pots. Also such seedlings as Smilax, Asparagus, and Cyperus, must be pushed on, and rooted cuttings of Ficus repens, F. r. variegatus, Panicum, Fittonias, and the freshly-rooted plants of Begonia Rex in variety. Later place in heat tubers of Gloxinias, Gesneras, Achimenes, and Caladiums, and dust those previously started with tobacco powder as a preventive against thrips, mite, &c.

Wendover.

J. J. J. J. J.

THE FRUIT GARDEN.

VINES.

ASSUMING that former directions have been followed, the Vines in the latest houses will now be ready for disbudding. If they have been suspended in a horizontal position tie them to the wires before the young growths are far advanced, syringe regularly until the bunches become prominent, and close with sun-heat at 75°. Attend to disbudding and tying down in succession houses, and remove all superfluous bunches from free-setting sorts as soon as the most compact and best placed can be selected for the crop; fertilise when ready with Hamburg pollen, and thin out the berries when the size of No. 6 shot. When all bunches have been thinned allow the laterals to extend over vacant parts of the trellis before they are again pinched. Give the inside borders a good supply of warm diluted liquid manure, and add more manure where the surface is not well covered. Keep up a circulation of warm air in houses where Grapes are in flower, and fertilise when the heat has reached the maximum on fine days. Although we do not approve of syringing Vines when in flower, some Grape growers do, and attribute their success to the application of water. This is doubtful, as Grapes that will set with syringing would, in all probability, set just as well, if not better, without, provided the roots are in a warm, well-drained border, and there is sufficient atmospheric moisture. When the fermenting material has been removed from the early house, and the berries begin to show signs of colouring, remove stoneless berries where they can be spared, as their presence always detracts from the appearance of a bunch. Give the borders a final watering with water at a temperature at 80°. Continue the usual treatment with regard to watering, as dryness at the roots will be fatal, and, while avoiding wetting the flowers, damp the floors and other available surfaces, also the stems of the trees once or twice on fine days, and keep the house dry and cool in damp, dull weather. When

THE FRUIT IS SET,

resume the daily syringing; keep a night temperature of 50°, 10° higher by day, and shut the house before the sun is off where hot-water pipes have not been introduced. Commence disbudding and shortening back when plenty of fruit is set near the base of the shoots; also thin the fruit when in clusters, leaving, as a matter of course, an abundance of the finest on the upper sides for future selection. Although the house may have been well fumigated before the trees came into flower, green fly is sure to be present, particularly among the Plums, and as these are the first to suffer another smoking or vaporising with NL All will prevent disappointment. As fruit on pot trees is now developing, lose no time in getting these top-dressed with some rich compost of loam, rotted manure, previously dusted with soot to destroy worms, and 12 per cent. of bone-dust. Mix well together in a shed, apply it when tolerably dry, and if any is left over it will improve with keeping. Examine trees which have been planted in the borders, top-dress with half-rotted manure, and give plenty of water at the mean temperature of the house.

Madresfield Court.

WILLIAM CRUMP.

FLOWER GARDEN.

EVERLASTINGS.

THESE are most desirable plants to grow, apart from the enduring properties of the flowers. The Statice especially are numbered among the prettiest of garden flowering plants. Everlastings are exceedingly useful for arranging with the ornamental grasses for decoration in the home or for other purposes. No special culture is needed, the majority are hardy and easily raised from seed, which should now be sown either in the open border, where they are to flower, or in pans or boxes in light rich soil. Place in gentle heat, and when the plants are large enough to handle they should be pricked off into a frame and kept close for a few days, then hardened off and planted out about the third week in May. An aspect where they will get plenty of sun is best, and in dry weather they will require plenty of water. *Acroclinium roseum* fl.-pl., *A. roseum*, single, and *A. roseum album* fl.-pl. are very pretty varieties.

STATICE.

These plants are valued as much for the continued display they make in the garden as for their enduring properties in a cut state when dried. They bloom several times in the year, and their flowers are always welcome. The majority of them are hardy perennials, and they will grow in almost any soil and aspect. *Statice incana* is a most elegant plant for the perennial border, its branching stems, with innumerable small pearly white flowers, give the plant a cloud-like appearance, and make it extremely useful for bouquets and winter decoration of vases. *S. spicata* is a very hardy dwarf annual, producing long spikes of pure coloured everlasting flowers. *S. Suworowi* is another good one, the flowers are bright rose colour, and most valuable in winter. *S. tartarica*, the Tartarian Sea Lavender, is a beautiful dwarf species, with rose or reddish flowers. This is the prettiest and most distinct of the Sea Lavenders; it blooms in the autumn, and thrives well in a sandy loam. It is one of the best plants we have for sunny ledges or banks on or near the rock garden. Now is the best time to sow seeds of all the Statice. Sow in pans or boxes, and put out the plants when strong enough to handle.

ROSES.

Tea-scented, Noisette, and China Roses should now be pruned. They require but little, however. The small spray shoots may be thinned out, and those that are long shortened to half their length. Suckers will now begin to be troublesome on all plants, especially on maiden standards. These should have immediate attention. Tie up the maiden shoots as soon as possible; if left too long they are apt to get blown out. A regular system of hoeing should commence on the Rose beds.

HELLEBORUS NIGER (Christmas Rose).

This familiar old plant will now need attention. A heavy soil and a shady place suit it well. Few plants are so easily cultivated. It is multiplied by division; and bears moving at any time. As its blooming season is very early, it can be moved to make way for later spring-flowering plants. To have it to perfection it should be grown in large clumps and left undisturbed. Clumps should now be top-dressed with leaf-mould and rotten manure.

Ashwellthorpe, Norwich.

T. B. FIELD.

KITCHEN GARDEN.

VEGETABLE MARROWS.

SEED for the main crop in the open may be sown at this date. Often Marrows are sown too early, consequently the plants become drawn and starved in the pots before the weather is sufficiently favourable for planting them out. Such plants seldom do any good. Having regard to the likelihood of unfavourable weather continuing far into the spring this tender vegetable cannot be planted out until the end of May or early in June, and even then one runs a risk of slight frosts checking growth. Personally I find it best to raise the plants in a genial temperature in March and plant them in rich soil in old frames placed on a hot-bed, in the same way as Cucumbers are grown in frames,

Thus planted they become quickly established, and as the season advances the lights may be entirely removed. The earliest raised plants will by now be growing and fruiting freely. Continue to fertilise the flowers in the same way as Melons and Cucumbers, and afford heavy top-dressings of good light soil occasionally as the roots come to the surface. Stop and peg down the leading shoots.

TOMATOES.

The earliest batch of these will now be growing freely and swelling up fruits; every care should be taken to keep them in this state by removing all side shoots as fast as they appear. Continue to fertilise the flowers artificially until such time as full air can safely be given, when bees will (if kept in the vicinity) do the work better. Provided the roots of the Tomatoes are confined in pots or restricted borders a frequent application of manure water should be given, alternating this with clear water and Clay's Fertilizer. Pot on successional plants as required for fruiting later in cool houses or pits or for open air culture. Avoid the use of rich composts, or long-jointed unfruitful growth will result.

SALSIFY.

A deep and rich rooting medium is essential to success in the cultivation of this delicately flavoured vegetable, and although it cannot be classed as a staple product yet there are many people who appreciate it when well cooked. Seed may now be sown thinly in well prepared ground in drills 15 inches apart, and when the young plants attain 3 inches in height thin out to 10 inches apart.

TURNIPS.

A large breadth of these should be sown in a well-enriched and partially shaded plot of ground to succeed those sown early in a warm border. We obtain the best results by sowing about this date the Red Globe on a border having a northern aspect. A cool rooting medium is favourable to quick growth and mild flavour in this vegetable. The dreaded Turnip flea works sad havoc with this crop in most gardens, and unfortunately but little can be done to exterminate it beyond taking the preventive measure of well sooting and liming the ground both before and after sowing the seed.

Stondeigh Abbey Gardens.

H. T. MARTIN.

EDITOR'S TABLE.

HYBRID POLYANTHUSES.

Messrs. William Bull and Sons, King's Road, Chelsea, London, send flowers of what they described as "Polyanthuses, hardy hybrids," but which we prefer to call "Bunch Primroses." We have nothing but praise for their selection. The flowers are strong and good in colour, large and beautiful in shape, and held on stout stems. The lighter colours are particularly good, creamy white, almost primrose in shade, and pure white, while there were also intense yellows with even deeper centre, and warm orange. With these came also a series of bright red and crimson colourings. We hope Messrs. Bull will keep up the standard and destroy anything that is weak and unsatisfactory. It is only by careful selection that one can get such pure and beautiful colours.

ERYTHRONIUM REVOLUTUM JOHNSTONI.

This comes from Messrs. Wallace and Co., of Colchester. It is one of the best of the race, the flowers of prettiest pink. Mr. Mallett sends the following note about it: "A patch of a few dozen plants of this dainty Dog's-tooth Violet, flowering strongly for the fourth year in succession, serves to remind us of the great superiority of its American brethren as compared with the older forms of the European species. There is nothing resembling a Violet in this pretty plant. From a pair of marbled, deep green leaves a slender stem rises to a height of 8 inches to 12 inches, bearing a long-petalled, pink, Lily-like flower, 2½ inches across, the base of which is marked with a ring of rose, the centre being white or chrome. This variety is the richest in colour of all Erythrונים, the flowers showing something of the poise, shape,

and colouring of *Lilium Krameri*. It grows well in any moist soil, not too stiff or heavy, and it reaches its greatest stature when slightly shaded by some deciduous tree, for in such a place the activity of the *Erythronium's* leafage is greatly prolonged, and a larger bulb or tuber naturally results. *Watsoni*, a larger, white-flowered variety of the flesh-tinted *E. revolutum*, attains considerable breadth of petal and length of stem in such places."

STACHYURUS PRÆCOX.

"W." kindly sends a spray of this early flowering shrub. "A good percentage of hardy ornamental shrubs are of Japanese or Chinese origin, and the majority from these two countries are of special interest either from a garden or botanical point of view. The subject of this note is one of the rarer of Japanese shrubs, and though not so showy as many others, it is worth a place in the garden, and is also interesting to the botanist. Belonging to the order Ternstroemiaceæ, it differs from other members of that order by having a definite number of stamens. From this reason it has caused confusion among scientists at various times, one botanist referring it to Ericaceæ. At Kew it is grown both out of doors and in the temperate house. Outside it makes a bush from 3 feet to 4 feet high and 3 feet through, fairly dense in habit. The leaves are 4 inches to 5 inches

notes have appeared relating to this beautiful Tulip, and we were pleased to see the flowers from Ireland. Of a bright scarlet colouring and pretty form is *T. micheliana*, which Mr. Burbidge remarks is "very fine now."

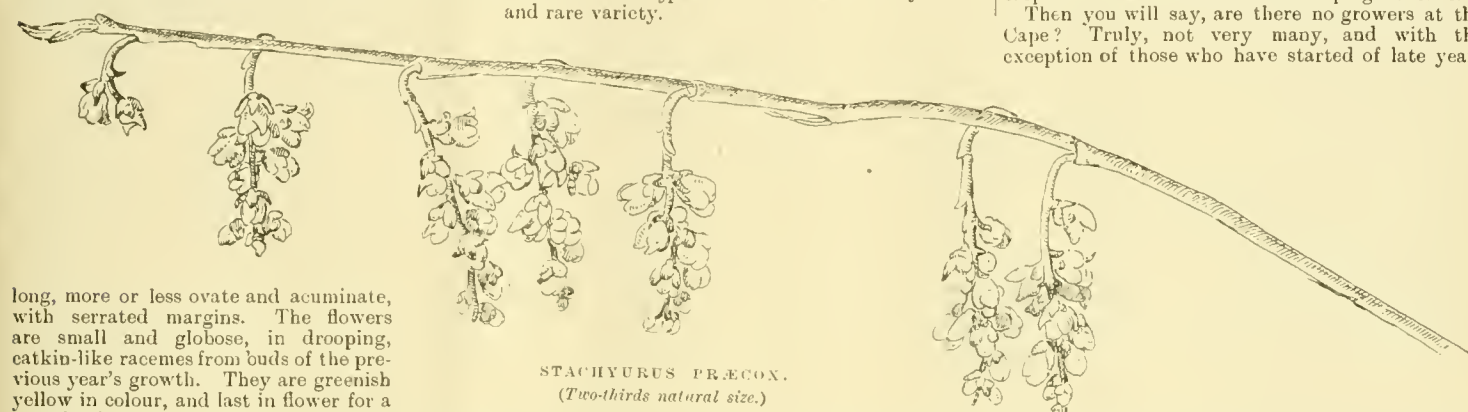
Iris warleyensis.—This is a beautiful flower, especially in colouring, which is a soft azure blue, with purple on the falls. It was figured in THE GARDEN, April 12, 1902, page 241, and in an accompanying note from Miss Willmott it is mentioned as "a new species from Bokhara, and belongs to the Juno section." One of the finest of all the Irises.

Iris bucharica.—This is a new species of last year, resembling in habit and shape of flower the popular *I. orchoides*. It is of strong growth, and of a type that one could recommend for the best garden use. It is the finest plant of its race, and very free; the flowers are thrown high above the foliage, and from six to eight are produced successively from each strong plant. Its colour is very pleasing—a creamy white—the falls alone being a bright yellow; the latter are exceptionally broad and conspicuous. Grown in a loose root-run of old builder's rubble and fibrous loam in a warm position it makes splendid growth, and there is no doubt that it will thrive with us. During very severe winters it may require protection, but it should be of a nature to keep the soil drier than is normal.

Scilla bifolia alba.—Very pure and beautiful.
Scilla italyca type and var. alba.—A very chaste and rare variety.

never existed here within the memory of man. It is not as if one had to speculate upon the chances of perishable produce being got across the line and placed upon English markets in saleable condition. But for everything that a man can grow to a moderate degree of perfection there are unailing markets not many hours distant from the coast, and the rail to expedite it all the way. It is said to be well for a man to have two strings to his bow. The up-country market is the Cape grower's first string, the export trade in fruit is the other. All the special appliances required for both lines of the enterprise are already provided. The steamship companies supply cold storage on their vessels. A local firm has prepared refrigerating chambers for goods awaiting shipment. It would seem, therefore, that the only element required is an increase in the number of intelligent and practised growers. We want them from England, the Colonies, the States, in fact from anywhere where the skill and experience required has run for years into everyday practice. This is the immigration wanted just now at the Cape, to catch at the opportunity of the moment, and to turn skilled fruit growing into gold. No question that success awaits the man who knows how to deal with fruit trees, to break his ground up properly, to drain, to prune, to gather, to pack for market up-country, or for market in Covent Garden, and who has the well-founded contempt for the slovenly style of letting things grow themselves, and taking as a crop what chance sends and insect plagues leave.

Then you will say, are there no growers at the Cape? Truly, not very many, and with the exception of those who have started of late years



STACHYURUS PRÆCOX.
(Two-thirds natural size.)

long, more or less ovate and acuminate, with serrated margins. The flowers are small and globose, in drooping, catkin-like racemes from buds of the previous year's growth. They are greenish yellow in colour, and last in flower for a considerable time. At Kew a plant flowered profusely in February this year, though usually March is the period, flowers being borne before the leaves. In the temperate house it grows to a height of 10 feet, making a straggling bush and keeping its leaves during the winter. One other species of *Stachyurus* has been described, *S. himalaicus*, from the Himalaya; but it is rarely, if ever, seen in gardens. *S. præcox* grows freely in any ordinary soil. Cuttings of half-ripe wood root with ease."

BUNCH PRIMROSES FROM CHARD.

At this season we always receive a boxful of Mr. Crook's beautiful Bunch Primroses, which he has for many years selected and raised, and they are welcome reminders of perhaps the most useful of spring flowers for bed and border. Mr. Crook has achieved much success among the warmer colours, and the reds and crimson are wonderfully rich and pure. Such a good gardener is careful to destroy all unwholesome shades, particularly those approaching magenta or lurid purples. Such colourings quickly spoil the whole selection.

FLOWERS FROM DUBLIN.

Mr. Burbidge sends a gathering of flowers from the open air of things not too common, but which are very bright and pretty in the Botanic Gardens several Tulips. *Tulipa præstans* is one of them. Mr. Burbidge says "it is by far the earliest Tulip I know of, flowering before *T. kauffmanniana*. It began to bloom in February. It is, I believe, a variety of *T. suaveolens*, the presumed parent of the Dutch Van Thol race of early kinds." Several

Erysimum helveticum (Swiss Wallflower), which flowers all the year round, and is very bright and neat in habit. Excellent plant for old walls.

Cyclamen graecum (collected wild) very warm in colour, and flowering freely outdoors at Dublin, and the *Lenten Rose* (*Helleborus orientalis* × *colchicus*), known as George Bentley, very dark in colour with darker spots.

THE CAPE FOR PROFITABLE FRUIT GROWING AND FRUIT EXPORT.

(Continued from page 173.)

THE position of the Cape to-day is somewhat remarkable. There are the two great foci of enterprise northwards. The one, the close corporation of the diamond industry at Kimberley, the other, the open arena of gold production at Johannesburg. Towards these two points tends almost all the local enterprise of the country, and instead of the Colony having solely to look after its own maintenance, it has become the purveyor to an immense industrial population beyond its borders. The yellow harvests of the corn districts go thither. Thither go the slaughter-cattle in ever multiplying troops. The fishermen on the coast now send the major portion of their haul up country in ice. The smaller industries of the farm have received a like impetus. Butter, poultry, eggs, fruit of every kind, all go to satisfy the daily demands of the ever-increasing mining population.

It follows that at the present moment there are in every direction openings for enterprise in various kinds of *petites cultures*, openings such as have

on a large scale, by no means sufficient to give a character to this magnificent country as a home of fruit growing—not sufficient even to lead by example the prevailing carelessness into better ways. The growth of fruit here until lately has been almost always a by-thing, or what we might call a toy pursuit of the landowner. A few trees, mainly seedlings grown from pips and fruit stones, planted in holes dug in the hard, untrenched earth, unpruned and untended except for an occasional drenching from the furrow, used, generally speaking, to constitute a Cape orchard. So long as the owner had fruit for his own table during the season he was satisfied. The idea of growing fine choice fruits of named pedigree sorts in order to send them to market, attractively packed, so as to suit the dessert-tables of well-to-do townfolk who had no gardens, never entered his mind. Did you want fruit of him? Then you must buy it as a favour, and he would "spare it to you," and you certainly could not expect to get it twice, much less regularly through the season. Yet he would take the money, showing that the commercial instinct was not dead. The wonder is that so few ever turned to with a will, and put into fruit culture the labour, energy, and forethought that go to make a successful business. Things are better now. There are men who now grow fruit to the perfection possible in this perfect climate, and all they send to market is eagerly bought up either for local consumption among the higher classes or for export to England. But they may be counted by dozens instead of being numbered by hundreds, and scattered all over the country. One would think that the example of the few leading men aforesaid, and the high prices they

pull off for their exceptional samples would be sufficient to start a reform, but there are several causes operating in the other direction. There are the antiquated conservative ways of the small farmer at the Cape, arising out of the comparative isolation in which he lives, and which only has been broken in upon this last few years by the establishment of fruit growers' associations in their very midst, through which an effective interchange of ideas has been brought about, and information given upon the subject of their special industry. Till these excellent associations sprung up, mainly through individual activity and personal influence, it was difficult to find a market gardener who took in a garden periodical, or cared to learn what was done in other countries. Another cause materially checking the desire to improve the output is the immense demand that exists for cheap coarse fruit and windfall rubbish among the coloured populace of Cape Town. To them, so that the fruit is dirt cheap, it does not matter of how low a quality it is. In no other public of fruit consumers is quality so little thought of, and hence the producer has been satisfied to grow crops from seedling trees which are only fit for stocks. They sell somehow, so why should he trouble himself to produce a better article? However, things are on the mend. It may be a long time before really good or even middling fruit reaches the level of the street hawker, but the simple fact that the great market of Johannesburg discriminates keenly between good and bad, and pays accordingly, must inevitably react on the producer, and even more directly persuasive are the perpetual calls of the fruit agent concerned in export to Covent Garden and other markets. He knows good fruit at sight if anyone does, and his determination to have it grown clean, ripened exactly to the export point, gathered delicately, graded to size, will do more towards teaching fruit culture than a legion of experts.

It is therefore just at this critical stage of matters that the English fruit grower, who now despairs of making profits at home, is invited to come to the Cape and take his opportunity by the forelock. It is a pity too that the foreign capital which comes Capewards goes mostly into mining stock. It were well if some of it were invested in the healthier industry of fruit culture. Perhaps ere long those companies which have already got into working order will form an example to other companies and friendly competitors in a trade which is practically illimitable.

We have said that all the material appliances for a growing export fruit trade have been initiated here. It is not therefore as if new comers, throwing their practical knowledge and their little capital into Cape fruit growing, would find difficulties in the outlet for their produce. Let it be remembered that the Cape has one signal advantage for fruit supply to European markets which is not conceded to the clever and enterprising American grower—the seasons fall *conversely with those of England*. Consequently the only competitors in our special line and special time of exporting will be the Australians, who, however, are heavily handicapped by a one-third greater distance from England. Their seasons certainly do correspond with ours. The best way of making the comparison with the northern hemisphere quite clear will be by the following tabular arrangement:—

Cape.			Europe.	
December	} ... Summer ...		June	} ... Summer ...
January			July	
February			August	
March	} ... Autumn ...		September	} ... Autumn ...
April			October	
May			November	
June	} ... Winter ...		December	} ... Winter ...
July			January	
August			February	
September	} ... Spring ...		March	} ... Spring ...
October			April	
November			May	

This general arrangement must not be taken too absolutely. The seasons on the two sides of the Colony, west and east, are differentiated much as

are those of India by the rainfall occurring conversely. In fact, the Cape is a monsoon country, the west having its maximum rainfall in winter, while the east has it in the warmer months. There is this peculiarity also in the east, that there are two maxima, namely, the November or spring rains and the autumn rains in February.

EUSTACE PILLANS.

Assistant, Agricultural Department of Cape Colony.
(To be continued.)

MISCELLANEOUS.

MANURES FOR GARDEN CROPS.

CONTRIBUTED to the volume of the Journal of the Royal Agricultural Society for 1902 is the following excellent article by M. Phillipe de Vilmorin:—

Before going into the details of the practical application of manures to horticultural plants we must lay particular stress upon the necessity of understanding the chemical composition of the soil, and especially the quantity of the principal elements it contains, such as nitrogen, lime, phosphoric acid, and potash. The analysis of these substances contained in the plants is not less important. By means of the valuable indications given by these two sets of analysis, the one of the soil and the other of the plant, experimenters have been enabled to arrive at rational formulae. By the aid of the figures they furnish the cultivator and intelligent amateur will themselves be enabled to modify the numerous formulae given later, with the object of adapting them more perfectly to the various soils they cultivate, for none of the formulae should be considered as equally good under all circumstances; the substances contained in the soil are apt more or less to modify the quantity of the elements of which they are composed. Nor is it only necessary to study the chemical composition of the soil in which it is proposed to establish rational cultivation. According to the statement made by M. Joulie, a good quantitative analysis once for all is essential, since this will permit of the addition to the soil of only those elements which it happens to lack.

Before passing from this rapid sketch I desire to draw more particular attention to the excellent work of MM. Joulie and Desbordes on "Les Engrais en Horticulture." This little manual is one of the clearest and most complete that has yet been published on the theory of chemical manures as applied to horticulture. It also contains the formulae of many different authors, from which I shall give copious extracts.

VEGETABLES.

The application of chemical manures to market garden crops is still far from being perfectly understood. Vegetables belong to so many different natural orders whose requirements are diverse, if not contradictory, that it is difficult to apply to each of them the necessary elements. Up to the present the use of chemical manures has hardly emerged from the experimental stage, and for the most part cultivators restrict themselves to the use of organic manures. Market gardeners in the neighbourhood of Paris use only hot-bed manure, and they content themselves with simply spreading this manure on the different parts of their ground without specially digging it in. Gardeners more distant from Paris, who do not raise early crops, and, consequently, have no hot-beds, use a little chemical manure. Most of them use nitrate of soda, and this principally for Peas and Beans. The nitrate is used either mixed with the soil before sowing or planting, or in the form of liquid manure, to which is added a small quantity of sulphate of iron.

Speaking generally, all market gardeners are opposed to the use of chemical manures. Whilst they recognise their efficacious action during the first and second year, they consider that they spoil the land, and render it unfit for use at the end of the third or fourth year. There is certainly force

in this objection; but it simply proves the necessity of giving due weight to the physical qualities of the soil, and points to the fact that, in order to preserve its humus and the proper tilth, it is always necessary to have recourse to farmyard manure. The exclusive use of chemical manure has the drawback that it hardens and dries the land without supplying it with organic elements. Prudence demands that in the kitchen garden, where the state of the soil is so important, chemical manures should only be used in conjunction with the application of farmyard manure.

We shall now pass in review the different experiments which are capable of throwing light upon the rational composition of formulae of chemical manures.

UNIVERSAL MIXTURES.

Some investigators have endeavoured to find a mixture which may be universally applied to all vegetables. Several of them have obtained very satisfactory results by these means. M. Georges Ville recommended a complete manure composed as follows:—

	Oz. per square yard.
Superphosphate of lime	1.18
Nitrate of potash	0.59
Nitrate of soda	0.89
Sulphate of lime	0.89
	3.55

This manure may be employed in all seasons, either before planting or sowing, or when the plants are growing. M. Zachariewicz, who has made some very interesting experiments on this subject, has also found a manure which, applied to various vegetables—Radishes, Onions, Lettuces, Carrots, Cabbages, Beans—gave, on an average, the best results. In accordance with the results obtained he gives a formula which differs little from that of M. Ville, of which it is but a simplification.

	Oz. per square yard.
Nitrate of potash	0.47
Superphosphate of lime	0.59

DOMINANT ELEMENTS.

Other experimenters, on the contrary, have endeavoured to find a manure which is specially adapted for each vegetable. Chemical analysis enables us to find out which is for each plant the "dominant element," *i.e.*, the element most necessary to its formation. We thus arrive at the following conclusions: (1) For leguminous plants the "dominant" is phosphoric acid and potash. (2) For leafy plants, such as salads, Lettuces, Chicory, Corn salad, or Lamb's Lettuce, Sorrel—the dominant would appear to be nitrogen. Spinach is also in this category, but it also requires a small proportion of iron. (3) The dominant in all solanaceous vegetables is potash. (4) All cruciferous plants, such as Kohl Rabi, Turnips, and Radishes, require nitrogen and phosphoric acid. (5) Plants of the composite order, such as Artichokes and Cardoons, have nearly the same dominants. (6) Certain culinary liliaceous plants, such as Asparagus, &c., require an abundance of nitrogen and potash. (7) Root plants may be included in the third group.

The study of these dominants has led the Marquis of Paris to the composition of the following formulae, from which, as a rule, good results may be obtained:—

1. For papilionaceous plants (such as Peas and Beans):—

	lb.
Nitrate of soda	7.71
Superphosphate of lime	6.61
Chloride of potassium	2.20
Sulphate of lime	4.40
Sulphate of iron	4.40

2. For solanaceous plants (Potatoes, Tomatoes, egg plants):—

	lb.
Nitrate of soda	2.20
Superphosphate of lime	8.81
Chloride of potassium	4.40
Sulphate of lime	4.40
Sulphate of iron	4.40

(To be continued.)



DWARF FIR TREE ON ROCKWORK.

NOTES FROM SCOTLAND.

MR. MAC HATTIE.

THE city of Edinburgh has just shown its appreciation of the services of Mr. MacHattie, the lately appointed city gardener, by advancing his annual salary to the sum of £380.

FRUIT PROSPECTS.

Heavy soil gardeners have had an unpleasant experience this year owing to the continued and abnormal rainfall, seed sowing having been impossible up to the beginning of April. The soil, however, where it has been in condition to work, is proving almost as friable as it was last year, when it left nothing to be desired. Of the prospects of fruit I have, unfortunately, heard only depressing accounts. Apricots and Peaches generally are only sparsely bloomed, and in some instances the former are sure to be a failure, the proprietor of a very large garden telling me, for instance, that no flower was found on the trees in his garden. Pears are less badly furnished, but the average in the case of these, too, will hardly be reached. Plums, on the other hand, are showing a gratifying expanse of healthy blossom, and the weather at the time of writing is most suitable for the chances of a splendid set of fruit.

THE WEATHER.

In many parts of Scotland the remarkably mild weather experienced has been so favourable to the increase of wild life that success in outdoor gardening has become problematical in the extreme. Fruit and bud-eating birds create much loss, but nothing so extensive as that compassed by rats, which have become extremely fond of all

kinds of garden produce. One hears of bulbs — Tulips and Crocuses in particular—being destroyed with a thoroughness as clever as it is distressing. Whole quarters of Winter Greens, Brussels Sprouts being especially favoured, are devoured, and during the fruit season they prove themselves distinguished judges of the best. Here and there we hear of Strawberry quarters being cleared, and from these they pass on to 'ooseberries, thence to wall fruit, finishing the season by sampling Pears and disposing of the better dessert Apples. Their destruction is by no means easy, and when they do appreciate the fact that vigorous means are being made to effect their extermination, they simply move off in a body to return in due time possessed of greater acuteness than ever.

A writer in the *Scottish Field* blames farmers

very largely for the extraordinary number of this fierce little rodent, and it cannot be denied they allow rats a very wide latitude for their predatory instincts. Though less harmful, squirrels also commit a sad amount of destruction, and these, too, have increased enormously, while their tastes have assumed forms most distressing to the gardener. It is comparatively not so long ago that discussions were pursued in the gardening papers as to whether squirrels actually ate fruits, it being thought they were essentially nut eaters. They are less destructive than rats certainly, but a dozen or more if left unmolested quickly clear trees of ripening fruit, and when rats and squirrels combine the process is completed with

astonishing facility. Happily the latter are not at all difficult to destroy.

HISTORY OF THE ROYAL CALEDONIAN SOCIETY.

I understand that Mr. P. Murray Thomson, S.S.C., is engaged on the compilation of a short history of the Royal Caledonian Horticultural Society, particularly with reference to the earlier years of its existence and the *personnel* of its exhibitors, with the prizes in kind and the medals that were given for produce exhibited. It is to take the form of a pamphlet, to be distributed on the occasion of the forthcoming flower show in May. Mr. Thomson, I believe, has experienced considerable difficulty in tracing men who as late as thirty or forty years ago took a conspicuous part in the Edinburgh show. Perhaps some readers of THE GARDEN might be able to locate the descendants of some at least of these erstwhile famous but now forgotten Scottish horticulturists.

R. P. B.

OBITUARY.

SIR CHARLES ISHAM, BART.

THE recent death of Sir Charles Edmund Isham, Bart., calls to mind the famous rock garden at his residence, Lamport Hall, between Northampton and Market Harborough. This quaint garden, commenced in 1847, is the work of the late baronet, who thus described it: "An assemblage of small caves, crevices, excavations, and inequalities, carpeted and encrusted with a vegetation suited to the purpose." The highest point is 24 feet, while the length is 90 feet, and the width 47 feet. This rock garden is, as it were, mountain scenery on a reduced scale. Dwarf conifers have been gathered together, and some of them are over 100 years old. Sir Charles spared no effort to acquire representative examples of this form of tree growth. The caves and recesses with the fairy miners are another distinctive feature. These miniature figures (only a few inches high) are in various attitudes and in strange association with the dwarf trees. In one section they are on strike, hands in pockets, with a general aspect of disdain and indignation.



AT LAMPORT (THE LATE SIR CHARLES ISHAM STANDING ON THE STEPS).



LAMPION HALL: RESIDENCE OF THE LATE SIR CHARLES ISHAM.

There are no bold effects in planting. Curiosities attract at every turn until one becomes almost bewildered with the various artless devices. The labour and thought expended upon this structure have been enormous. Here one sees a flower colouring some flat stone, and wonders how such beauty is sustained. But with the chisel a hole has been made through the stone, sometimes over a foot in thickness, to enable the roots to reach the soil.

SOCIETIES.

MANCHESTER ROYAL BOTANICAL AND HORTICULTURAL SOCIETY.

THE spring show of this society, which was held on the 7th and 8th inst., returned this season to its old position in the Town Hall, and, as usual, was marked more for its quality than quantity. Orchids played an important part, many of the exhibits proving of high quality. The Manchester Orchid Society held the fortnightly gathering in conjunction with the show, thus forming an exhibition worthy of far greater support than was accorded it.

ORCHIDS.

Messrs. J. Cowan and Co. had a grand display, in which *Cattleya schilleriana* Gateacre variety received an award of merit. *Odontoglossum crispum*, *O. Adriana*, *Cymbidium lowianum*, *Cypripedium insigne* Dorothy, *Dendrobium nobile nobilium*, and *D. wardianum album* were included.

The Stone Orchid Company, Staffs, contributed an excellent lot of *Odontoglossums*, including *O. Adriane* Basette (first-class certificate), *O. andersonianum splendens*, *O. triumphans*, *O. Cervantesii decora*, *O. Rossi majus*, and many others.

Mr. J. Cypher, Cheltenham, had an imposing display of many novelties, including *Miltonia bleuana superba* (first-class certificate), *M. vexillaria*, *Epiphronitis Veitchii*, *Odontoglossum crispum*, *Cattleya Schroderae*, *C. Lawrenceana*, *Cypripedium callo-rothschildianum*, and others.

E. Ashworth, Esq., Wilmslow, as usual had a display of marked elegance, including *Dendrobium Cybele* ashworthianum (first-class certificate), *Cattleya Schroderae delense*, *Dendrobium splendidissimum lecanum*, and *D. s. grandiflorum*.

S. Greatrix, Esq., Whalley Range, received two first-class certificates for a hybrid *Dendrobium* and an *Odontoglossum*.

Messrs. Charlesworth and Co., Heaton, Bradford, York, secured first-class certificates for *Lelio-Cattleya Mercia* and *Cattleya Schroderae Minerva*. *Miltonia bleuana grandiflora rosea* (very fine), *Lelio-Cattleya highburyensis*, and *Masdevallia Veitchii grandiflora* were also shown by them.

J. Leeman, Esq., Heaton Mersey, sent a few grand forms of *Lelia tenebrosa* × *aurea* (first-class certificate), the charming *Lelio-Cattleya cinnabarina*, *Cattleya Mendelii*, and *Dendrobium Venus*, which was well flowered.

Mr. W. Holmes, Timperley, had some good *Odontoglossums* and *Dendrobiums*.

Mr. John Robson, Altrincham, sent *Sephonitis grandiflora* (densely flowered), *Dendrobiums*, *Lycastes*, &c.

O. O. Wrigley, Esq., Bury, showed *Cypripedium villosum*, *Odontoglossums*, and *Dendrobiums* in variety.

Mr. S. Allen, Sale, had a good variety of *Anthurium schertziannum* and *Dendrobiums*, with immense bulbs.

The Earl of Ellesmere (gardener, Mr. W. B. Upjohn) showed *Odontoglossums* and other flowers arranged upon a groundwork of cork.

MISCELLANEOUS EXHIBITS.

Two displays from Ireland attracted considerable attention by the strong colouring and good culture noticeable. Messrs. Reamsbottom and Co., Geashill, King's County, had a grand array of their Alderborough strain of St. Bridgid Anemones, large double flowers of vivid colouring; a very attractive collection.

Messrs. Hogg and Robertson, Dublin, arranged one of their usual telling displays. The Tulips proved attractive from their size and brilliance. The best were *Greigii* (bright scarlet), *Princess Ida* (pale primrose and white), *Hector*, *Thomas Moore*, &c. These were supported on either side by *Daffodils*. Some of the newer varieties were *King Alfred*, *C. J. Backhouse*, *Flamingo*, *Her Majesty*, *Glory of Leiden*, *Maggie May*, *Lady Margaret Boscawen*, &c.

Messrs. B. S. Williams and Sons, London, showed a pleasing lot of *Narcissi*, *Anemones*, *Tulips*, &c., in variety.

The Misses Hopkins contributed a selection of spring flowers, *Auricula Alexandra* (award of merit), *Polyanthuses*, *Daisies*, &c., making a pleasing show.

Mr. Broome, Llandudno, sent a display from his garden, which gave evidence of the genial surroundings of this favoured spot.

The following is a list of the awards:—

Gold medals.—Messrs. John Cowan and Co., The Stone Orchid Company, Messrs. Cypher and Co., Mr. E. Ashworth, and Messrs. Reamsbottom and Co.

Silver-gilt medals.—Messrs. Hogg and Robertson, Messrs. Charlesworth and Co., Messrs. Dickson and Robison, Mr. S. Greatrix, and Messrs. Dickson, Brown, and Tait.

Silver medals.—Mr. W. Holmes, Messrs. B. S. Williams and Sons, Mr. O. O. Wrigley, Mr. S. Allen, and Mr. J. Robson.

Bronze medal.—Mr. W. E. Upjohn.

Awards of merit.—Mr. Broome and the Misses Hopkins.

Mr. P. Weathers, as usual, carried out the details in a praiseworthy manner.

NATIONAL SWEET PEA SOCIETY.

SELECTION OF JUDGES.

SIR,—At a meeting of the executive committee of this society, held at the Hotel Windsor on the 7th inst., Mr. R. Lewis Castle in the chair, the letter signed "R. D." in your issue of the 4th inst. was discussed.

I am instructed by my committee to contradict the misrepresentations made by "R. D." relative to the proceedings of the executive committee held on the 27th ult., and to say that "R. D." committed a gross breach of privilege in referring publicly to business of a purely private nature. It is, I am to state, absolutely untrue that any departure from the methods which governed the selection of the judges last year has now been made. "R. D." may be reminded that in the selection of the judges for the 1902

show, when amateurs only were chosen, he did not raise either directly or indirectly any objection whatever. Further, I am instructed to affirm that on no occasion has anything been said or done that could possibly be construed into an imputation against the honesty and integrity of the trade as is obviously inferred in "R. D.'s" communication. I am also desired to point out to "R. D." that at the meeting in question the resolution to follow the practise of 1902 and secure amateurs only as judges was carried without a dissentient note, so that his statement that it was carried by a bare majority is incorrect. Furthermore, "R. D." did not give the meeting the benefit of the arguments he now uses in support of his objection.

As showing the high appreciation the executive committee has of the honour and experience of members of the trade, I am to point out that at the meeting referred to it was unanimously resolved that the general committee constitutes the floral committee for the adjudication of novelties, so that the society might have the full advantage of the knowledge of Sweet Peas possessed by the several trade members of that body.

—HORACE J. WRIGHT, Hon. Secretary, 32, Dault Road, Wandsworth, London.

THE HORTICULTURAL CLUB.

HORTICULTURAL PROGRESS.

AT the monthly dinner of this club, held at the Windsor Hotel on Tuesday, the 7th inst., Mr. Harry J. Veitch presiding, a good attendance of members and guests being present, Mr. F. W. Burbidge, M.A., V.M.H., gave an extremely interesting paper on "Horticultural Progress," which, however, was of so comprehensive a character that we can only allude to one or two of the main points, and refer our readers to the paper itself, which will eventually be published *in extenso*. As regards actual progress towards higher levels, Mr. Burbidge was of opinion that this was not emphasised as progress in extension of horticulture, a far greater number of people maintaining good gardens than was the case in earlier days, while actual improvement in fruits, vegetables, and flowers was by no means so marked a feature.

So far back as 1790, Speechley wrote in his celebrated treatise on the Grape Vine that "there never was a period when the science of gardening was so universally and so ardently cultivated as it is at present," a phrase which is certainly as applicable to our own times as to that distant date, and on a far more extensive scale. In the evolution of horticulture, as in evolution generally, there is a constant series of changes going on, nothing is stable. Fashions, tastes, and hobbies vary from time to time, and revolutionise the departments they affect. Collections of plants, embracing all obtainable varieties, have given place to selections of the best. Bedding out plants at one time became a craze, and in process of time this craze waned, and the very different arrangements introduced by the late John Gibson, of Battersea Park, and known as sub-tropical gardening, took its place to decided advantage. To this succeeded the culture of hardy herbaceous plants on selected lines, giving a permanent value in lieu of a half-hardy and consequent transient one. Bamboos came to the fore, the pergola and Lily bestrewn pond became a feature in high-class gardens.

In another direction the specialist in all departments has largely replaced the generalist, and especially in commercial horticulture where concentration of effort and knowledge is found to be of inestimable value. Mr. Burbidge also alluded to the far-reaching effects of the introduction of horticultural auction sales upon prices and the trade generally, the search for Orchids in their native habitats having fallen entirely into the hands of those who cater for the auctioneer, while in another direction the hybridist at home has been both busy and successful in manufacturing, as it were, new and charming combinations of the floral material so introduced. Retarding by cold, and hastening by etherisation or electric light, also found their place in Mr. Burbidge's remarks, while the facilities for travelling, which are now open to all, contribute enormously to that wider knowledge of plants which is so essential to true progress, by showing us not merely what our countrymen can do, but also our horticultural competitors abroad.

The lack of a co-operative spirit among the horticultural confraternity was lamented as an obstacle to progress, especially in the economical direction. In the subsequent discussion, in which Messrs. Hudson, Munroe, Walker, C. Pearson, H. Veitch, G. Bunyard, Gilney, and Waterer took part, the lecturer's views were largely endorsed, and amongst other points raised by him, the inadequate nature of Sir James Rankin's Bill relating to the eradication of diseases in nursery gardens was felt by all, since while it is precisely the nurseryman who devoted himself to this, he is handicapped and frustrated in his efforts by the careless outsider in his vicinity, who leaves the vermin severely alone; and yet the very man who thus provides continuous infection on a wholesale scale is exempted from the scope of the would-be protective Bill. A hearty vote of thanks concluded the function.

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[APRIL 25, 1903.]

GHENT QUINQUENNIAL EXHIBITION.

ON Saturday last the fifteenth quinquennial exhibition of La Société Royale d'Agriculture et de Botanique de Gand was opened by His Majesty the King of the Belgians, who was accompanied by Princess Clementine, and will remain open until to-morrow (Sunday). It is held in the Ghent Casino buildings and grounds, which belong to the society, but is so extensive that a temporary annexe almost as large as the permanent building has been erected. This annexe adjoins the front of the Casino, so that this divides the exhibition into two distinct portions. On the one side in the permanent hall are the stove plants, chiefly remarkable for their finely coloured foliage, while on the other, in the temporary annexe, are arranged the greenhouse plants, which make a more brilliant display, because nearly all are in flower. The Orchids are in another smaller hall adjoining the permanent one. From the upper floor of the Casino building one is able to get a comprehensive view of the whole exhibition.

Looking down upon the display in the permanent hall, which is heated to a temperature suited to the exotic plants, one is impressed by the excellent effect of such an arrangement as is here carried out. Along the full length of the opposite side and at either end are banks of greenery, composed of huge Palms, Tree and other Ferns and Cycads, here and there relieved, more especially towards the margins, by groups of plants in flower. Immediately below the onlooker are the prize groups of miscellaneous stove plants, remarkable for the colouring of their foliage, while in the centre of the hall are six immense beds of plants in great variety. The centre one is composed largely of Crotons, Dffenbachias, Marantas, Anthuriums, and Ferns, and in those just beyond the greenery of numerous Aroids, Ferns, Palms, Dracaenas, and other stove plants is relieved by irregular masses of brilliant spathed Anthuriums and richly-coloured Azaleas. The remaining beds are filled with Asparagus, Dracaenas, Selaginellas, Anthuriums, Crotons, and many other plants remarkable either for the beauty of their flowers or foliage. Broad gravelled walks separate the beds, and when during the King's visit they were thronged with the royal retinue the scene was full of colour.

Looking down upon the other side, in the temporary annexe, the aspect changes. Instead of the restful, though perhaps somewhat sombre, colouring of the foliage plants there is a veritable garden of flowers of the brightest and most dazzling colours, and the plants which contribute chiefly to this display are Azaleas. In fact, these are one of the features of the show. A circular group of Anthony

Koster's lovely hybrid Azaleas, in shades of orange, red, and yellow, occupies the centre of the floor of the annexe, while beds of various sizes and shapes around are filled with such specimens of *Azalea indica* as are rarely or never seen at home. The plants are simply masses of flowers, and these of many beautiful colours—rose, purple, red, white, and intermediate shades. Seen from above the beds of Azaleas they form a brilliant picture and a display of colour as can never be equalled in our exhibitions so long as the present stereotyped method of arrangement is adhered to.

Around the boundary wall of the annexe, which is semi-circular, are groups of hard-wooded plants, many of the specimens of *Acacias*, *Boronias*, *Ericas*, &c., being unique in size and profuseness of flowering.

Between these and the Azaleas are beds of miscellaneous plants composed of groups of *Imantophyllums*, *Rhododendrons*, Orange trees loaded with their small bright yellow fruits, *Hydrangeas*, and other greenhouse plants in flower.

In some small intervening beds *Primulas*, *Calceolarias*, *Cinerarias*, *Pelargoniums*, and other dwarf plants are arranged, and provide welcome variety. Last, but not least, are the English-grown *Amaryllis* from Messrs. Ker, of Liverpool, placed in a group immediately below the point of view. A few Tree Ferns here, and a Palm or two there, give pleasant greenery among such brilliant colouring.

The features of the Ghent Quinquennial Exhibition that most impress the visitor are the excellent culture of the plants shown and their admirable arrangement. Perhaps with the completion of the new Horticultural Hall there will dawn a new era in the arrangement of the Royal Horticultural Society's flower exhibitions, and the wooden staging of the present will be partially, if not wholly, dispensed with. If such should come to pass it is more than probable that many provincial horticultural societies would follow so excellent an example, and British flower shows no longer be inferior to those on the Continent in the matter of effective arrangement.

English exhibitors at the Ghent Quinquennial Show were but three in number. Messrs. Sander and Sons, St. Albans and Bruges, exhibited new plants; Messrs. R. P. Ker and Sons, Liverpool, *Amaryllis*; and Messrs. Cannell and Sons, Swanley, Kent, zonal *Pelargoniums*.

Orchids were splendidly shown by M. A. A. Peeters, Brussels. His groups contained many lovely flowers, several new and many rare; but, generally speaking, the remaining exhibits of Orchids were not remarkable, neither was exceptionally good culture evident. Palms were magnificent, and Cycads also. The collections of Aroids, Bromeliads, and hard-wooded plants, too, were remarkable alike for their cultural excellence and variety, and, as our report will reveal, a great number of new and noteworthy plants were shown. Notwithstanding the inevitable inclusion in such an immense

exhibition of many plants of but ordinary interest, there is much to praise in this exhibition of La Société Royale d'Agriculture et de Botanique de Gand. Its president, Le Comte de Kerchove de Denterghem, and secretary, M. E. Fierens, have reason to be proud of their efforts.

The Royal Horticultural Society sent a deputation, consisting of Lord Redesdale (president of the jury), Mr. Lloyd, Mr. James Hudson, and Mr. C. E. Pearson (the honorary secretary). To the three exhibits judged by these gentlemen to be the most meritorious and showing the best culture, they gave two gold medals and one silver-gilt medal of the Royal Horticultural Society.

M. A. A. Peeters, of Brussels, obtained one gold medal for a splendid display of Orchids, and La Société Horticole Gantoise the other for a magnificent group of Palms. The silver-gilt medal was given to M. E. Bedinghaus, Ghent, for the best collection of twenty-five distinct greenhouse plants in flower.

At the luncheon given by the society to the jury, Count Kerchove presided, and in his speech referred to the great value and importance of such a gathering of horticulturists from many parts of the Continent. He eulogised the efforts and skill of the growers, which had culminated in such a wonderful display of flowering and foliage plants.

In the name of the society, the Count heartily welcomed all members of the jury, and said how glad they were to have Lord Redesdale as president. His name was honoured in horticulture throughout the world. Referring to the touch of sadness that must ever be associated with a quinquennial gathering, Count Kerchove said that at their meeting five years ago there were many faces that now, alas! were absent.

Lord Redesdale, in replying for the jury, said how much the hospitality and cordial welcome they had received was appreciated.

The exhibition is described on page 287, especially the new plants.

CARRIAGE OF FRUIT AND RAILWAY RATES.

MEETING OF SALESMEN.

THE leading salesmen held a meeting last week at the Tavistock Hotel, Covent Garden, which will probably prove of far-reaching importance. It was resolved to form, out of the numerous local associations which watch over their interests, one large body, to protect them from what is considered to be the unfair treatment of the railway companies. Many individual attempts to get grievances remedied having proved abortive, it occurred to some of the leading salesmen that a united opposition on the part of the whole of the traders would force the railway managers to enquire into and revise the charges for the conveyance of fruit,

vegetables, and flowers, as well as to ensure the more prompt delivery of consignments. The whole of the associations in England and Wales took up the suggestion, and a representative gathering of delegates from Liverpool, Sheffield, Leeds, Cardiff, Nottingham, Newcastle, Swansea, Bradford, Hull, and Birmingham showed that complete unanimity prevailed on the question that federation was vitally necessary. Strong complaint was made of the attitude taken up by the companies. Mr. Craze, of Liverpool, occupied the chair, and said that with goods sent at the owner's risk the railways claimed the right to deliver the goods when and in what condition they liked. They set up a plea that when the owner's risk note was signed, if the companies delivered the goods two or three days late, or not at all, they were entirely exempt from any legal liability. It was unanimously agreed to form the proposed body, which would assist the growers as well as the dealers. The new association will not at once enter into conflict with the railway companies, but it was generally agreed that if a determined front by the whole of the merchants, brokers, growers, and dealers in the country was shown against the rates for the carriage of produce, they were more likely to find the railway authorities agree to certain concessions than if they were approached by individuals. The National Federation of Fruit and Potato Trades Association was therefore agreed to be formed as a limited liability institution, each existing association paying a subscription of 5s. a member, and, in case of a long, expensive lawsuit, it was arranged that a levy of a guinea per member should be made. It was pointed out that some of the associations already in work included growers in their membership, and, though that class have powerful organisations of their own, they will not be precluded from joining the new body. Mr. Craze was elected the first president, Mr. G. Munro, of Covent Garden, Mr. M. Garcia, London, Mr. W. Johnson, Leeds, and Mr. L. Marks, of Leicester, were chosen as the first vice-presidents, and a small committee was formed to act with them in drawing up the rules for the government of the federation.

ARCHIBALD FARQUHARSON BARRON.

LAST week in the Chiswick Cemetery Mr. A. F. Barron, at one time superintendent of the Royal Horticultural Society's gardens at Chiswick, was buried in the presence of many of his friends, but his work for horticulture will never die. He is an example to the young men of the present age of determination, pluck, and forbearance under many difficulties. Mr. Barron was a journeyman gardener when he came to Chiswick, quickly became superintendent, and throughout his life devoted his energies to fruit and vegetable growing, and to the reduction of the varieties of Apples and Pears, by issuing those invaluable reports of the Apple and Pear congresses which remain a monument of laborious study for all time. A thousand varieties, so called, of Apples were shown, and each one tasted and described, and from chaos the nomenclature of these fruits was brought into comparative order. It was a determined onslaught upon the then published lists of Apples and Pears, and we are benefiting by Mr. Barron's conscientious work in our own day. Sound horticultural work, whether it is concerned with fruits, vegetables, flowers, or trees and

shrubs, must be the policy of any society which makes horticulture its watchword. Mr. Barron will remain one of the brightest figures in the history of the famous society which he served so faithfully for nearly forty years.

FROST AND FRUIT CROPS.

EASTER holiday makers this year were able to congratulate themselves on the fine weather, but during the greater part of the week a bitterly cold wind prevailed. At times the air was thick with snowflakes, and at night the thermometer fell to considerably below freezing-point. Naturally such conditions as these struck terror to the hearts of Kentish fruit growers, seeing that Cherries, Plums, Damsons, and Pears were covered with their mantles of snowy white blossoms. So far as my observations have gone in the southern county, I do not think the man in the street has reason as yet to make up his mind to a fruit famine, for the damage done is not so great as some would have us believe. When the pools were ice-covered in the morning, and while during the day the bitter north-easter whirled the snowflakes here and there, things certainly looked ominous, and in some cases the fruit has probably suffered considerably, but the only trees in full bloom at the time were Damsons, Plums, Pears, and the earliest of the Cherries. Of the latter fruit the latest varieties were not in bloom in Easter week, so they cannot have suffered, and only here and there an Apple had begun to bloom. What is the actual damage done by the untimely weather amongst the fruit that was in bloom it is not possible to determine as yet, but the wealth of blossom was so great that considerable thinning could be done and then leave enough for a crop.

Under different conditions the wind and frost were quite enough to dash the hope of fruit entirely, but the chance of salvation lay in the fact that the flowers were dry at the time, and, owing to this, it is hoped that a good deal of it has passed safely through the trying ordeal. It is surprising how much cold fruit blossom will stand without being injured so long as it is dry, but it is cold showers of rain during the day, followed by frost at night, that means ruin. In some districts bush fruit such as Currants and Gooseberries may have suffered, but, fortunately, leafage was well forward and helped to form a protection. As an illustration of the earliness of Kentish Gooseberries, it may be said that the southern county has again led the way in sending the first consignment of the season into Covent Garden Market, these coming from Woodnesborough, near Sandwich. Fortunately, the frost was too early to affect the Strawberry blooms, which are as yet unopened.

In summing up there is no intention to make things appear better than they are, but considering the extreme severity of the weather the damage generally is not so great as it might have been. If half the blossom with which the trees are laden sets there will be a crop, and, if such proves to be the case, thanks will be due to the dry state of the air, the trees, and the blossoms when biting winds and sharp frosts were doing their worst.

G. H. H.

SELDOM has vegetation suffered a severer check at this season of the year in this locality than during the past week, as from 4° to 12° of frost have been registered here every morning since the 12th inst., except the 15th inst. During the early morning of Sunday last the lowest readings were recorded, the glass in a screen standing at 20°, or 12° of frost. The fruit prospects, which looked so promising previous to this, are now completely ruined except where protected, which applies to Apples, Pears, Plums, Cherries, Gooseberries, Currants, and early Strawberries. Ornamental deciduous trees of nearly all kinds are seriously damaged. I trust other localities have not suffered to the same extent.

Elstree, Herts.

E. BECKETT.

I FEAR the fruit crop has suffered severely. It is distressing to see the growths of large trees badly injured, some of our choicest trees being quite

withered up. The same remarks apply to shrubs, especially the choicer ones. The new growth of the Japanese and China shrubs has suffered greatly. Apricots and Peaches so far have not suffered much, but we fortunately used more protecting material this season. I thought that the early Strawberries, of which we grow a large quantity, had escaped, but not so, as if the flower trusses are examined it will be seen that the embryo fruits are useless. This is very unfortunate as the largest fruits are the earliest. Plums just set are quite black at the portion of the stalk where the fruit is attacked. The same remarks apply to early Pears, and the Apple blossom is quite withered. Bush fruits have suffered badly, Gooseberries specially so, also the Raspberries, which were very early this season. The frost during the past week (12th to 19th) every night ranged from 12° to 16°, with a cutting wind by day. We had Potatoes blackened in cold frames, Peas just in bloom are ruined, and Asparagus was quite destroyed one inch under the soil.

G. WYTHES.

EDITOR'S TABLE.

AT this season the flowers of the garden are coming forth abundantly, and we invite our readers to send us anything of special beauty and interest for our table, as by this means many rare and interesting plants become more widely known. We hope, too, that a short cultural note will accompany the flower so as to make a notice of it more instructive to those who may wish to grow it. We welcome anything from the garden, whether fruit, tree, shrub, Orchid, or hardy flower, and they should be addressed to The Editor, 20, Tavistock Street, Covent Garden, London.

SEEDLING POLYANTHUS.

Mr. R. Carruthers, Eden Grove, Carlisle, writes: "I am sending a few flowers of a Polyanthus which was raised by my gardener from seed. I have a bed of it, but for some reason or other it seems to die off at the bottom of the stem. It is compact, blooms freely, and in other places has grown vigorously and given satisfaction. I must try it in another position."

The flower is a good one, not large, but very rich in colouring, the major portion deep orange, with warm yellow towards the margin of the petals. Perhaps some reader who has had experience with Polyanthus can give some clue to this dying off at the base of the stem. Perhaps a change of soil and position will have a good result.

CEANOTHUS RIGIDUS.

I send you a branch of *Ceanothus rigidus*, which is now in full bloom on a wall here. It is of remarkable dimensions, and has grown larger every year. It was planted about a dozen years ago, when it measured about 3 feet each way. It is now 20 feet long, 12 feet high, 2 feet 6 inches deep, and bears a very large number of rigid branches. It bears, as you will see by the branch I send you, handsome blue flowers, and is a most distinctive and enjoyable sight to all my visitors. I have had it photographed, but being so very large a size I fear it may not come out very perfectly, but I will send you a representation of it in any event. I also send you a few Rose leaves, so that you may see the beautiful and varied shades of bright brown with which the trees are being clad at Sunny Hill, no doubt caused by the pure sea and mountain air.—J. BROOME, *Sunny Hill, Llandudno.*

A most interesting contribution to our table, and showing how the Welsh town suits this beautiful *Ceanothus*. We have frequently alluded to the beauty of the leaves of some Tea Roses in spring, and hope Mr. Broome's note will draw attention to this feature of the Rose.

CARNATION LEOPOLD DE ROTHSCHILD.

Mr. Lansdell, The Gardens, Little Hadham Hall, Herts, sends several superb flowers of this

pink Carnation, with the following useful note:—"Undoubtedly this variety is the best to grow for winter flowering. These plants were struck in the autumn of the previous year, and since bringing the plants in the house last October I have been able to cut a dozen such blooms each week."

THE ROSE GARDEN.

THE BEAUTIES OF ROSE FOLIAGE.

It has been well said that the foliage of the Rose is almost as beautiful as the flower. Some of the blood-red leaves of the Teas are very beautiful, also the bronzy hues of the Chinese and the prettily serrated, many-tinted leaves of the Hybrid Perpetuals. It is, perhaps, unfair to particularise, because there is not a Rose grown, or even a Briar, but that has its own particular charm in the matter of foliage at this season of the year. I am led to make these few remarks just now when the classes mentioned are almost leafless by the wonderful beauty of the foliage of the wichuriana race at the present time. Some old blocks covered with Evergreen Gem are a most interesting sight; the tiny new foliage is not much larger than that of a Burnet Rose, but of the hue of a Tea Rose, and the point of every tiny shoot of a ruby hue produces a very interesting effect in contrast with surrounding objects. Then close by is the bright green of another of the tribe. Universal Favourite, which, though insignificant in flower, is wondrously pretty in leaf. There were others most distinctive in foliage, such as Jersey Beauty, practically an evergreen, and Gardenia, which has quite Tea-like leaves, that always appear bright and pleasing, and some of the newer kinds, notably Alba rubifolia, possess leaves that make them worth growing for their foliage alone.

ROSOMANE GRAVEREAUX (H.T.).

This is one of the Continental varieties of the year 1900, and a most promising Rose it is. I am

glad to see that such an excellent rosarian as M. Graveraux (who has one of the most complete collections of Roses in Europe) should be honoured in this way, for doubtless it is an honour that a rosarian appreciates, more especially when the Rose proves to be a good one.

The fine large and deep buds of Rosomane Graveraux are borne erect on fairly long stems, and judging from the habit of the variety it will certainly prove a worthy addition to our bedding Roses as well as for pot culture. The colour is silvery white, with a tinting of rose-pink on the outer petals.

MME. CHARLES MONNIER.

The half-climbing Tea and Hybrid Tea Roses are not too numerous. Their pleasing vigour and bold appearance when used for bedding are not yet sufficiently recognised, but I am inclined to think this particular section will become more numerous in the near future, especially as there are so many individuals engaged in hybridising the Rose. The variety named above is one of M. Pernet Ducher's novelties of 1902, and from all appearances it is an excellent addition. Whilst somewhat resembling that beautiful kind of the same raiser, namely, Germaine Trochon, there is a deeper tint of apricot-yellow in the blossoms. Given a few fine kinds such as this, Billiard and Barre, Gustave Regis, &c., we shall be able to make some fine bold beds of yellow and apricot-tinted Roses, that in a year or two after planting may be kept at about an average height of 4 feet. Such beds, backed up by stately conifers, would be a beautiful feature in any garden. P.

NOTES OF THE WEEK.

FORTHCOMING EVENTS.

May 5.—Royal Gardeners' Orphan Fund annual dinner; Royal Horticultural Society, meeting of committee 12 noon, lecture at 3 p.m.

May 19.—National Tulip Society's Show, Drill Hall, Westminster; Royal Horticultural Society's meeting, 12 noon.

May 20.—Spring Show of Royal Caledonian Horticultural Society (two days).

May 26.—Temple Flower Show of Royal Horticultural Society (three days).

May 27.—Bath and West and Southern Counties Show at Bristol (five days).

Odontoglossum crispum var. Persimmon.

Among the many beautiful plants exhibited at the Drill Hall on the 7th inst., the above was the most conspicuous. A most interesting history is attached to the above magnificent Odontoglossum. It was one of twenty-four bought for 1s. 6d. each by Mr. T. Walters, Orchid commission agent, of Hampstead, who, after offering at £10 the lot to several amateurs and traders without securing a purchaser for them, arranged with the Messrs. McBean, of Cooksbridge, to grow them on a share and share alike principle.

It is remarkable that every one of Mr. Walters' clients should have refused the small fortune comprised in this lot of plants, he having had no difficulty in disposing of previous, and to all appearances similar, lots. That it should have been reserved for Messrs. Walters and McBean to have had this good slice of luck, and out of twenty-four plants only, is, to say at least, exceptional good fortune. In the McBean nurseries Crispums are quite at home, and nowhere is this grand Orchid better cultivated. Our illustration well represents Mr. Pitt's latest addition to his gems, and Rosslyn, Stamford Hill, will be the future home of Persimmon, in company with the celebrated Pittianum and others, which it would be very hard to beat. It is almost superfluous to state that such a grand variety attracted much notice. It has flowers 4½ inches across, and all the segments are exceptionally broad, white, tinted with purple at the back, with big clusters of rich reddish purple markings in the centre of the sepals and petals. These and the lip are fringed and toothed. It was awarded a first-class certificate by the Orchid committee, a distinction it richly merited.—ARGUTUS.

Mr. Pettigrew.—We are very sorry to hear of the dangerous illness of Mr. Pettigrew, gardener to the Marquis of Bute at Cardiff Castle. Mr. Pettigrew's name will be remembered in connexion with the Castle Coch vineries, in which the late Marquis was keenly interested. Few gardeners are more famous than Mr. Pettigrew.

Androsace pyrenaica.—Perhaps one of the largest tufts of this pretty alpine was included in the alpine exhibit from Messrs. Jackman and Son, Woking, at the last Drill Hall meeting. Perfect in its free health and vigour, and spangled over with the white pale yellow-eyed blossoms, the specimen was very charming. It is not one of the worst species to cultivate even in the Thames Valley. In this district a condition of overhead dryness during winter is the one thing needful, and this is best secured by planting in nearly horizontal fissures, or by covering with a sheet of glass when the plants are on a flatter surface. The rock garden is the place for these, or, if grown in pots, all the overhead air it is possible to get to the plants. In pots the tufts are best kept high and mounded, not starved in a 3-inch size always, but given larger scope, and with ample grit and much sand forming the soil portion. It is a good plan to wedge this little gem tightly between bits of sandstone rock. These may be placed triangular fashion, the upper parts rather above the green tuft of dense rosettes. A 5-inch pot so treated when pin-cushioned over with the miniature blossoms is a very pretty picture.—E. J.

How not to do it.—An excellent illustration of this was recently afforded by a neighbour of mine, who I fear has not much practical knowledge of gardening. A short time ago he became the occupier of a charming roadside villa residence, having a fair sized grass plot in good condition with flower-beds and borders in and about it. Thinking to improve the beds and borders he had in a load of rich farm-yard manure, and not satisfied with giving a heavy mulch to these he did the same to his grass plot. The present condition of the latter may be better imagined than described. There is a heavy crop of luxuriant and somewhat coarse grass, and mowing will give him occupation for some time to come. The heavy mulch of manure on the grass plot was certainly an error of judgment.—R. D.

Hemerocallis aurantiaca major. The older varieties of Day Lilies are so hardy that one is naturally disposed to treat H. aurantiaca major in the same way as the others. But the pinch of experience teaches one that this will not do. It starts into growth much earlier than any Day Lily I know, and at the end of March, when others are not much advanced, is not only in full leaf but has flower-spikes ready to open or nearly so. I doubt very much whether I shall see the flowers all the same, because I find they are very susceptible to late frosts. Either the plants must be protected with some light covering or they must be planted in such a warm position that they



ODONTOGLOSSUM CRISPUM VAR. PERSIMMON. (Natural size.)

cannot be attacked. I should rather favour protecting them myself, as it is possible they would make still earlier growth if placed in a warmer position. Anyway this variety cannot be treated in the same way as others of the family, and that is what I want to impress upon those who wish to add it to their garden.—T. J. WEAVER, *Woodside Park*.

Thalictrum anemonoides.—This frail and elegant plant was quite noticeable in one or two collections of hardy things at the recent Drill Hall meeting, and in each instance the plants were doing well. They are 3 inches or 4 inches high, with prettily cut leaves, followed by the dainty white and slightly pink shaded flowers. Yet it is so pretty that even an ordinary observer would notice its elegance and beauty. The plant does not increase at the same rate as some members of the family, yet for its stature it is quite vigorous if given time to establish itself. Peat and leaf-soil to nearly one-half may be added to the sandy loam forming the other portion. Then, again, a half-shady, half-moist spot suits it best, and planted in this mixture there is no reason to fear for its ultimate success. Slugs are partial to it, as alas! they are to many choice things, and they find them whether the plant is labelled or not. Unfortunately, they destroy the oncoming shoots, and it is this that weakens the plant.—E. J.

Jasminum primulinum.—That Western China affords a happy hunting ground for the plant collector, Messrs. Veitch's introductions through Mr. E. H. Wilson continue to show. One of the most recent is this Jasmine, which surprised nearly everyone at the Royal Horticultural Society's meeting on March 10, the general opinion being that a thoroughly good garden plant had made its appearance. Few if any were inclined to question the claim of this Jasmine to the first-class certificate which was then awarded it. The nearest relative is the charming *Jasminum nudiflorum*, for which we are indebted to the late Robert Fortune, who was the means of introducing so many valuable flowering shrubs. From *J. nudiflorum*, however, the new comer differs in many well-marked features. Firstly it flowers in spring, and not in winter as *J. nudiflorum* does; next, it is almost if not quite an evergreen; and, thirdly, the flowers greatly exceed in size those of the older kind, being fully $1\frac{1}{2}$ inches across. The colour is clear bright yellow, with a slight orange pencilling just at the throat. Some of the flowers show a tendency to become semi-double. Though this Jasmine was quite new to horticulturists it would appear to have been known to botanists for some years, having been figured and described as long ago as 1895. At all events, it is a decided acquisition, and one that all lovers of shrubs will be anxious to add to their collection. It is said to have withstood 16° of frost at Coombe Wood, and to flower twice in the year, first in spring, and less freely in autumn.—T.

Calliandra Tweedeii.—Introduced from Brazil in 1840 this is quite an old plant in gardens, but one that is at the present time rarely seen. It is, however, just now in flower, and in this stage it is I venture to think one of the most attractive features of the stove or intermediate house, for it will succeed in this last named structure. This *Calliandra* belongs to the order Leguminosae, and forms a freely branched bush, clothed with Mimosa-like tender green foliage. The flowers, which are in rounded clusters, owe their attractiveness to the numerous long stamens, which form a brush-like mass of a brilliant crimson. In this respect they greatly resemble the different Australian Bottle Brushes, which, however, all belong to the Myrtle family. To flower this *Calliandra* successfully it needs full exposure to the sun, at least during the latter half of the summer, as a thorough ripening of the wood is necessary to ensure a flower display in the following spring.—T.

Tecoma Smithi.—We are so accustomed to see this *Tecoma* in flower during autumn and early winter that a specimen in full flower just now in the Temperate house at Kew at once arrests attention. The flowers are, I think, somewhat brighter in colour than those which open in the dull season, caused in all probability by the

days being longer and the amount of sunshine greater at this time of the year. It is such a showy and distinct plant that its flowers are welcome at any period.—H. P.

Arabis albida flore-pleno.—I find many persons who take an interest in their gardens are unacquainted with this valuable spring-flowering plant. It is one of the very best introductions in the way of hardy plants in recent years. Its grows freely, forms dense, compact clumps, and heaps up upon them in the happiest plenteousness double white blossoms. That it will soon become as plentiful as the common single white Rock Cress there can be no doubt, and will in time supersede it in gardens. My old friend Mr. Samuel Barlow had in his garden at Stakehill House, near Manchester, a brick wall with openings in it, and in these were planted *Aubrietias*, Evergreen Candytuft, and the single Rock Cress, and all in growing took an oval shield-like form and covered a somewhat large space of wall. In spring and summer they produced their flowers, and subsequently formed dense masses of green foliage. Mr. Barlow used to refer to them as his floral tortoises, for they had the shape of a tortoise, and a decorative value of their own.—R. D.

A garden at Bethnal Green—an appeal.—I venture to appeal on behalf of a garden which at present exists in little more than hope. It is attached to St. Margaret's House Ladies' Settlement, which has been working to the extent of its ability for the good of its neighbours in Bethnal Green for the past ten years. It has this year moved into permanent quarters, to be opened on May 5 by H.R.H. Princess Henry of Battenberg, and when all the building is completed there will remain a strip of ground which the ladies are anxious to turn into a garden if they can obtain the necessary help. Those who know the East End hardly need to be told what an immense refreshment any little piece of garden is among the crowded squalid streets to workers in their midst. Will you help us to make the most of the opportunity we have in our little space by kind contributions towards the up-keep of the garden? We want an income of about £6 a year, and to start with we want about £5 for setting up the garden and laying out the beds. Annual subscriptions and donations and gifts of plants suitable for London will be most gratefully received by Miss Talbot, St. Margaret's House, Bethnal Green, E. Trusting in the generosity of your readers to help us.—EVELYN TALBOT.

Borecole Sutton's Arctic Curled.—The Kales at this season are valuable, some more so than others. Those that are late are the most useful, as they give a supply of delicate heads just before the Spring Cabbage. One of the best Borecoles I have grown is the Sutton Arctic Curled, and it is also one of the last to show its flower or seed heads, and being of very dwarf growth it is very suitable for small gardens and where late green vegetables are required. It is handsome, the leaves beautifully curled, the growth very dwarf and compact, and it is the hardest Kale I have grown. The leaf growth, though much curled, is a little longer than that of the ordinary Borecole, and the plant should have ample space on that account. Its quality is also very good when cooked. The flavour is mild. It produces a great quantity of sprouts after the first cutting, and has stood the most severe winter we experienced a few years ago with little injury, thus giving it a perfect right to its name. Sown in April or early in May and planted in an open spot it will give a good return next spring, and furnish supplies when other Kales are over.—G. WYTHES.

Temple flower show, May 26, 27, and 28.—For the sixteenth year in succession the Royal Horticultural Society will hold their great annual flower show in the Inner Temple Gardens (by the kind permission of the treasurer and benchers) on May 26, 27, and 28. Every year the desire of growers to exhibit increases, and the officials of the society have an anxious task in endeavouring to do justice to those growers who regularly support the fortnightly shows of the society held at the Drill Hall,

Buckingham Gate, and yet at the same time to encourage others also to come forward. The space is absolutely limited by order of the Temple authorities, no more or larger tents may be erected, hence every new exhibitor whose entry is accepted means curtailment of the space allotted to previous supporters. The society will issue an official catalogue, comprising a history of the Royal Horticultural Society, particulars of the meetings and exhibitions held at the Drill Hall, of the great summer flower show at Holland House, Kensington, on June 25 and 26, and of the fruit and vegetable show to be held at Chiswick on September 29 and 30 and October 1, also schedule of exhibits with the names and addresses of all the Temple exhibitors entered up to Monday, May 18. There will also be the programme of the music to be performed each day by the band of His Majesty's Royal Horse Guards (Blues). The judges will meet at the secretary's tent at 10.30 a.m. on May 26, at which hour punctually the tents will be cleared of all exhibitors and their assistants. The fruit, floral, and Orchid committees will assemble at the secretary's tent at 11 a.m. sharp, and the show will be opened at 12.30. All plants for certificate must be entered on or before Thursday, May 21. Address: Secretary, Royal Horticultural Society, 117, Victoria Street, London, S.W. A notice on a postcard will be sent to each exhibitor on Tuesday, May 19, stating the number of square feet allotted to him, and the number of the tent (or tents) in which the exhibits are to be placed. No plants can under any circumstances be entered on the day of the show.

The Home Counties Nature-Study Exhibition.—The association which held the very successful nature-study exhibition last year was organised for that purpose alone, and has been dissolved. It suggested, however, in its official report, that the movement with which it was so prominently identified could, for the present, be best advanced by local organisations, the activity of which it had already noted with satisfaction. In order, therefore, that the work may be continued in the south-eastern counties of England, which are more or less in touch with the metropolis, and as an outcome of the efforts of delegated members of the Middlesex Field Club and Nature-Study Society and the Selborne Society, a home counties nature-study exhibition is being organised in London on definite lines, and will be held this year, it is hoped, in the gardens of the Royal Botanic Society, at a time convenient to teachers. Lord Avebury, F.R.S., is chairman of the committee, and the list of patrons already includes the Countess of Bective, Lady Frederick Cavendish, the Marquess of Ripon, the Earl of Aberdeen, the Earl of Stamford, the Bishop of Hereford, Lord Herries, the Right Hon. R. W. Hanbury, M.P., the Right Hon. Henry Hobhouse, M.P., Sir George Kekewich, Sir Joshua Fitch, Sir Philip Magnus, and the officers of the recent nature-study exhibition (Sir John Cockburn, Mr. C. S. Roundell, and Mr. J. C. Medd). Upon the committee will be found such well-known naturalists, educationalists, and public people as the Right Hon. James Bryce, M.P., the Right Hon. Jesse Collings, M.P., the Hon. Walter Rothschild, M.P., Sir John Inutton, Mr. G. Herbert Morrell, M.P., Mrs. Brightwen, Mrs. Franklin, Mrs. Owen Visger, Professor Henslow, Professor Boulger, Mr. A. D. Hall, Mr. Richard Kearton, Mr. C. J. Cornish, Mr. M. E. Sadler, Mr. Harold Wager, Mr. A. J. Shephard, Dr. Kimmins, and Mr. H. Macan. After carefully considering the results and reports of last year's exhibition, the committee has drawn up a scheme with schedules, which may be obtained from the honorary secretary, Mr. Wilfred Mark Webb, 20, Hanover Square, W., who will gratefully receive all offers of help in the form of prizes, donations, subscriptions, and suggestions as to exhibits. It is to be hoped that this effort to localise and promote the nature-study movement will meet with the ready sympathy and support of all interested in a branch of education so full of promise. [The above letter has been sent to us and signed by Mary Gurney, Frederick Oldman, R. Hedger Wallace, Wilfred Mark Webb, and J. Martin White.—Ed.]

Agapanthus umbellatus in the open.

—This handsome native of the Cape of Good Hope, sometimes called the Cape Lily, is a most valuable addition to our gardens, for when grown in large pots, tubs, or vases in some quantity, and placed at intervals along terraces, broad walks, or in front of stately mansions, it creates a charming effect in the late summer, when the great blue flower umbels, borne on tall stems, tower above the drooping, strap-shaped foliage. For conservatory decoration the *Agapanthus* is also useful, but it succeeds so well in the open during the summer over the whole of England that it seems rather a waste to flower it under glass. Although it cannot be recommended as an open air plant in cold localities, there are many favoured spots in the British Isles where it is perfectly at home and where it becomes permanently established in the garden. The accompanying illustration represents a plant growing on a steep grassy bank at Kingswear, South Devon, only about 15 yards in a horizontal line from the salt water at the mouth of the River Dart, though some 50 feet above it. There are three other plants on the same bank, each clump having a diameter of about 4 feet 6 inches. The plants are absolutely sheltered from north and east winds, and open to the south and west. The soil in which they are growing is very light and overlies rock, and in summer the ground is often dust dry for weeks together. The original plants were put out about twenty years ago, since when they have not been touched. They flower finely in August, and their foliage is rarely harmed by winter frosts, which are never severe in the spot in which they are growing. The tips of the leaves are sometimes browned for a few inches, but this is generally the extent of the damage. On the same bank is growing a white *Agapanthus*. This is not a variety of *A. umbellatus*, for it is deciduous, its leaves turning yellow in the autumn and withering, and the new leaves starting early in March. It flowers a month earlier than the others, its flower-stems are taller, and the individual flowers more sparsely disposed in the umbel. The foliage is also less than half the width of that of the blue-flowered plants. There must be a white-flowered variety of *A. umbellatus*, that, like the type, is evergreen, as correspondents have written of it, and it is mentioned in horticultural dictionaries which ignore the existence of a deciduous white-flowered species. I have never seen a white-flowered *Agapanthus* at the Cape, though I have come across forms with flowers very pale in colour. It requires a severe frost to kill the *Agapanthus*.

Some years ago I grew—in heavy soil in a damp and cold garden in Devonshire, where 20° of frost was registered nearly every winter—two plants in the open. The foliage of these was entirely destroyed every winter, but grew strongly again in the summer, though no flowers were produced. In a garden only about three miles south of Dartmoor, *Agapanthus umbellatus* was planted round the edge of a circular basin of masonry always full of water. The first winter 19° of frost was registered and the foliage was badly damaged, but the plants all flowered the succeeding summer. Now they have been lifted and replanted in a group of ten on a gently sloping grass bank, where in time they should afford a beautiful picture.—S. W. FITZHERBERT.

Rhododendron Beauty of Tremough.—This *Rhododendron*, recently in flower at Kew, is the finest of all the hybrids of *R. griffithianum*, or *Aucklandi*, as it is more generally called. It was raised in the gardens of Mr. H. Shilson, at Tremough, near Falmouth, and was given a first-class certificate by the delegates of the Royal Horticultural Society at the Truro show on April 15 of last year, as mentioned at that time in *THE GARDEN*. Described as the result of crossing *R. griffithianum* with *R.*

Thomsoni, the newcomer has more of the characteristics of the seed-bearing parent, namely, the handsome leafage, disposed like a huge collar around the truss of bloom, and the large size of the individual flowers. They are of a delightful tone of colour, difficult to describe, a kind of pink, varying from almost white to a fairly deep hue. The specimen at Kew was flowering in the Temperate house, but if developed out of doors, as in Cornwall, it is probable that the colour would be a little deeper. It is hardy in the West, but most probably will need protection in the greater portion of the British Isles. This magnificent *Rhododendron* is not yet in commerce; indeed, it is probable we shall have to wait many years for it. Meanwhile we must console ourselves with the variety *Pink Pearl*, which appears to be of *griffithianum* origin, though nothing has been definitely stated as to its raising. Among other varieties of *Rhododendrons* raised at Tremough is *Shilsoni*, between *R. barbatum* and *R. Thomsoni*. Of this there is a large plant in the Temperate house at Kew, which has been many times referred to.—T.

Cabbages clubbed.—Having need for 200 strong Cabbage plants a few days ago I

joining in making certificate awards to novelties. The objection I have raised in connexion with the National Dahlia Society is not to traders acting as judges, and they are so only of the amateurs' exhibits, but to their acting, and by far the majority, in making certificate awards, as nine-tenths of the novelties come from the trade. What wonder is it if in connexion with *Cactus Dahlias*, for instance, we see awards of certificates made annually so liberally that these awards have become manifest absurdities! Not a few of these thus honoured—whilst the first year they get into commerce at high prices—are so worthless as to afterwards disappear altogether. It is in relation to this matter that a change to better methods is needful. We grant certificates to seedlings far too early. No awards should be made till they have endured the ordeal of a second year's growth.—A. D.

Poison Ivy (*Rhus Toxicodendron*) in New Jersey.—I was glad to see the warning against the *Poison Ivy* (*Rhus Toxicodendron*) in your issue of March 14. I have been surprised upon several occasions to see references to its use as an ornamental climber in English gardening



AGAPANTHUS UMBELLATUS IN THE OPEN GARDEN.

obtained two varieties, *Covent Garden* and *First and Best*, from a market gardener. Because the winter had been so open and the ground in which they were grown so liberally manured the plants were unduly strong, but I could not help noting that nearly every plant had been attacked more or less by the club maggot, yet growth was not in the least affected. That the heavily manured ground in which the plants grew was full of maggot larvae there could be no doubt, and it was evident a heavy dressing of gas lime was needed rather than of manure. I should, in the proper order of things, have pared off from the stems all these club warts or excrescences. I did not do so, however, but as the soil may not be required to grow Cabbages again for years, I planted them just as they came to hand, as I wish to see whether the change of soil and transplanting will not enable the plants to outgrow the effects of the club, as also to see whether various manure applications may or may not adversely affect it.—A. D.

Judges at shows and floral awards.—It is, indeed, odd to find that whilst members of the Sweet Pea Society object to traders or their representatives acting as judges at their exhibitions, yet they do not mind them

periodicals, coupled with commendation of its beautiful autumn colouring. It is beautiful in autumn, but no more brilliant than the innocent Virginia creeper (*Ampelopsis quinquefolia*) with which it is often confused by the unbotanical, and its dangerous character should banish it from any garden. In this part of New Jersey, and through much of Long Island, it is a veritable curse, over-running hedge rows, stone walls, and waste places of partly shaded character. We have both the climbing and the upright growing form known as *radicans*, and their extirpation is a difficult, often dangerous, and expensive matter, as the plants continue to sprout up again after repeated cuttings. The plant must be either rooted up by main force or destroyed by applications of crude sulphuric acid, applied during the early spring growth. Many persons are immune to this poison (myself among them), but I know others who cannot even walk past the plant without suffering from it, and the effects take so many different forms that *Rhus* poison may completely puzzle a capable practitioner. Cases have occurred where the characteristic skin eruption was absent, while grave internal symptoms occurred; in others acute eruption is followed by general debility, and the eruption reappears several succeeding summers,

without further apparent exposure to the plant. One winter a number of persons near here were affected with a serious inflammation of the eyes, which puzzled medical attendants, until it was discovered that the patients were burning wood from old trees covered with Poison Ivy. Sometimes persons who have not actually touched the plant are poisoned by contact with clothing that has brushed against it. The accepted remedy for Rhus poisoning is an alcoholic solution of sugar of lead. Pure olive oil in some cases seems more effective, and if this is rubbed on the hands or face when working where exposed to the poison it seems to secure immunity in cases otherwise susceptible. As one's immunity against this poison seems variable, it is unwise to take any risks. Personally I have been poisoned by *Primula obconica*, and suffered no ill effects from this Rhus, but I always avoid it. *Rhus vernicifera*, on the other hand, has poisoned me severely. With *Vitis Coignetiae* (which disappoints us here) and *Ampelopsis*, to give you autumn colour, I think the ill-omened *Rhus Toxicodendron* may be omitted from English gardens, whether introduced in his own proper person or under an *alias*.—EMILY TAPLIN ROYLE, *Maywood, New Jersey*.

***Disanthus cercidifolia*.**—Hardy shrubs with autumn tints are always appreciated, and as at present we have by no means too many of them, any additions are heartily welcome. In this respect I doubt if there is anything to equal or even compare with this new and rare plant, lately introduced from Japan. To the Japanese we owe a deep debt of gratitude for the rich collection of hardy trees and shrubs which has done so much to embellish and beautify our gardens. In several respects *Disanthus cercidifolia* closely resembles *Cercidiphyllum japonicum*, another choice and beautiful shrub. It is apparently perfectly hardy, and succeeds well here in a cold clay soil and exposed position. Among a very large collection of trees and shrubs, many of which are grown for their autumnal tints, this last autumn was the best of all. Another great point in its favour is that it retains its beautiful colouring for a much longer period than many other shrubs.—A. E. THATCHER, *Elstree*.

Polyanthuses and Forget-me-nots.—I have very pleasant recollections of a visit once paid in the early part of May to Rangoon, Lord Burton's princely seat near Burton-on-Trent, and among other features which particularly took my attention was a little dell, the banks of which were clothed with Polyanthuses and Forget-me-nots planted together. Never have I seen anything more charming than these two homely plants in association; indeed, I am not sure whether half enough attention is paid to the Primrose family for spring bedding, especially considering the fact that the leading seedsmen now offer fine strains of Polyanthuses, and a beautiful display of flowers may be obtained for the outlay of a packet of seeds. Besides this, there is a lottery about Polyanthus culture that is peculiarly fascinating. The variety is so great and one never knows what to expect, but when flowers of fine form and exquisite colour appear you feel that the Polyanthus, commonplace though it may be, is a plant of unusual interest.—C. H. H.

Seed sowing—patience rewarded. Thinking that some of your readers might be interested in the subject of raising "difficult" hardy perennials, I venture to send you a list of the seeds which a walk round my garden has revealed to have germinated more or less plentifully and strongly after being in the ground for a period of from six to eleven months, having been sown at intervals from April to July last year. I might say in passing that my soil is a good friable sandy loam, suitable for the purpose of seed raising, without any preparation, except careful digging, but I take it that any soil may be made suitable with a little trouble, the space required being only a matter of a few square yards at most. I sow in rather deep drills from half an inch to one inch in depth, or deeper for very large seeds, so that the seeds should not be exposed to drought or disturbed by weeding. I keep down weeds by pulling the tiny ones and cutting off the larger

with a knife just below the crown. A great point is to keep the surface moist by a daily watering with a rose pot in dry weather. This seems to constitute all the culture necessary. It is very likely that your readers will see here the names of some plants that they have failed to raise, and this note may explain their failure and induce them to try again. *Baptisia leucantha*, *B. tinctoria*, *Gillenia stipulacea*, *G. trifoliata*, *Meconopsis cambrica*, *M. cambrica* (orange variety), *Silene Pumilio*, *Delphinium bicolor*, *D. scopulorum*, *D. Zalil* (sulphureum), *Lilium Martagon album*, *Corydalis nobilis*, *Cimicifuga cordifolia*, *C. dahurica*, *C. foetida*, *Clematis recta*, *Ranunculus amplexicaulis*, *Asperula odorata*, *Adonis pyrenaica*, *A. vernalis*, *Saponaria cespitosa*, *Anemone albana*, *Aconitum uncinatum*, *Hellebores*, *Iris tolmieana*, *Camassia Cusickii*, *Pentstemon coruleus*, *Frasera speciosa*, and *Ribes cereum*.—J. M.

***Eranthemum graciliflorum*.**—A new (to me) species of *Eranthemum* now flowering in the T range at Kew should prove a valuable member of the genus. Like most of the others it forms an upright-growing, sparsely branched plant, while the flowers, which are borne in terminal heads, are of a pleasing shade of lilac, the upper petal being freckled with a lighter tint. The conical head is elongated in shape, and from it a succession of bloom is kept up for some time. According to the "Kew Hand List" it is a native of Penang, so that it will require the temperature of a stove.—T.

***Lilium auratum*.**—A little time ago a friend showed me what I took to be two blooms of the above-named Lily on the same stem, but on close inspection one had a bloom and the other a creamy-white leaf, with the exception of a narrow thread or edge of green, which at a distance looked like two blooms on the one stem. I wish some reader of THE GARDEN would inform me if this is a freak, or is it a common occurrence on plants of this Lily. I never saw one before.—ANNIE H. TYRRELL.

***Arabis Billardieri* var. *rosea*.**—Though evidently closely allied to the well-known white Rock Cress (*A. albidula*), this pretty and attractive plant is distinct enough for the garden, and is a welcome acquisition, with its rose coloured flowers, neat compact habit, and almost tomentose foliage. It is a native of the rocky shady places on mountains in Lycia, and is also found in Syria, near Damascus; it is easily grown and propagated, and should soon become a popular plant.—W. IRVING.

***Saxifraga Grisebachii*.**—Probably no new species of *Saxifraga* has ever enjoyed so much popularity in so short a time as this species from Macedonia. This popularity is well merited. No species of this great genus is more distinctly separated from its fellows than this. I have already noted it, and my only reason for again referring to it is on account of the specific name. This has already been spelt in two or three distinct ways, and it is unfortunate the name was wrongly spelt (though corrected in pencil later) when the plant was shown for certificate a short time since. I believe the correct rendering of the name is at the head of this note, and not as given in the text accompanying the charming group at page 180 of THE GARDEN. It is unfortunate to start a new plant on its way with a wrong name or a misspelt one, and if the hardy plant dealers will take note it will be easy to set the matter right.—E. JENKINS.

***Hippeastrum pardinum*.**—Compared with the giant hybrids of to-day this *Hippeastrum* would not rank high, yet at least, from my point of view, it is very beautiful, and especially interesting as being one of the original species, now almost ousted by the garden hybrids. The flowers, of which two or three are borne together on a scape about 18 inches high, are quite shallow and fairly large. They are usually of a bright cream colour, with just a slight tinge of green, and profusely dotted with crimson. Like most of its allies, there is a certain amount of individual variation in this *Hippeastrum*, the flowers of some being larger and broader in the petals than others, while the spotting also varies considerably. A very fine form recently noted at Kew, under the

name of *Hippeastrum pardinum superbum*, had flowers of large size, and in addition they were so closely freckled with red that little of the creamy tint was to be seen. *Hippeastrum pardinum* was introduced by the late Richard Pearce, of tuberous *Begonia* fame, while travelling in Peru as collector for Messrs. Veitch. It first flowered with the Chelsea firm in 1867, and when exhibited at a meeting of the Royal Horticultural Society on March 30 of that year it aroused a good deal of enthusiasm, and a first-class certificate was awarded it. In the catalogue of new plants for that year issued by Messrs. Veitch it is, I see, quoted at two and three guineas each. In its early days it was often grown under the generic name of *Amaryllis*.—H. P.

***Narcissus Nelson*.**—This is a bright little yellow Trumpet Daffodil, selected by Mr. James Allen as a good border variety on account of its sturdy, comparatively dwarf habit, and the freedom with which it flowers. In this flower Mr. Allen has shown his wanted discrimination, and it may well be considered one worthy of knowing for use in the flower border, where free-flowering *Narcissi* of good habit and colour are often of the highest value. It must not be confounded with the *Nelsoni* varieties, being a true *Ajax*, with an open, full-sized trumpet and widely-expanded perianth segments, something after the form of *N. obvallaris*.—S. ARNOTT.

Natural grafting.—A reference to the art of grafting, which appeared in a recent issue of THE GARDEN, reminded me that in all probability the first grafter was not a man at all, but Dame Nature herself. Evidence of this is given in the examples of natural grafting that one meets with now and then. In a cottage garden which I visited not long ago I observed an instance of grafting without knife, wax, or human skill. The leading central branch from an overgrown espalier Apple tree by the side of the garden path came into contact with an overhanging limb of a Pear tree growing not far away. For a long time the two branches rubbed and embraced each other, but neither would get out of the way, so they evidently came to terms and united. The result is that for some years now the Apple branch has been established on the Pear limb, though it is interesting to observe that above the point of union the Apple has never borne anything, though pecks of fruit have been gathered from the tree below.—H.

NOTES ON HARDY PLANTS

LARGE-LEAVED SAXIFRAGES.

IT would be well if a collection of the large-leaved *Saxifragas*—which we have hitherto known as *Megaseas*, but which Mr. George Nicholson in his "Dictionary of Gardening" puts under the head of *Saxifraga*—could be formed at Chiswick, as I fear there is some confusion as to the correct nomenclature of the various forms. There are many purposes of this kind to which Chiswick can be put with advantage if the time-honoured garden is not to be abandoned at the end of the year as is rumoured.

S. ligulata is well known; as far as I know the earliest of all the group to bloom. In a cold house it can be had in fine bloom in February and as early in the open ground, but the plants have to run so many risks from frost and winter storm. It is a plant that will grow and flower almost anywhere, but when properly cultivated, as there is reason to fear it seldom is, then it is conspicuous for its vernal beauty. During March a couple of large specimens in pots standing on the pillars of the stone steps leading to my dwelling at Ealing were the admiration of passers-by, who wondered to see such clusters of bright pink blossoms in the open air so early in the year. This is a plant not, I think, sufficiently appreciated.

I have a rather deeper-coloured variety of *S. ligulata*, but not differing greatly from the type. I find that in some catalogues *S. Stracheyi* is made to be a variety of *S. ligulata*, but I think that is a mistake. It seems to be quite distinct from it,



THALICTRUM ANEMONOIDES IN THE ALPINE HOUSE AT KEW.

and I follow Mr. Nicholson in making it a species; its white blossoms flushed with pink, which seem to become more white than pink with age, are early; it is a free-flowering and attractive form, and, like *S. ligulata*, a plant of easy culture, but responding generously to good cultivation. *S. cordifolia*, or what I have as such, has pale flowers tinted with pink, and when well grown makes a fine border plant. It is the only one of those I am acquainted with that I do not grow in pots. But what is the correct name of that glorious form now blooming, a vigorous grower throwing up its deep green, heart-shaped leaves on stout stems, and its bunched trusses of rosy pink blooms on red stems, as ruddy as a well-coloured stick of Rhubarb? I got this under the name of *purpurea* major, and it is, perhaps, a glorified form of *S. cordifolia*. It is a magnificent border plant at this season of the year.

I have one other, the correct name of which I should like to have, but there appears to be a touch of tenderness about it. It is flowering now and throws up numerous flower-stems surmounted with small clusters of pinkish blossoms. It produces in summer very large, soft hairy leaves of a bold character, but I cannot get it to grow freely in the open air until May. There is a softness about it which causes it to differ from the others I have named. I got it some years ago from the late Mr. William Ingram when at Belvoir under the name of *S. tracheloides*. Is it a form of *S. ciliata*?

I find these larger-leaved Saxifrages, with the exception of the last-named, will do pretty well under the drip of trees, but to do them full justice they should be planted in the open in good holding soil; then they can assert and justify their claim to be included among the very best subjects for the hardy border.

R. DEAN.

THALICTRUM ANEMONOIDES.

This is a low-growing tuberous perennial, usually only a few inches high, producing numerous large white flowers sometimes tinged with pink and over an inch in diameter. The accompanying illustration, which was reproduced from a photograph taken in the alpine house at Kew, shows its adaptability as a pot plant. It is best suited for the rock garden in partial shade where the soil is moist and deep, and is also known as *Anemone thalictroides*, under which name it is figured in the *Botanical Magazine*, while in Gray's synoptical

"Flora of North America" it is given generic rank under the name of *Anemone thalictroides*.

W. IRVING.

GRASS, GROUND, OR GRAVEL.

"Where a green, grassy turf is all I crave."
"A tuft of dull, down-trodden grass,
Brings summer to my heart."

WHEN people first take possession of the new suburban garden, be it ever so small or empty, three things are sure to be found in it; even the builder bestows as much as that upon them, though it may not be much to boast of either in quantity or quality. The three things are grass, ground, and gravel; grass for the tiny lawn, ground for the flower-beds, and gravel for the paths. Now how are these to be apportioned? Some people crave for nothing but flowers and vegetables, so they are keenest about soil and ground; others desire to have a dry place always to walk about or sit in, cheap to keep up, and handy for their dog kennels and other fancies. They are the gravelites. Another set of folk are only to be made happy by grass, and I am of the number.

One of the most extraordinary things in the world is that so many garden lovers who are kind enough to give advice about suburban plots seldom have a good word for grass. I always think it must be because they have never had to do without it themselves. The love of green turf is, I think, one of the most deeply-rooted feelings of human nature; maybe it is a heritage from the days when pasture land meant more to us than it does now, and the coming or withholding of the green blade spelled life or death. "The King himself is served by the field."

The restful charm of the grassy garden appeals to me so much, that with a tree or two, the simplest of flowers, and a Rose bush here and there I could content myself with nothing else, so I (for once) cannot see eye to eye with Mrs. Earle when she says, "I am all for reducing lawns and turf, except for paths in small gardens," and elsewhere we are advised to have red gravel or a bricked or tiled square

to sit on while we admire a wide border of flowers all round the edge. I should not like such a garden as this at all, and could never feel at home in it. Fancy no kindly turf to throw one's self down upon in the noonday heat, with a book in hand and a tree overhead, or if not a tree a parasol. If we had no lawn to be cut and trimmed, where would be the sounds that most do "rouse the brood of care, the sigh of scythe in morning dew," or the less poetical but still soothing monotone of the mowing machine? And what a loss never to smell the fresh scent of the new cut blades of grass as they are collected in box or barrow and used to mulch the wilting flowers; nor to note the deliciously neat appearance of the well-rolled, carefully-swept grass plot looking so much like a good child that has just been washed and dressed and repays so fully for the sweet trouble it has given.

A writer on the subject of very diminutive gardens has described one that belonged to a small suburban villa. It captivated my fancy. Narrow was this tiny plot and very old, but it was grassed all over, and at one end a child's swing had been left standing which was covered with a thick growth of Ivy. How quaint and cool and pleasant on a summer's day, and what a setting for a touch of white and scarlet! Any flower would look its best in such a garden.

Not long ago a contributor to *Country Life* wrote an article on English and Continental suburban gardens that interested me very much, but I am sorry to say there was no mention whatever in it of turf. Certainly there was not much room for grass in the plots that were described, and in some of them the gradients were too steep for grass growing. The garden I liked best out of those mentioned was a mere strip about 30 yards long by about 10 yards or 11 yards wide. In this small space (little more than a courtyard) was a border, with vines and fruit trees and flowers, a broad brick path, and then a pleached alley of small Lime trees, the outer row close against the boundary wall. This is another of the small gardens I have read of that live in my memory and are a pleasure to think of.

Under the circumstances it is difficult to see how its arrangement could have been improved upon. I am sure the owners, being people of taste, would have had turf also if possible, and I am still wondering what was done *under* the Lime avenue. The trees must have been sweet when in flower, but, alas! Lime foliage falters and falls down with the first touch of frost, and then what a litter it makes; but no trees are more delightful in summer, the wind stirs so gently in the boughs, with eloquent soft speech of leaves.

It is now a good many years since it fell to my lot to plan and lay out a new suburban garden, fortunately not one of the smallest, and happily placed, inasmuch as the ground ran down to a railway cutting, at that period almost sylvan in its wildness, with scattered Birch and Fir trees and banks of Primroses. How many of its inhabitants have been grateful since for the good broad stretch of turf that then was carefully put down, and has gone on improving and mellowing with time and age. Blackbirds and thrushes have hopped about all over it, finding many a meal

and so have round-eyed robins, though not at the same moment; croquet and tennis have been played upon it, first croquet, then tennis, then croquet again in the cycle of the mode, dainty teacups, cheerful chink has softly sounded over it, and oft has it been dinted by childish feet. In the morning it has been dim with early dew, at noon a carpet all alive with shadows flung from leaves, and in the evening warm and smooth and barred by sunshine. The lawn has been as good as a sundial for telling the hours; the trees are the pointers, here a Willow and there an Oak, and the dial-plate is the grass itself. Whether in shade or sunshine the lawn is always soft to the foot and pleasant to the eye.

In this garden grass was made the keynote. Turf is the favourite bordering for the shrubbery; a good wide border, that makes a handsome edge, and is pretty for flowers to tumble over; grass again where there is room for another little lawn that can be given up to flower-beds.

How much is said now about the dreadful practice of cutting up a lawn to stick flower-beds in it, "shrieking spots of colour set down here and there with little thought." An authority I revere says: "A lawn is a place for grass; to spot bright beds all over it is to ruin it." I quite admit that to "spot," if there is only room for one lawn, is gross vandalism, but I am quite as firmly convinced that no garden is complete without some flower-beds set in turf. What else shows the colours to so much advantage? Flower-beds in gravel, with a stiff edging of Box, do not please me at all; they are formal, and the effect is hard. Even these can be improved by a broad edging of grass to every bed. Herbaceous borders are delightful; we cannot live without them, but we do want beds, too; they are so brilliant, so useful, and so well behaved. "Bedders" are the good children of the garden; herbaceous plants the wayward. To manage them is like playing a game of croquet with Wonderland Alice's live flamingos for hoops and mallets; the plants have the same habit of taking their way, not ours, and this puts us more than ever in conceit with our little plots of green enamel, set with coloured flowers like jewels.

A grass walk, where there is room for it, is another charming feature. In dry weather, when well kept, nothing is so pleasant to walk on; but no small suburban garden can hope for this luxury; it is only to be attained in large gardens that have other walks for everyday wear and tear.

One of the gardens haunted by me as a child had a very long grass walk. There was a flower border on each side of it, and behind the borders there were trees. How we all delighted in this part of the garden ground, and how many were the friendships sworn along that silent scented pathway. It was said that every engagement in the family dated from it.

Perhaps it is going too far to praise turf because it is healthy, and poetry is no argument, but Fuller, about 1620, said that "to smell to a turf of fresh earth is wholesome to the body." Ruskin in his best prose speaks lovingly of its "soft and countless peaceful spears," and Shakespeare simply revels in grass. The Bible, too, generally the first poem a child loves and is influenced by, may be responsible for some of the fascination of the green herb. "Like rain upon the mown grass." "Thou shalt lead me in the green pastures." "He maketh the grass to grow upon the mountains." No wonder one loves and even idolises grass. F. A. B.

THE FLOWER GARDEN. GROWING ALPINES IN POTS.

EVERYONE who is in the habit of purchasing alpine knows that many of them come to hand in pots. There are good reasons why some should be cultivated in this manner. Take *Arenaria montana* for instance. It quickly makes a good spread of foliage, but if a plant that has been established two seasons is lifted very few fibrous roots will be found. It is evidently in the nature of the *Arenaria* to thrust its roots deeply into the soil; in fact, it will only live happily for any length of time where the soil is very free, rather deep, and where the water runs away quickly. In its native land it grows where the soil is stony, and many things that grow under such circumstances thrust their roots deeply into the ground in order to get firm hold and to secure the plants against extreme drought.

Plants that make so few fibrous roots are apt to suffer in transplanting, and for this reason it is a good plan to grow them in pots, as the roots being unable to extend, fill the soil allotted to them with the fibres that are ready to work into fresh ground when put into their permanent positions. One can also understand that in the case of tender rooted things such as *Androsaces*, and which under the most favourable circumstances are rather difficult to establish, it is better to avoid root disturbance as much as possible. One may safely say, however, that a small percentage only of alpine require this treatment, and I am certain that many trade growers give themselves useless trouble. Everyone knows that it costs more to grow a plant in a pot than in the open ground; and not only is this the case, but the more root run that plants get in congenial soil induces a more vigorous growth.

In a general way growing this class of plant in pots is not calculated to benefit either the trade grower or purchaser. Everyone knows that pot culture involves a considerable amount of labour, especially in a hot dry summer, when plants in small pots have to be watered several times daily if they are to be kept in a healthy growing condition. Even with the best attention, a plant grown in a pot will not make the same amount of growth as when the roots can ramble at will. I venture to assert that any alpine will make double the growth when set out in good soil than when the roots are restricted. I may be told that it is because the natural soil does not suit that it is found necessary to grow so many of this family in pots, but surely it is just as easy to make up a bed of suitable soil for planting out as to get compost ready for potting, and it is certainly easier to plant out than to put things in pots. My natural soil is so unfavourable to this class of hardy flower that even such a comparatively robust vigorous rooting thing as *Gentiana acaulis* will not thrive in it. All the plants I bought languished for a year or two, eventually dying out. I did not know so much about the peculiarities of alpine as I do now, and could not understand how it was that in a soil in which the ordinary run of hardy things flourished this *Gentiana* should refuse even to live. When I had a few miserable remnants I thought I would try some rather heavy loam with a little mortar rubbish. I took out the natural soil 6 inches deep and filled up with loam. The alteration was greater than I could have believed. The leaves changed from a sickly yellow to deep green in the course of the season, and the following year they made a good growth.

This was done some fifteen years ago, and I still grow my *Gentians* on this bit of ground, and they continue to flourish there, and probably will do so as long as I want to grow them. Why such a thing as *Gaultheria procumbens* should ever be grown in pots is a mystery to me. In congenial soil it increases rapidly, and I have seen it in a Surrey garden covering many square yards, a perfect carpet of deep green foliage with shoots 9 inches long. I have never found any difficulty

in transplanting this *Gaultheria*; it seems to me remarkably easy to establish, all that it needs for its perfect health and rapid increase being a free loamy soil, with sufficient organic matter to keep it from becoming too close for the underground stems to run freely in. Two years ago I bought a quantity of this *Gaultheria*, and I never wish to see a better lot of plants. They came from the open ground, each one having about half-a-dozen strong shoots. This season I got some from another firm in 3-inch pots, with two or three little shoots to each plant. They were not worth the money I paid for them, and the carriage was a serious item, as it always is when plants are sent in pots. I have had such *Saxifrages* as *apiculata*, *sancta*, *cochlearis*, &c., sent me in pots, but why they should be grown in this manner I cannot understand. I have them in a bed of good soil, and they make a very fine growth. I have been taking up nice clumpy plants of *S. apiculata* 2 inches across, the result of one season's growth from quite little bits, and they have been produced at one-twentieth of the expense involved by pot culture.

Byfleet.

J. CORNHILL.

NOTES ON AQUATICS.

WHERE *Nymphaeas* are grown in tubs and boxes it will, in most cases, be necessary to renew the soil. This should receive early attention, and everything should be in readiness for planting. Where hardy and tender *Nymphaeas* are grown in the same pond it may not be necessary to renew the soil and replant the hardy varieties; they will continue to grow in the same boxes for several seasons, but if you want specimen flowers, the best that can be procured, renew the soil, divide the stools, select a few of the strongest crowns, and transplant every spring as soon as new growth is in evidence. All hardy *Nymphaeas* that are crowded should be taken up, divided, and replanted as early as possible. *Nymphaeas* may be dug, divided, and heeled in like nursery stock, but must be kept under water.

Seed of tender *Nymphaeas* may still be sown indoors. They will germinate readily and grow freely under the now prevailing conditions. The aquatic house will require no shading, but will necessarily require free ventilation. Seeds of *Nelumbiums* may be planted. These should be filed through the hard shell at the base to allow the water to reach the kernel. In planting place the filed end of the seed uppermost and about an inch below the surface and place in water at a temperature of 65°. The seed will be up in from seven to ten days. The young plants will require potting at intervals of two or three weeks, and the plants may be grown in large pans or be planted in tubs about July 4. Seedlings, when given the right of way, will occasionally flower the first year, but they can most certainly be flowered the second year.

Tubers of all tender *Lilies* should now be started, and will make excellent plants by the middle or end of May. The night-flowering species require a higher temperature or a longer season to furnish the same standard of plant at a given time. In a temperature of 75° the night bloomers should be started two weeks ahead of the day-flowering varieties.

Where there is an absence of stock of this kind intending purchasers will obtain much better results from tubers, provided they can furnish suitable accommodation to grow the plants, than to wait until the planting season and then purchase plants. Under the most favourable conditions the plants will receive a check, and, unless the weather is most propitious, some losses will occur. Another point in favour of tubers is the saving of express charges, as tubers are small and can be forwarded to all parts of the world by mail.

There is an ever-increasing demand for cut Water Lily flowers, especially of the night-flowering species, as these are so well adapted for decorations, and the flowers are large and of exquisite beauty by artificial light. The plants should be grown by no means "skimpy." They require ample space, a depth of from 1 foot to 2 feet of water, a rich alluvial soil, such as is

found in an old pond, or, where artificial means are used, the richer the soil the better, as it must of necessity be restricted. This should be a rich, mellow loam, composted, if possible, in the autumn, and consisting of two parts good sods, top soil inclined to be heavy, and one part cow manure, kept in a soil shed or covered with boards or other covering to throw off heavy rains. This soil is adapted for growing all kinds of aquatic plants; in fact, almost all kinds of plants, with the addition of some peat or leaf-soil and sand for a few species. WM. TRICKER, in *Gardening*.

THE KITCHEN GARDEN BEAUTIFUL.

THERE is no reason why this useful and important part of the garden should not be made



ROSE ARCH IN KITCHEN GARDEN AT STRATHFIELDSAYE.

as interesting and, indeed, effective as any other. For some reason or another the vegetable garden is, as a rule, regarded as quite a third-rate part of the profession, not only so by the proprietors but also by the young men who have made up their minds to become gardeners, yet I venture to say that to become efficient in this there is no branch which requires more skill, forethought, and attention to produce high-class vegetables, so necessary and beneficial to good health all through the year than this.

The picturesque illustration of Malshanger, shown on page 102 of *THE GARDEN* for February 14, fully proves that not only can vege-

tables of the highest state of perfection be produced, which has been proved for many years, few names being better known than Mr. N. Knellers' as an exhibitor of the first rank, but a most pleasing and charming effect is also possible. It has often been said that to be successful in this department the space should be devoted entirely to vegetables, but surely this should not be so, and a good gardener should be just as proud of showing his friends the various breadths of vegetables as taking them through the houses or any other part.

A medium-sized kitchen garden, well tilled and judiciously cropped, is preferable to one too large which cannot be properly cultivated, a mistake one far too often meets with, as in such cases it is impossible to properly work the soil and keep it neat and tidy. The produce is consequently far below what it should be, and at the same time seldom seen in a condition which makes it a pleasure to walk through the different batches.

Fruit trees should be judiciously planted in these quarters; though not an advocate for ignoring them altogether, these should be kept within bounds so that the crops are not spoiled by them. Espaliers and pyramids, suitably arranged, help to break up the vegetable masses as well as affording shelter, and when in flower and fruit present a pleasing feature. The principal garden should certainly have good herbaceous borders of a fair width, according to the size of the garden, arranged on either side of the main walks, and to finish these good broad verges of turf should be laid and neatly kept; failing this, for neatness and durability, blue Staffordshire edging tiles should be used, the walks being well gravelled and kept, and the centre of the garden should have some object, such as a fountain, large basin, or sundial, placed in it. The arrangement

of the various crops should be well thought out. I know of no vegetable when well cultivated but that is a feature in itself, some, of course, being much more so than others. Take, for instance, the various Broccoli or Kales; during the winter months few things can excel them in beauty. A good strain of Parsley, well grown on narrow borders, will be sure to find plenty of admirers. Beetroot during summer and autumn is an object much to be admired. Good rows of Runner Beans when well supported are ornamental and effective, and, indeed, is it not so with most vegetables? I may be termed a faddist in this respect by many, but at the same time I am fully convinced that we all

have much more to learn in this respect than many suppose, and it is to the rising generation that I would more especially appeal to endeavour to place kitchen gardening on a higher level in this country than has hitherto been the case. By so doing we shall be able, in spite of our somewhat ungenial climate, to compete more favourably with the foreign produce, and at the same time make our kitchen gardens far more interesting in the future than they have been in the past.

Those interested in this particular work must be grateful to the editor of *THE GARDEN* for the space usually given to vegetable culture in general. E. BECKETT.

THE FERN GARDEN.

HARDY FERNS.

ANY who have collections of hardy Ferns, whether in the open or under glass, should now take in hand any needful operations in the way of repotting, replanting, dividing, or rearranging generally. After the long winter's rest the plants are in the very best condition to stand even the more drastic shifting and division with a minimum of suffering, while since so far only the old frondage is in evidence, if this be somewhat damaged in the process, the new growth is all ready to take its place within a week or two. The deciduous species, such as the Lady Ferns, Male Ferns, and Mountain Buckler Ferns, have indeed no frondage at all, nothing but dead *débris* remaining. The evergreen species, however, such as the Shield Ferns, Hart's-tongues, Blechnums, and common Polypody, will have retained their fronds in a more or less green and healthy condition according to the protection they may have had from the battering conditions of winter, or, what is even more damaging to them, the pernicious fogs which prevail near our large cities and act as poison to them.

In dealing with this latter class it is important to remember that whatever is left in a green condition should be retained, only the quite brown and dead portions being removed, since there is no doubt that not only does the green residue contribute to aid root action, but, as it eventually perishes, anything useful to the plant is gradually absorbed and utilised. That this is so is proved by the fact that if we cut off a green frond and dry it, it retains its more or less substantial form, while if left on the plant it shrivels into a mere flimsy tissue, as in the course of nature it dies off. The same thing occurs in the autumn with deciduous Ferns; if when they commence to turn colour a frond is severed and laid by the side of the plant, it retains its fleshy character long after its unsevered fellows have shrivelled up, a clear proof that the plant is impoverished by premature removal of its frondage.

Ferns which have multiplied by offsets and thus formed clumps benefit greatly by being taken up and divided into single crowns and planted separately. By doing this, not only have the fronds a better chance of displaying their feathery charm to greater advantage, but owing to the roots not having to compete with a bunch of others for existence and nourishment, the fronds themselves grow much more vigorously, and thus the particular character of the variety is much better developed. In dividing clumps of Shield Ferns, bulbils may often be found on the fronds themselves near the base, and as some of the very finest forms have this peculiarity, such bulbils are well worth looking after. If found they should be taken off by cutting the frond-stalk about an inch below and above them. If inserted in good soil and kept close they will soon root and form pretty specimens. The recognised "proliferum" section of this family bear such bulbils in profusion in the axils of the frond divisions, and only require pegging down to develop roots, which done they can be separated and brought on in the usual way. Those Ferns

which have rambling root-stocks, like the Polypodies, naturally do not lend themselves to single-crown culture. These are best left undisturbed as much as possible, and, since they are shallow rooters, and spread as described, they lend themselves especially well to pan rather than pot culture, and in the open should have a well-drained station made for them provided with an open compost of peat or leaf-mould and sand mixed with a little loam.

To propagate these is easy enough. Every piece of the creeping rhizome or root-stock with a frond or two and a growing tip is capable of establishing itself independently if severed and planted near or on the surface. Recurring to the division of the crown-forming Ferns, to which all the larger native species belong, each crown, however closely associated or attached to others, is an independent individual with an independent root-system. As a rule, division is easy, since a little gentle force applied at the point of junction will pull them apart; but care must be taken not to squeeze the crown itself, as therein at this season the new set of fronds are packed in an incipient form, and thus could be easily damaged by rough usage. It is not generally known that every frond is in a sense an individual, and possesses its own particular bundle of roots, which develop as it rises, and may be seen at this time creeping down from the frond bases into the soil. Clearly this being so, they are handicapped considerably in their action if they have far to travel through dead and exhausted material. Many a moribund Fern has been resuscitated by a surgical operation, removing with a sharp knife an accumulated mass of dead and rotten old frond bases and roots, and thus bringing the struggling new roots of the surviving centre into favourable conditions for a fresh start.

CUAS. T. DRURY, F.L.S., V.M.H.

TREES & SHRUBS.

PICEA PUNGENS VAR. GLAUCA.

(ABIES PARRYANA GLAUCA.)

ONE of the most beautiful of our glaucous conifers is the Californian Blue Spruce, as this is often called, the colouring of a good specimen being almost a Cambridge blue, and this remains good throughout the year. The plant is of slow, but regular, growth, and, unless in a thoroughly unsuitable situation, keeps furnished to the ground. Like the majority of the Spruce Firs, it succeeds best in a deep, moist, loamy soil, but it will thrive and do well on drier ground, though the rate of growth is much slower. The colour is not affected in any way by the soil, but shade will cause the plant to assume a greener hue.

It makes a splendid small specimen for the lawn, the habit being broadly-pyramidal and symmetrical. The leaves are nearly an inch in length, and closely arranged all round the branches, having the prominent ridge at the base so characteristic of Picea. Formerly this Fir used to be grafted, but of late years it has been largely raised from seeds, about 50 per cent. of which usually come "true blue," the

remainder being green. Seedling plants are by far the best, those that are grafted rarely having a good habit, often needing a stake to keep the leader from growing sideways instead of upright.

Bagshot, Surrey.

J. CLARK.

OLEARIA GUNNII.

THIS Tasmanian shrub is one of the prettiest of the so-called Daisy bushes. Though not so hardy as its New Zealand relative, *O. Haastii*, it is by no means exceptionally tender, and I have seen good bushes in fine flower in Herefordshire. *O. stellutata* was for some years considered a distinct species, but is now only recognised in horticultural

white with countless blossoms, and although this species cannot excel *O. Haastii* in the number of its flowers, it possesses a far more graceful habit, which renders it more ornamental as a garden shrub. The genus was formerly known as *Eurybia*, but now all the species are referred to as *Olearia*. *O. macrodonta* is a handsome shrub bearing flattish clusters of small white flowers. Fine specimens may be seen in the south-west, some of these being almost 10 feet in height and as much in diameter. Even when not in flower, its Holly-like foliage renders it distinct and attractive. *O. insignis* is a small shrub bearing large flowers like white Daisies sometimes 3 inches across; the leaves are long and leathery, with white undersides. *O. nitida* bears dense corymbs of small white, yellow-centred flowers, and grows to a large size. Other species are *O. Cunninghamii*, *O. angustifolia*, *O. Traillii*, *O. Colensoi*, and *O. Traversii*. All are natives of New Zealand.

S. W. FITZHERBERT.

RAISING HOLLIES FROM SEED.

THE berries are obtained when fully ripe in early winter. They are placed in a box and pounded with a rammer sufficient to bruise the pulp of all, after which they are set away to rot the pulp. It takes some time for the pulp to rot, but has taken place by spring, when the seeds are washed free of pulp and are ready for sowing. The sowing may be outdoors or in boxes indoors, but wherever it be the seeds require a whole year to germinate. There will be no sign of seedlings until the following year. Nurserymen sow nearly all their seeds outdoors in beds 3 feet wide, which admit of tending the seedlings, weeding, &c., without treading on the beds. It is possible that were the seeds sown early indoors they might germinate quicker than when outdoors, especially if they were treated to a soaking in hot water for a day, as is now often done with locust and other hard-shelled seeds, but I have not tried this plan.

THE AERATION OF SOIL FOR TREES.

THE proper aeration of the soil has a most important bearing on the health of trees. The amount of air and its circulation in the soil are affected by the size and arrangement of the soil grains, the amount of water present, the proximity of pavements, filling, grading, and so forth. The presence of much water between the soil grains prevents the circulation of air, and there is consequent loss of nitrates, the most valuable of all soil ingredients. But apart from this important consideration, the roots themselves require a plentiful supply of oxygen in order to carry on their own life processes. Growth cannot take place without it, neither can the formation of reserve materials. These processes are especially active in roots. Where there is a deficiency of oxygen for the roots the growth is very slow and stunted, and frequently growth ceases, the roots die, the top starves, and the plant dies.

Trees are often injured in poorly drained soils during a wet period, because the water excludes the air. I refer to soils which are too wet only at certain periods. If the presence of water is constant and the tree has grown up under these conditions, it will produce many surface and water roots, thus adapting itself to a wet situation. A



THE CALIFORNIAN BLUE SPRUCE (PICEA PUNGENS GLAUCA) IN EDINBURGH.

dictionaries as a variety of *O. Gunnii*. Many nurserymen, however, catalogue the two, and that sold as *O. stellutata* appears to have larger flowers, the petals of which are a trifle more separated than in the case of *O. Gunnii*. The foliage of the two is, however, identical, and is small, dark green, and toothed, the lower side being covered with a white tomentum. This species flowers considerably earlier than *O. Haastii*, and is generally at its best in the south-west in May. Even now (April 9) its earliest flowers are beginning to expand. It succeeds best in a sunny position, and is not particular as regards soil, since it may be seen flourishing both in heavy, retentive loam, inclining to clay, and in light, shaly soil. Large specimens 6 feet or so in height make charming pictures when

prolonged wet period followed by a very dry one is liable to completely kill a tree. In some of the close textured soils, naturally deficient in aeration, trees suffer or are killed during a rainy season. Trees planted along the paved streets of cities nearly always suffer from a lack of aeration of the soil. C. B. W., in *Gardening* (Chicago.)

HORSE CHESTNUTS PROPAGATING THEMSELVES BY LAYERS.

IN the Earl of Stanhope's garden at Chevening Park, near Sevenoaks, there is a striking instance of the power of a Horse Chestnut tree to develop itself into a colony by means of natural layers. In one part of the garden there is a large clump of these trees, and it can easily be seen how they have all originated from one parent. The original tree stands in the centre of the group, and at some distant date its lower branches drooped and came into contact with the ground. At the point of contact with the soil these branches struck root and in time formed large trees, which in some cases are still connected with the parent. The branches of the trees thus formed also drooped till they touched the ground, and in turn struck root, forming more trees. This tendency towards natural layering is still marked, and it is difficult to say how far the clump of Horse Chestnuts will extend if nothing is done to stop further propagation.

G. H. H.

AN ARTIST'S NOTE-BOOK.

EUCRYPHIA PINNATIFOLIA.

ONE of our most beautiful deciduous flowering shrubs is *Eucryphia pinnatifolia*, but, unfortunately, is rather a difficult one to deal with. A native of Chili, it is only thoroughly hardy in favoured spots, but does well in many localities against a sunny wall. The leaves are pinnate, and the flowers are large and pure white, with conspicuous yellow stamens, opening about the middle or end of August. They are usually in pairs near the upper parts of the branches. The plant succeeds best in a mixture of peat and good loam, and is well worthy of a little extra care and attention in providing a suitable soil for it. Young plants are usually grown in pots, and if procured during autumn or winter they should be kept under glass until the following spring, and planted out about May in the sunniest and most sheltered spot that can be found for them. There is probably a certain time of the year when they will transplant with safety in the open, but it is a risk to attempt it, and a plant that has attained any size should not be moved. Cuttings of young, half-ripened shoots taken with a heel will root in sandy soil under glass, and probably it could be propagated by layers, but I have never yet been able to get hold of a plant large enough for the purpose.

W. DALLIMORE.

ROUND ABOUT A GARDEN.

BOTANY AND THE GARDENER.

LAST time I preached about the amazing lack of entomological knowledge among gardeners, although they spend their lives in warfare with insects; but what is more astonishing is that, although their sole business lies with plants, few of them possess a knowledge of botany. This is not their fault. As a class they are men of shrewd observation and quick to draw deductions from "observed phenomena" for future guidance. In other words,

they are just the sort of men who would be clever practical botanists if anyone had ever taught them the rudiments of the science. But botany—as it has been taught in our schools until the last year or two, when

softening his brains with either of these kinds of "botany" without learning anything of real advantage to him in his profession. Yet we have not—until very lately, when we half-heartedly began to copy the Americans—ever tried to teach any other kind of botany in our schools.

How Not To Do It.

The gardener learns by experience to classify plants by certain rules of thumb. They are either "annual," "biennial," or "perennial"; "hardy," "half-hardy," or "tender." He is cunning in the art of propagating all the kinds of plants with which he is acquainted; but he reduces them all to the procrustean formula of the flower-bed. If you take an interest in your plants it is you who have to tell the gardener, as a rule, where such-and-such unfamiliar plants are likely to thrive; that a new acquisition is an alpine plant, which requires perfect drainage and should be placed in broken ground or a slope if possible, and so on. Whereas, of course, you ought to be able to entrust your treasure to the gardener with certainty that he would know far better than you where it should be planted and how it should be cultivated.

THE MEANING OF TOOTHED LEAVES.

Every leaf-shape has its meaning; but, to take one instance,



EUCRYPHIA PINNATIFOLIA.

(Natural size. From a drawing by H. G. Moon.)

"Nature study" came into vogue—has been a terrible and a useless thing to learn. Expressed in a gibberish which can only be compared to the Chinese alphabet, it led the student in one of two directions, either to lose himself, through following "structural" botany, in the fairyland of the microscope, or by study of "classification" to become one of those pedantic bores who cannot notice a little wild flower without calling it "*Hocuspocus absquatularia*," or something like that. A lad who has the makings of a good gardener in him may spend years in

how many professional gardeners are there who could draw any conclusion as to a plant's habits from its having coarsely-toothed leaves? If I did not want to use this as an illustration I might offer a prize for the correct answer, and not receive it. Botany books do not give the answer. They tell you that toothed leaves should be called "serrate"; that if each tooth is toothed again it is "biserrate"; that if the teeth are rounded it is "crenate"; and if they are small and wavy "crenulate," and so on. Professors of botany seem to think that they have justified their existence when they have taught you to use mongrel Latin words instead of English. Yet the reason why some plants have saw-toothed leaves—like the Nettle, Dead Nettle, Coleus, Canterbury Bell, &c.—is very simple. These are all plants which send up erect flowering stems, usually in clumps; and the object of the notches in the leaves is to catch the surrounding blades of grass or the stems of neighbouring plants and push them out of the way as the leaves expand and the stem lengthens. In other words, the plant which has the "serrate" leaves of the botanist is a plant specially adapted to hold its arms akimbo in crowded places and keep all jostling neighbours at a distance. Moreover, since every kind of plant has acquired the habit of thriving best in the circumstances to which it is adapted, you should know that a plant with saw-toothed leaves will send up higher spikes of flowers the more it is crowded by neighbours. Where will you see the Nettle or the Dead Nettle reaching such a height and flowering so profusely as in ragged, unkempt corners where everything grows rank and tall? And, surely, it is something to know from the shape of a plant's leaves that it will thrive by competition and flourish in the margins of the dank half-shade which is fatal to so many flowering plants.

ROUTINE *versus* NATURE.

Competition is the secret of success in Nature, and it is the one thing which we punctiliously exclude from our gardens. Every plant is given as much room as it can possibly fill; and the hoe and the rake are active in exterminating possible competitors, so that when the plant dies down for the season or dies altogether there is a gap. The skill of the gardener is devoted to producing all the gaps simultaneously, so that your garden is suddenly transformed from a "spring" garden to a "summer" garden, and in succession to a "late summer" garden, an "autumn" garden, and a "winter" garden with as short intervals as may be. To achieve this result he has recourse to a certain number of plants, which are known to produce a profusion of bloom at fixed periods under certain treatment; and, so long as the garden looks always bright and pretty, few of us complain of the absence of hundreds of delightful flowers which might be there if it was otherwise cultivated. But to grow "all kinds" of flowers together, in such way that there shall always be masses and harmonies of colour, as well as grace of outline, demands botanical knowledge and sympathetic understanding of the rules of Nature; and it would be absurd to look for these in men whose education has chiefly consisted in wielding a hoe or spade among the Cabbages and Potatoes.

E. K. R.

Flowers at Kew.—The Royal Gardens are very beautiful at the present time. Daffodils are flowering in profusion in the grass, and both rock garden and alpine house are filled with choice plants in bloom. Many trees are also in flower in the arboretum.

CORRESPONDENCE.

(The Editor is not responsible for the opinions expressed by correspondents.)

CAMELLIA BUDS DROPPING.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—One of the causes of the dropping of Camellia buds, overlooked by "A. D." in THE GARDEN of the 28th ult., is the application of heat during flowering. The Camellia differs from other plants grown under glass in the fact that while a higher temperature after the buds are set causes the majority of indoor subjects to flower earlier, in the case of the Camellia this is exactly the reverse, as keeping them warmer results in the dropping of the buds. When they are coming into flower plenty of air and a temperature that may be as low as 40° is all that is required to ensure every bud opening properly. Heat is not only unnecessary, but is injurious, as it causes the buds to drop off. At all times of the year indoor Camellias should have plenty of air, and, until the buds begin to swell, the temperature may fall as low as 34° without injury to the plants. During the flowering period a weekly watering with a weak mixture of cow manure and soot may be given.

This, however, should not be applied if the plants are dry, a soaking with clean water being given before applying the stimulant. If, however, Camellias cannot be forced into flower after the buds are set, they can be brought on earlier by proper handling a season beforehand. After the flowers are past the plants should be kept warm and close, and be syringed night and morning to induce the young shoots to grow quickly. A slight shading will be necessary during bright sunshine. When the shoots are fully developed gradually harden the plants off until they can be fully exposed to sun and air. Treated like this good Camellia flowers can be obtained as early as September, the time of flowering depending on when the shoots can be properly developed and ripened.

Bagshot, Surrey.

J. CLARK.

GARDENING OF THE WEEK.

INDOOR GARDEN.

GARDENIAS.

PLANTS that have finished blooming should now be pruned back to one or two joints of the last season's wood. Give the plants a thorough cleansing from mealy bug and scale and prepare for repotting. Shake a good portion of the old soil from the roots and cut away any decayed or unhealthy parts. A compost of two-thirds rough peat and one-third good fibrous loam, with a little dry cow manure rubbed through a fine sieve, and an addition of charcoal and coarse silver sand, suits them very well. Gardenias do best when plunged in fibre or tan. See that the pots are well drained. When repotted plunge the plants in a bottom heat of 75° to 80° in a hot, moist house, and shade from bright sun. With this treatment strong healthy shoots will be made, which, if properly ripened, will produce fine blooms. To keep up a succession two or three sets of plants should be grown. If really good blooms are required it is not desirable to keep the plants longer than three years.

CENTRADENTIA FLORIBUNDA AND C. GRANDIFLORA.

After blooming these should be cut back rather severely and placed in an intermediate house until they begin to break again, when they may be repotted in a light compost of peat, loam, and sand. A warm pit suits these plants best, where they can be kept near the glass.

CALLICARPA PURPUREA.

Plants from which the berries have dropped or become discoloured should now be cut hard back

and placed in a warm moist house until they begin to grow freely, when the plants should be repotted in equal parts of peat and loam, with an addition of charcoal and sand. An intermediate house with plenty of moisture, and the free use of the syringe, and only a slight shade from bright sun, is all that is required. As the stronger shoots take the lead pinch off the points and train them in. When well grown this is the best berry-bearing plant we have for autumn and winter display.

STOVE AND GREENHOUSE CLIMBERS.

Where the young growths have made some progress they will require disbudding, pinching, or tying in. *Bougainvillea glabra* in particular produces an abundance of young shoots, which must be thinned severely or crowding will result. Should aphids show itself fumigate with Bloxham's patent fumigator. Abutilons when grown in this way are apt to produce a few strong shoots. These should be stopped at four or five joints. Tie in the young wood of *Stephanotis* and use the syringe freely among it with a view to cæcoliness. *Gloriosa superba* will require frequent tying in and a little thinning, and if allowed a fair amount of sun will bloom more freely.

Neatness and order should now pervade all show houses, conservatories, and winter gardens. Where the ground is to be carpeted with *Lycopersicon*, see that the proper undulations of the surface of borders are carefully worked, and that the permanent plants of Palms, Bamboos, or other ornamental subjects are properly placed before the final contour of the border is completed. Plant the *Lycopodium* thickly enough to cover the ground perfectly and thus produce a good effect at once. A slight syringing two or three times a day will greatly help to establish the *Lycopodium*.

Wendover.

J. JAKUES.

KITCHEN GARDEN.

CAPSICUMS.

THESE are not only very ornamental as pot plants when well grown, but the fruits when ripe are much esteemed for various uses in the kitchen. The plants delight in a light rich soil and strong heat during active growth in spring, afterwards placing them in cold frames. Pot on as required, and maintain humidity in the structure at all times, except when flowering and ripening. Capsicums are, unfortunately, liable to attacks of red spider, and the surest way of warding off this insect is to syringe the foliage frequently. The paths and stages of the structure in which they are grown should also be damped several times daily, and abundance of water is necessary at the roots.

BETROOT.

The main crop may now be sown if the ground is in a fit condition to work upon. The drills for the general crop may be drawn at 15 inches apart and the plants thinned to 6 inches asunder. I do not advise thinning out the plants too severely, as small or medium-sized roots are most liked for ordinary use. Deep digging is an important factor in obtaining straight and shapely roots. If extra fine roots are required for exhibition purposes, then holes must be bored with an iron bar and filled up with fine soil. The rows for these may be 18 inches apart, and the holes bored 12 inches from each other.

CELERY.

The earliest plants will be ready for transplanting in trenches, and the sooner they are put out the better. The trenches may be 4½ feet or 5 feet from centre to centre, 15 inches wide, and the same in depth. Half fill them with rich manure, and upon this place a few inches of soil. Twelve inches should be allowed from plant to plant, and when lifting from the frames care should be taken to retain a good ball of earth that no check results. When the work is finished afford a copious watering. In gardens where sufficient ground can be spared I favour the single line system of planting; in other cases the double row gives good results. If the work of pricking out the main and late batches of Celery plants is not yet completed, no time must be lost in doing this.

GENERAL WORK.

Clear off all stems of Broccoli, Sprouts, and other Winter Greens, for at this time they impoverish the soil considerably. Complete Potato planting without further delay. The clipping of Box edgings should now be proceeded with; if performed much before this date, late spring frosts often make the young shoots brown and unsightly.

Stonleigh Abbey Gardens. H. T. MARTIN.

CHRYSANTHEMUMS.

THE most forward plants should now be well established in 5-inch or 6-inch pots, and may with advantage be taken from the cold frames and arranged in a sheltered position in the open; but those which are not so forward and not well rooted should still find a place in the frame and be carefully nursed, so that when finally shifted into their

frost is probable, and in this case the plants should be kept as dry as possible. Any that become pot-bound before it is convenient to repot will derive much assistance if a little weak manure water is given occasionally.

To be successful in the culture of early flowering varieties early growth is absolutely necessary. These should at once be potted into their flowering pots, 7-in. or 8-in. being the most suitable. Stop the growths to ensure good bushy plants, but not after the beginning of next month. Each plant should be neatly staked and arranged in a sheltered but airy position. The pots should be efficiently drained, using a few quarter-inch bones on the top of the crocks, and the compost should consist of good fibrous loam three parts, pulled into small pieces, one part old Mushroom-bed manure, with a little old mortar rubble and road grit added. Pot firmly with the potting stick.

SINGLE VARIETIES.

Each year these are becoming more popular, and for decorative purposes in a cut state are probably unsurpassed, particularly those of a bright and decided colour. Anyone who may not have formed a collection would do well to procure a few of the best, as there is yet time to grow small pieces into good plants, as small late growths produce charming blooms which can be regulated to flower at almost any time during winter. E. BECKETT.



CHERRY TREES IN FRUIT IN 6-INCH POTS.

flowering pots they will be equally well rooted. At the same time, do not coddle them, but give air freely whenever possible, and shelter the plants during wet, stormy weather. One of the chief causes of Chrysanthemums failing is allowing them to get too much moisture at the roots, especially so after repotting.

In arranging them outside, allow ample room for thorough examination and to prevent the growths becoming weak. Place the pots on boards to prevent worms gaining an entrance. Erect a temporary framework over the plants, so that in case of frost protection can be afforded. Well-grown plants are very easily injured. Each plant should be securely staked and tied and the points of the growths kept free from insects. Dust frequently with tobacco powder in the evening and syringe off in the morning. The foliage should be damped over morning and early evening unless

perish, and others grow slowly and preserve their beauties longer. Some are prized for their lovely flowers, and others for the colour of their foliage. All these are matters to study with a view of creating effect. Most of these things may be obtained in pots, and now is a good time to plant. The majority are great robbers of the soil, and will strangle any less powerful plants that may come within their grasp. The Wistarias are well-known strong-growing deciduous climbers. In planting the ground should be well prepared; good loam with plenty of rotten manure and old mortar rubbish added are capital ingredients for these plants to grow in.

VIOLETS.

Borders of Violets should now be planted with such varieties as The Czar, The Queen, Californica, Princess of Wales, Admiral Avellan, and Comte Brazza. Before planting the soil should be worked

into a friable condition, and if naturally heavy should be made light by the addition of sandy or peaty loam, and decayed manure, road sweepings, &c.

SOWING ANNUALS.

The time when the display of bloom is required must, to some extent, determine the time to sow. If required for autumn display, the end of May or beginning of June is sufficiently early. Early sowing, under any circumstances, is not to be recommended. As a rule the end of April or beginning of May is early enough to sow. Those sown in May bloom at a time when they continue much longer in good condition than when they come earlier into flower.

TRITOMA UVARIA GLAUDESCENS.

This is one of the most gorgeous genus of hardy-flowering plants. Few flowers can excel the stately large spikes of shaded orange tipped with delicate green. These plants do well when lifted and divided in April. They delight in rich, deep, well-manured soil. Leaf-mould or rotten manure should be liberally applied. To see them in greatest perfection they must be allowed to grow into large stools, when their effect is grand.

TROPEOLUM SPECIOSUM

should now be planted, where good pot roots can be obtained. They are much to be preferred to small single roots; these are often disappointing. A north aspect suits this plant best, especially at the base of a Yew hedge. A mixture of loam, peat, and sand suits it well. It must have coolness at the roots, and in hot, dry weather plenty of water.

T. B. FIELD.

Ashwellthorpe Gardens, Norwich.

THE FRUIT GARDEN.

CHERRY TREES IN POTS.

SEND you a photograph of a group of Cherries grown in 6-inch pots. The trees are two years old, and were brought into the houses in January. The fruit was ripe in the middle of March. The varieties are Bigarreau de Mai and Guigne Annonay. I grow a great quantity every season on the same principle.

Vienna.

JAMES ROBERTS.

[A note from one of the best English gardeners on the Continent. The illustration will interest fruit growers in this country, as it shows Cherry trees in full fruit in small pots.—Ed.]

A GOOD EARLY GOOSEBERRY—MAY DUKE.

To those who grow Gooseberries either for market or home use the question of earliness is a consideration, and a sharp look-out is kept for any variety that will produce berries ready for picking a few days in advance of its neighbours. Keepsake, Crown Bob, and Whinham's Industry are well-known Gooseberries for early picking, but a variety of more recent origin that I have had reason to form a good opinion of is May Duke. This is rather a new and a very valuable early Gooseberry, as it is the first ready. It is in a green state that the fruit of this variety is the most valuable, and when ripe the berries are bright red. In private gardens, where the first Gooseberry tart is expected on a certain date, May Duke commends itself, as it also does for market culture, when a few days makes a huge difference in the price. H.

MANURING STANDARD APPLE TREES.

WHEN it is advisable that the grass around the stems of standard Apple trees in orchards should be cleared away from the stems to a radius of from 2 feet to 3 feet, it seems needful to ask to what size or age trees this advice is supposed to apply. If trees be young and lately planted it is folly



APPLE EDWARD VII. (Slightly reduced.)

to allow the grass to be replaced or to grow over the roots for several years. If the advice applies to older trees, the roots of which have spread widely, it is then useless to lay manure round close to the stems, as not only would such a mulch become a harbour for insect life, but the roots it is purposed to feed would be too far off. The wisest course is to keep the soil in orchards free from grass, and so far cultivated that Strawberries, Dwarf Beans, Spinach, Turnips, or other shallow-rooting crops may be grown, the ground being stirred once or twice a year and occasionally dressed with manure. If the orchard be on grass a manure application which benefits the grass also washes down and assists the roots of the trees. Starved grass means starved trees. A. D.

APPLE KING EDWARD VII.

LAST week we illustrated a tree of this excellent new Apple. The accompanying illustration represents a fruit. Further reference to it is needless, as the variety was fully described on page 265.

FRUIT CULTURE IN SOUTHERN CALIFORNIA.

(Continued from page 262.)

ORANGES IN SOUTHERN CALIFORNIA.

OF the horticultural products of Southern California the foremost is the Orange. Let us glance for a moment at the production of the golden fruit in Riverside County, which is the greatest Orange growing district in the world, with an area of 7,008 square miles, and has 20,000 acres devoted to Orange and Lemon culture. Its annual output now amounts to 50,000 tons, and the net returns to growers exceed £400,000 annually. The returns from a 10 acre grove frequently amounts to £600 a year, and many families live well on the profits of 5 acres only. The soil is a heavy loam of the highest productive power. The total outlay for six years on 10 acres will average £650, including land, preparation, trees, planting, cultivation, taxes, &c. Under favourable circumstances the trees will begin to bear the third year; the fourth at least 25 boxes per acre may be counted on; the fifth will yield

500 boxes in all; the sixth, 2,700; making a total of 3,450 boxes, which at 6s. 3d. a box gives £1,078 2s. 6d. as the income on the investment for the first six years. The favourite variety is the Washington Navel, which bears profitably in its fifth year from setting out, and produces large, seedless fruit. The only other variety that is now extensively set out is the Valencia Late, which comes into bearing after the Navels are exhausted and supplies the demand for Oranges in summer. It is a fair statement to say that the majority of Orange groves in Southern California that have been in bearing for the past ten years have averaged a net profit of from £26 to £37 an acre during that time. The active harvesting of the crop begins about the middle of November, and is at its highest during January, February, and March.

Second in importance among the Citrus fruits grown here is the

LEMON,

the output annually amounting to 30,000 tons. But Lemon culture has not advanced proportionately with that of the Orange. This is accounted for by the habits of the tree. It will not fruit well in localities subject to frost, and some of the most profitable groves are found in places free from extremes of heat and cold. Similar methods of planting and cultivation, packing and marketing, are used for both Oranges and Lemons, but the labour and consequent cost of handling Lemons is two or three times as great as that of handling Oranges.

Owing to the fact that the range of soil and climate adapted to the Peach is very wide, embracing the valleys, foothills, and the mountain sides, and also because the tree matures at an early age, bearing fruit when three and four years old, it is a great favourite in certain localities. The Peach is a staple article of food, easily gathered, canned or dried. There has never been a time in the State when dried Peaches of good quality did not bring a paying price. Numberless cases are quoted where the returns were from £18 to £23 per acre.

In Tulare County, where there are over 3,000 acres devoted to Prunes, the net average profit per acre is given at £23 10s., and exceptional cases are known of £80 per acre. The San Joaquin Valley, the heart of California, produces nearly all the Raisins used in the United States, the annual output being 40,000 tons. A vineyard in full bearing produces about 4,000lb. of green fruit to the acre, which will dry to over a ton of Raisins. Here good Raisin land, with plenty of water, can be bought for £7 per acre. The average gross returns per acre are estimated at £16, of which more than half is clear profit.

Another branch of horticulture as profitable as the Orange, but which, like the latter, calls for considerable capital and time of waiting, is the English Walnut, the output this season being worth £300,000. The crop never fails. The yield is over £20 per acre.

Of the small fruits, the Strawberry is most widely grown, and furnishes a practically continuous crop; Raspberries, Blackberries, Japanese Wineberries, and the Loganberry, which originated in Santa Cruz, yield un-failing crops.

In conclusion, a word as to the vineyards here. The vineyards of one county alone cover about 40,000 acres, of which about 32,000 are in Raisin Grapes, and the remainder in wine or table varieties. The vineyard country is wide in extent, and no trace of phylloxera has ever been found. From 12½ acres of Sultana Grape Vines the owner sold £665 15s. 10d. worth of Raisins. The wines of California are making way everywhere.

Los Angeles.

HERBERT ARNOLD.

MISCELLANEOUS.

FORCING BY ETHER IN FRANCE.

WITH the discovery of Professor Johannsen, and the theoretic experiments of the effects of ether upon vegetation which have been made in other countries, we have described the analogous experiments made in France, as well as an attempt made in Germany, to put ether-forcing into practice on a large scale. M. Aymard, of Montpellier, has especially devoted himself to comparative experiments with different anaesthetics. He now gives us the result of a trial of this new method of forcing, which, we have no doubt, is destined within a short to revolutionise this industry.

Last winter we made experiments with ether, chloroform, and other anaesthetics upon Lilacs and Lilies. These experiments having shown the advantage to horticulturists of etherising plants before forcing them, we resolved immediately to put the new process into practise. In order to guard against the escape of the ether, &c., we endeavoured to obtain a place hermetically sealed, and for this purpose we had a wooden building made in the form of a rectangular cube, one square metre in area and two metres high. This structure was covered with plates of well-soldered zinc; the base alone was left free. On the sides four handles were arranged, to which four cords were fixed, so that it could be suspended from a hook. This book was fastened to a cord passing through the groove of a pulley which permitted the frame to be pulled up easily. The pulley was fixed to a framework. The height of the "uprights" for forcing Lilacs should be such that when the hook touches the pulley the base of the structure should be about 1.50 metre from the ground. When the plants are to be placed in it is raised by means of the cord; the plants to be etherised are placed underneath and the structure is gently lowered. In order to obtain the hermetic closure we adopted the following simple method.

At the beginning of the work we banked up against the lower part of the sides some strong moist earth, carefully applying it to the zinc. When we raised the structure none of it moved, and when we lowered it we took care to insert it in this pad, thus forming a kind of frame. A little water sprinkled from a water-pot renders the earth sticky, and with a trowel or other tool the soil can be again pressed against the zinc. With this simple method we have experienced absolutely no escape of the ether.

In order to introduce the ether we formed an opening at the top of the cube with a receiver below it. The ether is introduced by means of a funnel, and the opening hermetically sealed. The number of tree Lilacs this will contain is from ten to twelve. Amongst these a number of Lilacs in smaller pots can be placed. This arrangement has also this advantage, that it can be erected in the open air, and is easy of management. As the net cost is not very much in large forcing establishments several could be constructed which, considering the different duration of time required for etherisation by the various Lilacs and other plants, would be very convenient. The apparatus described above has been in operation at our establishment for the past two months, and has given the best results.

J. AYMARD fils, in *Le Jardin*.

DAHLIA SELECTIONS FOR SPECIAL PURPOSES.

SELECTIONS OF VARIETIES FOR GARDEN DECORATION.

The following varieties have been chosen for this purpose on account of their robust and free-flowering habits, and because they produce their flowers on long footstalks, and thus carry them well above the foliage:—

TWELVE SHOW DAHLIAS FOR GARDEN DECORATION.

Canary Bird, bright canary yellow, grand outline and high centre, 3 feet; Glow-worm, bright orange scarlet, high centre, very fine, 3 feet; Goldfinger, yellow, tipped with red, large and well-built, 2½ feet; Gracchus, bright orange-buff, good outline and petal, and very constant, 3 feet; Harbinger, most beautiful shade of peach, good form, petals and centre, 3 feet; John Walker, finest white Dahlia ever raised, 3 feet; Mrs. Gladstone, delicate soft blush, 3 feet; Mrs. Langtry, cream, edged with crimson, 4 feet; Mrs. W. Slack, bluish white, edged with purple, 3 feet; Octavia, yellow, shaded orange, tinted with rosy purple, 3 feet; Perfection, orange-buff, 4 feet; Warrior, intense scarlet, 3 feet.

TWELVE CACTUS DAHLIAS FOR GARDEN DECORATION.

Artus, orange-buff, graceful form, 4½ feet; Aunt Chloe, very dark, the younger florets being quite black, 3 feet; Gabriel, ground colour bright velvety crimson, upper half of each floret snow white, 4½ feet; General French, deep bronze, large flower, free-flowering; J. H. Jackson, intense blackish maroon, 3 feet; J. W. Wilkinson, deep rosy red, 3½ feet; Lord Roberts, white, with creamy centre; Mrs. J. J. Crowe, flowers very large and of a lovely clear canary yellow, without shading, 5 feet; Mrs. Jowett, apricot, slightly shaded with coppery red on the points of the petals; Mrs. Mawley, clear yellow, very large, full, and finely-outlined flower; Mrs. Winstanley, colour yellow disc, gradually shading to soft scarlet, 5 feet; Richard Dean, red, heavily tipped with white, 4 feet.

TWELVE POMPON DAHLIAS FOR GARDEN DECORATION.

Amber Queen, rich clear amber, shaded golden apricot, 3 feet; Arthur West, crimson, 2 feet; Bacchus, scarlet, 2½ feet; Dagmar, maroon, shaded crimson, very distinct, 3 feet; Flora, rich golden yellow, neat small flowers, 2½ feet; Nerissa, soft rose, tinted with silver, not too large, 4 feet; Red Indian, coral red, 3 feet; Rosebud, white ground, edged rosy pink, 3½ feet; Rosea, deep rosy cerise, 2½ feet; Sybil, yellow, shaded and tipped with scarlet, 4 feet; Tommy Keith, red, tipped white,

3 feet; White Aster, pure white, a grand cutting variety, 3 feet.

TWELVE SINGLE DAHLIAS FOR GARDEN DECORATION.

Annie Mitchell, creamy white, bright yellow at the base of petals, 2½ feet; Aurora, yellow suffused with orange, 3½ feet; Duke of York, fine light scarlet of exquisite form, 3½ feet; Golden Locks, lovely yellow, 3½ feet; Grace Ballantyne, yellow, shaded and streaked with deep chrome, 3½ feet; Janet Braes, magenta, flushed with crimson, orange at the base of petals, 3 feet; Miss Henshaw, primrose, edged white, 3 feet; Miss Ramsbottom, lovely pink, 3 feet; Mrs. Henshaw, dazzling crimson scarlet, 3 feet; Phyllis, pale ground, striped with lilac round the centre and flaked with crimson, 2 feet; W. Fife, clear yellow, striped with bright scarlet, 3 feet; White Queen, white, large and good, 3 feet.

TWELVE SINGLE CACTUS DAHLIAS FOR GARDEN DECORATION.

Alice Lee, pink, shading to white at the base, 3 feet; Althea, deep glowing crimson, 3 feet; Brenda, chrome yellow, 2 feet; Brenhilda, white at base of petals, soft rose at points; Crusader, orange ground, streaked with bronzy red, edges tipped crimson, 3 feet; Fenella, crimson at the base of petals, passing to deep orange, 3 feet; Helen Macgregor, lower half of petals yellow, upper a deep mahogany, 3 feet; Ivanhoe, bright rose colour, with crimson band round centre, 2½ feet; Lady Clare, scarlet, shading to magenta at the tips, 3 feet; Lady Edith, lower part of the petals yellow, passing to deep pink, pale pink at the edge, 2 feet; Queen Mary, purest white, with pale yellow disc, deep golden centre, 3 feet; Rose Bradwardine, clear yellow ground, bronze, tipped with red, 3 feet.

[This list is taken from the excellent shilling book about "The Dahlia: Its History and Cultivation," published by Messrs. Macmillan and Co.]

PUZZLE GARDENS.

The other day, when walking through the grounds at Chevening Park, the Kentish home of the Earl of Stanhope, in company with the head gardener, Mr. C. J. Sutton, I spent a little time surveying (from the outside) the intricate maze garden which occupies a position in the pleasure grounds. I did not accept the invitation to try and find the centre, though I was told that the intricacies of the maze afford considerable amusement to those who visit the gardens on those summer days when the public are admitted. An examination of the maze, however, gave food for reflection. First, what a peculiar taste must have been that of the generation of garden makers who spent so much time and trouble in forming those living puzzles; secondly, what a poor reward for the expenditure of so much energy; and, thirdly, what an ugly,

useless thing a maze garden is. In these days we are apt to deride and make fun of the little Japanese and his pigmy tree culture; but if that is ridiculous, surely it is not more so than the old English custom of forming maze gardens. Of the two, the latter is far more childish, as there is no art in it, which cannot be said of Japanese dwarf trees and miniature gardens. I do not know whether puzzle gardens are made now. I have never seen one in course of formation, but I can understand why such institutions are allowed to remain in gardens where they are established. As with topiary work and artificially cut hedges it is a matter of sentiment. The maze garden is a relic of other days, tastes, and customs, and as such there is no reason why it should not remain, but it is gratifying to think that garden making of this age has advanced above such childish waste of time and labour.

G. H. H.

A GOOD GARDEN TROWEL.

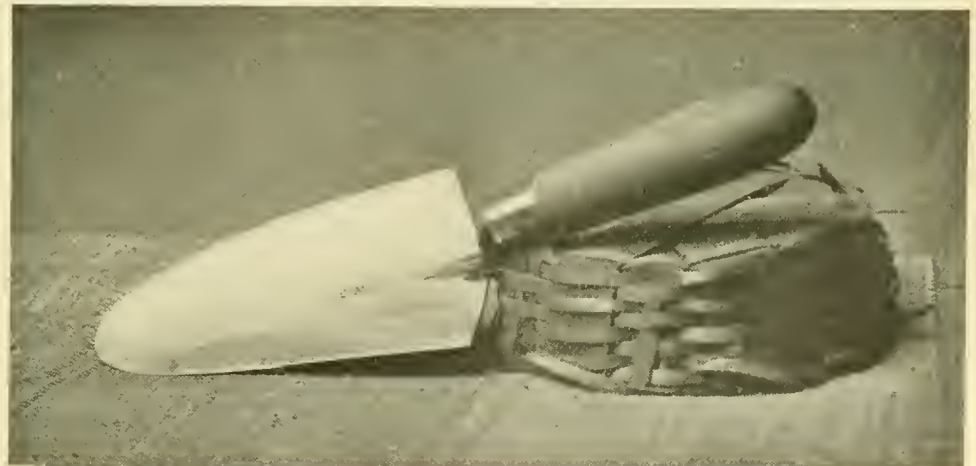
THERE is room for improvement in the ordinary shape of the garden trowel. The blade is always too much curved and the handle has various ins and outs of the turner's art that are no comfort, but only impediments to the gardener's hand. After several trials, an enterprising firm of ironmongers have produced a tool which seems to be a distinct improvement on the older types. The blade is much flatter, giving greater freedom in working, and the handle is quite plain, allowing the tool to be more easily shifted about in the hand from one position to another. The trowel is made in two sizes. Its retailers, who have registered the design, advertise in our columns.

THE ROCK GARDEN.

(Continued from page 259.)

ANOTHER way of making a row of stones look like one massive layer of rock is by building up the undesirable interstices with small bits of broken stones and a kind of mortar made of a mixture of clay and moss well kneaded together, and to push into the plastic clay bits of green moss for an outer covering. On the shady side of a rock green moss thus planted will remain fresh if sprinkled frequently, but it is sure to die on the sunny side. But even dead moss looks better than the empty cracks between the stones, and where absolutely immediate effect is desired this method may well be followed.

If we are not searching after immediate effect, and will be content to have our rock gardens look ugly for the first few months, we might employ a much safer and, in the end, a ten times more effective method of filling undesirable vertical or other joints than could possibly be done by either



A GOOD GARDEN TROWEL.

cement or clay and moss. This method consists in building up such spaces by means of tiny bits of stone, using soil instead of mortar, and putting in small plants sideways as the work proceeds. Keep the whole flush with the stones on either side, ramming both soil and stones well around the plants, and taking care that the roots of the plants can have access to the main body of soil behind the larger stones. This method I consider by far the best in the end. It may look a little "patchy," but if suitable plants are chosen and properly planted they will soon obliterate all trace of a joint, and the stones will appear united into massive rock.

This method was also used in the construction of the rock garden represented by the illustrations given last week, but of course, as yet, the plants are so small that they are scarcely discernible in the picture. Illustration No. 1, for instance, shows on the left side a row of stones resting on the top of a cement wall forming the beginning of the pond. In the second one the pond is full of water, and the same row of stones is seen on the far side of the water, but the spaces between the joints are filled up in the manner recommended with small stones and plants. The latter are scarcely visible, but in a few months the desired effect will have been attained. Just above the spot referred to a batch of German Iris may be seen, and the little promontory in the foreground on the left is filled with Japanese Iris (*Iris laevigata*), planted in such a way that their roots can have free access to the water. Behind the large stone in the foreground and planted on a moist level spot is a colony of *Primula rosea*, and the rocks adjoining are adorned with *Primulas*, *Gentians*, *Ranunculus*, and other good things, which, though insignificant now, will enliven the rocks in a very short time, and when they are at their best I hope to give another picture by way of comparison.

Elmside, Exeter.

F. W. MEYER.

(To be continued.)

OBITUARY.

A. F. BARRON.

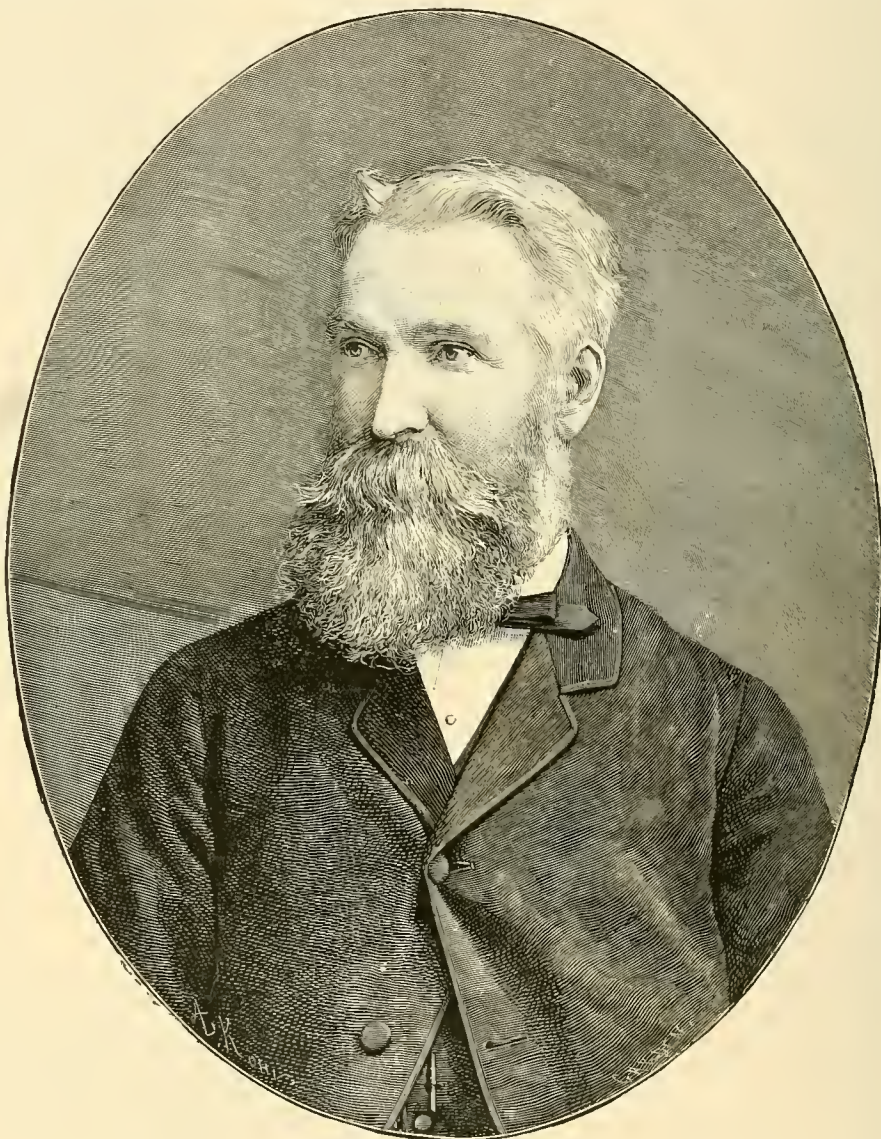
ONE by one the older horticulturists pass from the ranks of the living. On Saturday last, in the presence of many of his old friends, the remains of Mr. Barron were laid to rest in Chiswick Cemetery, not a mile from the historic gardens over which for many years he presided with enthusiasm and skill. Soon, too, we believe the gardens will pass away, and with them all reminiscences of the labours of one of the greatest horticulturists of his time. This is not fulsome flattery. Mr. Barron's position in the horticultural world was won by a first-rate training in youth, devotion to duty, and great knowledge of fruit culture in general. When Mr. Barron retired in 1895 from his position as superintendent it was felt that nothing less than a national testimonial should be offered to him, and, as many of our readers well know, this was made to him by Dr. Masters at a meeting in the Horticultural Club in January, 1896. The sum collected was £500, and well we remember his pleasure when he saw the names of so many of his old pupils and workers under him in the gardens, which he may be said to have loved with his whole heart. We wish for his health's sake that he thought more of other things perhaps than his work at Chiswick. Beneath an apparently cold and brusque manner there was a warm and sympathetic heart, and he was ever ready in his own quiet way to help forward the men who passed through the gardens during his many years of office.

Retiring in disposition, nervous in temperament, it was small wonder that Mr. Barron felt keenly the separation from his sphere of work, but he was not forgotten. Until a few years ago, when he became quite infirm, he took his place upon the fruit committee, of which he had acted as secretary during his long association with Chiswick, and it was a comfort we know to him that he enjoyed a honorary life Fellowship of the society

he had served so well, and was also in the first list of those who received the Victoria Medal of Honour.

Mr. Barron's work amongst fruit and vegetables was immense. The reports of the Pear and Apple congresses are sufficient testimony to his untiring industry, and his book upon the Vine is the standard authority. Nor can we forget Mr. Barron's disinterested services in connexion with the Gardeners' Orphan Fund, of which he was secretary from its inception in 1887 until through ill-health compelled to abandon his honorary post. Whatever our late friend undertook to do, he did it with all his might, but without proclaiming to the world his own efforts.

he did his best for the society he served has been proved over and over again by the publications relating to the Chiswick garden in the society's Journal. Placed in a most onerous position, the superintendent at Chiswick was brought into contact with all sorts and conditions of men, and he made many friends among gardeners generally. . . . The Apple and Pear and other hardy fruit reports of the society, and 'Vines and Vine Culture' are well-known works due to Mr. Barron's practical and literary ability, while the living and growing interest he has taken in the Gardeners' Orphan Fund entitles him to the gratitude, not of gardeners only, but of all interested in the future of children left alone in



THE LATE ARCHIBALD F. BARRON.

It is interesting to look back in *THE GARDEN* and read the reference to Mr. Barron at the time of his retirement. Mr. Burbidge (August 10, 1895, page 112), says: "The retirement of Mr. Barron from the Chiswick garden of the Royal Horticultural Society of London (after a service of considerably more than a quarter of a century) marks an epoch in its history as one of the centres of scientific horticulture in this country. For many years Mr. Barron has been a staunch and loyal official who has worked strenuously, even in the face of many difficulties, and when environed in doubts and uncertainties of many kinds. Through all vicissitudes and unpleasantness Mr. Barron always acted firmly and wisely, and that

the world. As an old pupil of Mr. Barron in the Chiswick garden, before it was restricted in its area and scope as now, and as a friend since that time, I think that all gardeners will feel it a personal privilege and pleasure to wish the retiring superintendent God-speed, and a happy and quiet period of comparative rest after so long, laborious, and honourable a career."

During Mr. Barron's long connexion as superintendent with the Chiswick gardens, a period of thirty-five years, trials of fruit, vegetables, and flowers were carried out with a thoroughness that we feel convinced helped to tide the society over the blackest period in its history, when, through South Kensington entanglements, this historic

organisation was almost wrecked. We look back with pride to that splendid horticultural work which has developed in the midst of troubles and vexations, and it was carrying out, surely, a policy that must be pursued in the future if the society is to be the leading exponent of horticultural practice in this country.

We have referred to the testimonial fund. If space permitted we should have been pleased to print the list of the committee to show the representative nature of the testimonial, but it is interesting to read that Mr. Harry Veitch was the treasurer and Mr. Wynne, an old Chiswick student, the secretary.

Mr. Barron received from the council of the society an annual pension of £180, and during the closing years of his life his happiest moments were spent with his old friends who spoke to him of the days long ago when Chiswick was the great horticultural centre, and fed, so to say, the great exhibitions held at South Kensington. Exhibitions of great magnitude were arranged by Mr. Barron and his assistants, and his services as a judge of fruit were in great request.

Mr. Barron was in the sixty-eighth year of his age, and has therefore spent the best part of a busy life at Chiswick. He began his gardening career at a place near Branry, in Scotland, where he, however, stayed only for a brief period. From thence he went to Shetly, near Swansea, and the next move was to England, namely, the gardens of Arundle Castle, the residence of the Duke of Norfolk. Through the influence of Mr. Gordon whose "Pinetum" is a work of enduring importance, he came to Chiswick as a journeyman, and when Mr. George Eyles retired became superintendent. This is a brief history of Mr. Barron's gardening career. To Mrs. Barron and his family we tender our deep sympathy, and we are not unmindful of the tender devotion of Mrs. Barron to her husband in his life work at Chiswick. Without her encouragement and sympathy we feel that Mr. Barron would not have accomplished that enduring work which is the proud record of our late friend.

The only son, Mr. Leonard Barron, is editor of *American Gardening*, and we hope that his work for horticulture across the seas will be as fruitful in good results as that of his father in England.

Owing to the Ghent Quinquennial show occurring last week and this, few comparatively assembled in the church and at the graveside. Those present were Dr. Masters, and Messrs. H. B. May (representing the society), S. T. Wright (superintendent of the Chiswick gardens), E. T. Cook, G. Wythes, W. P. Thomson, T. Humphreys, John Fraser, J. H. Dick, A. Dean, Turner, and Mr. Cox, representing Messrs. Sutton and Sons. Many beautiful wreaths were sent by friends from afar, and the family received many letters and telegrams of sympathy.

The volume of THE GARDEN for midsummer, 1888, was dedicated to Mr. Barron.

By the decease of this universally-known horticulturist, Pomology has lost one of its most distinguished exponents. I first made Mr. Barron's acquaintance in 1866—the year of the ever-memorable International Horticultural Exhibition at South Kensington—the year in which he was appointed superintendent of the Royal Horticultural Society's Gardens at Chiswick. His first appearance at historic Chiswick—as a journeyman gardener—was, however, in 1858, so that his advance to the important position just noted was a rapid one, a position he retired from in 1895. Far abler pens than mine will, doubtless, tell in your columns of his many and notable victories on the pomological field. Exigencies of space will only permit my referring—and that in a very brief manner—to some of them. What a past master he was in the cultivation of that delicious fruit, the Fig. How well, too, he wrote about this particular fruit, a fine collection of which is still grown at Chiswick. Who can forget the admirable paper he contributed on their culture on the occasion of the Royal Horticultural Society's provincial show at Oxford in 1870? And the society's own admirable Journal has, in recent

years, been the medium of expressing his successful practice in this direction, to say nothing of his communications on the same subject to the weekly horticultural press, all tending to further extend and deservedly popularise this fruit. His most successful book, "Vines and Vine Culture," needs no comment or praise. In my opinion, at any rate, Mr. Barron will always be justly accorded a very high position amongst pomologists for his successful labours in connexion with the Apple congress held at Chiswick.

How truly invaluable here, in the compilation of the reports of these conferences in the society's Journal, was his unique experience! Only those who have intimate knowledge of the great work thrown on his shoulders at these fruit conferences can estimate the work at its true and proper value. Then his knowledge of vegetables was of the same high-class order, displayed again at the well-known vegetable conference, and, if I may be permitted to point a moral for some of the young gardeners of to-day, it would be to lay particular stress on the shining example which Archibald Barron, the once journeyman gardener, sets them of the value in these days, probably more than in any other, of a sound, practical knowledge of these important branches of gardening—hardy fruit and vegetable culture—so apt to be ignored, to their own great disadvantage, by the "glass" men. Reference to the young men irresistibly compels me to make only a passing allusion, to many who served under Mr. Barron, some of whom, in various capacities, are now ornaments to the horticultural profession. How well I recollect in 1868 my good friend Mr. F. W. Burbidge, the talented curator of the Trinity College Botanical Gardens, Dublin! And, finally, Mr. Barron will always be very gratefully remembered in the hearts of the craft for his splendid work on behalf of gardeners' orphans as first secretary of the Gardeners' Orphan Fund.

[Many letters have been received about Mr. Barron's work, but must be held over through pressure upon space.—ED.]

SOCIETIES.

GHEENT QUINQUENNIAL SHOW.

No horticultural event on the Continent occasions more interest than the great Quinquennial Show at Ghent. The weather was not kind, but the exhibition itself was superb, while the new plants were of much interest. In the leading article this week reference is made to the more important features.

EXHIBITS FROM ENGLAND.

Messrs. R. P. Ker and Sons, Liverpool, showed a grand collection of *Amaryllis*: the flowers were bold, of distinct and handsome colouring, well arranged, and were universally admired. They were little, if any, the worse for their long journey from England. Among the best and really distinct coloured flowers we noticed *Imperator*, deep scarlet; *White Lady*, white, except for slight pale red markings; *Salmon Queen*, the salmon, shaded with pink; *Momus*, deep scarlet; *Vulcan*, dark scarlet; *Puritan*, vermilion and white, with greenish white centre; *Ruby King*, very handsome, very dark red; *Exquisite*, a lovely bloom, claret-red markings upon pure white ground; *Pegasus*, vermilion, with white central bands; *Pygmalion*, uniform red, shaded with rose; and *Pink Beauty*, lovely dark pink-rose. This collection won the first prize in its class.

Messrs. Cannell and Sons, Swanley, Kent, showed a collection of zonal *Pelargonium* flowers in many beautiful varieties. They were in splendid condition, and made a very bright display. Among the best were *Circe*, double pink; *Mary Pellow*, salmon-pink; *Mrs. Ewing*, pale salmon; *Lord Curzon*, rosy red; *Lady Curzon*, lovely pale pink; *Magara*, white; *Golden Gate*, double scarlet; *Barbara Hope*, salmon; *Captain Holford*, red, tinged with crimson; and *Lady Roscoe*, pink.

The magnificent display of new plants by Messrs. Sander and Sons, St. Albans and Bruges, is described elsewhere.

ORCHIDS.

M. A. Peeters, Brussels, had a magnificent display of orchids, by far the best exhibit in this section. He was awarded the medal given by the King of the Belgians, and also the gold medal of the Royal Horticultural Society for the best collection of Orchids. They consisted chiefly of hybrids, and these were particularly choice and beautiful. We shall describe several of them under new and noteworthy plants, so that it is unnecessary to mention many here. Especially good were *Celogyne cristata lemoniana*, *Masdevallia Veitchii superba*, *M. Lindenii*, *Odontoglossum hummelianum nigrum*, several fine forms of *O. Rolfeae*, *O. crispum violaceum*, *O. c. virginale*, *O. excellens* Prince of Orange, *Zygopetalum Perrenodii*, *Phalaenopsis grandiflora* var. *rimstadiana*, *Cattleya Schroderae* alba, *Cattleya Mozart* (C. lobata × C. lawrenceana), *Cattleya L. Chaton* (C.

lawrenceana × C. Trianae), *Laelio-Cattleya* Mrs. Leeman (C. aurea × L. diglyana), *Cypripedium anreum* Surprise (C. spicerianum × C. Sallieri), C. aureum var. *virginale*, and many more. M. Peeters also won the first prize for the best collection of hybrid Orchids, and these, too, were remarkably fine. Those already named were included as well as those elsewhere described.

For the best collection of 100 Orchids, M. Vincke-Dujardin, Bruges, won the first prize, and was the only exhibitor. The *Odontidiums* were very good, and also *Cattleya Parthenia carneae*, *Ansellia africana*, and *Odontoglossum luteo-purpureum*. M. Vincke-Dujardin also had the best collection of *Laelias* and *Cattleyas*, which were well flowered, though not in any way a remarkable display. The first prize for a collection of thirty *Odontoglossums* went to the same exhibitor, who showed some lovely flowers; for instance, *O. Pescatorei* album, *O. trimphaus rubrum*, good forms of *O. Adriane* and *O. inckerianum*. In a class for the best fifty *Odontoglossum crispum*, M. Vincke-Dujardin was again first, but had no very fine forms. The purple-shaded ones were best.

The Marquis de Wavrin was first for the largest and best collection of *Laelias* and *Cattleyas*, C. Mendelii, C. Schroderae, C. S. rosea (very fine), and L.-C. *callistoglossa* were very good. The Marquis de Wavrin was first for a collection of white forms of *Laelias* and *Cattleyas*, the best being L.-C. Kerchovea (a lovely hybrid between L. anceps alba and C. Trianae alba).

For the best collection of seventy-five Orchids, M. L. de Smet-Duvivier was first with a good display, *Odontidiums*, *Dendrobiums*, and *Cattleya Trianae Regina* being the best features.

M. Fanyan had the best lot of thirty Orchids, which included L.-C. *chollettiana*, L.-C. *Hippolyta*, L.-C. *warnhamensis* var. *Orkix*, and other good hybrids.

For a collection of fifteen *Cypripediums*, M. Pynaert was first. C. Mme. Ed. Pynaert, C. callosum Sanderi, C. nitens, &c., were notable sorts.

M. A. E. Praet had the best lot of fifty Orchids, and MM. Verdonck and Gendbrugge the best collection of Orchids from Guatemala and Colombia.

For ten hybrid *Cypripediums*, MM. Janssens and Patzeys were first. Included were C. × *Kialto* (Sallieri hycanum × spicerianum), C. × *Felix Patzeys* (spicerianum magnificum × villosum nigrum), C. × *virginale* (Sallieri hycanum × spicerianum), C. × *Carmen* (Sallieri hycanum × spicerianum), and C. × *antwerpense* (spicerianum × villosum anreum).

In the class for a new hybrid orchid between two different genera, M. de Bièvre, head gardener to the King, was first for *Laelio-Cattleya Prince Leopold* (C. chocoensis × L. cinabarina), described elsewhere.

A splendid plant of *Cymbidium* bearing thirteen racemes, each with about twenty-five flowers, was shown by M. Tromp Meesters, Steenwijk.

PALMS.

There was a magnificent display of these plants. The first prize for a collection of the finest Palms was won by La Société Horticole Gantoise with remarkably fine plants. The gold medal of the Royal Horticultural Society of England was also given to this group. Some of the plants were huge specimens, some reaching to the top of the building, and quite 30 feet to 40 feet high. Some of the best of them were *Sabal* sp., *Caryota urens*, *Kentia australis*, *K. fosteriana*, *Areca spida*, *Livistona rotundifolia*, *Chamerops ataruchanta*, *Kentia Lindenii*, *Rhapis flabelliformis* (about 12 feet high and the same through), and *Phoenix Roebelii*, a very elegant Palm. This was a splendid group and very large, filling a good part of one side of the hall. The second prize for a group of Palms went to MM. de Smet frères, Ghent, who also had splendid plants.

M. L. Shae, Vandermeulen, was first for twelve Palms, and showed some fine plants. *Sabal blackburniana*, *Areca spida*, and *Rhapis humilis* were splendid. M. A. de Smet, Ledeburg, had the best specimen of *Rhapis humilis*, a grand plant some 15 feet high, and M. H. Millet-Richard, Ledeburg, was first for a collection of fifteen rare Palms. Included were *Geonoma Leemannii*, *Linosyris petrickiana*, *Licuala grandis*, *Wallisia oblongifolia*, *Latania anrea*, *Chamædorea geonomeformis*, and other rare Palms.

In the class for a new Palm not in commerce M. P. de Bruycker, Ghentbrugge, was first with *Kentia elegans*, an attractive plant some 4 feet high, with elegant leaves, slender leaflets, and very graceful appearance.

M. L. de Smet Duvivier, Mont St. Amaad, Ghent, won the gold medal offered by Count Chandon de Briailles for a new plant with a Palm, *Cyrtostachys renda* var. *duviveriana*. It is of stiff habit of growth, like an *Areca* somewhat, with striking bright red stems and leaf stalks, leaves a good green with red midribs. The plant shown was from 6 feet to 8 feet high.

CYCADS.

M. de Gbellinck de Walle, Chateau de Wondelgem, won the first prize for the best fifteen Cycads, showing splendid plants. One is of immense size, as, for instance, *Encephalartos caffra*, *Zamia villosa*, Z. horrida, Z. fuciculata, Z. Lehmannii glauca, Z. Altensteinii, *Lepidozamia Macleayi*, and *L. peroffskiana*.

FERNS.

Collection of thirty Tree and other Ferns: First prize, M. le Comte de Kerchove de Denterghem, with grand plants of *Alsophila australis*, *Woodwardia radicans*, *Cyathea medullaris*, *Cibotium Barometz* (very elegant, black stems), *Nephrolepis bostoniensis*, and *Adiantum pentadactylob.* M. Pynaert also won a first prize in another similar class. *Cibotium Schudei* (?), *Angiopteris triaxiifolia*, and *Nephrolepis bostoniensis* were the best.

M. Pynaert was also first for a collection of thirty exotic Ferns (not Tree). *Todea africana* was the best.

AROBDS.

For a collection of twenty-five Anthuriums in flower, M. A. de Smet was first with some very fine plants, particularly A. schertzianum Wardi (large scarlet spathes), A. S. roseum, A. S. President Steyaert (large, blood-red), A. S.

Mme. Dalière (pink), A. S. bicolor (green and red), A. andream, and others.

For twenty plants of *Anthurium schertzianum*, M. Arthur de Smet was first with finely-grown plants, of which the brightest was A. S. Vivid, a good bright red.

For a collection of thirty Aroids, M. L. van Houtte père, Ghent, was first with a fine exhibit that included such plants as *Alocasia pucciana*, A. Lindenii, *Aglaonema costata*, *Anthurium crystallinum*, *Diffenbachia*, *Nepenthes picturata*, &c. The first prize for ten *Diffenbachias* went to M. L. J. Draps Dom, Laeken, for finely-grown plants. D. picta, magnifica, Baumanni, Carderi, Leopoldi, and imperialis were the best.

Twenty Caladims: First, M. L. van Houtte père, with greenish and not particularly attractive varieties. Twenty-five *Anthurium schertzianum*. First, M. Duval, Versailles, with brilliantly-coloured spathes. For twenty similar plants, La Société Horticole Gantoise was first.

Twenty plants of *Anthurium andreamum*: First, M. le Comte Kerchove de Denterghem, whose group contained some finely-coloured spathes, viz., *Triomphe de Gand* (light bluish), *grandiflorum* (large, scarlet), *marmoratum* (rose). M. L. J. Draps Dom was first for twenty Marantas. The plants were fairly good, especially *Makoyana*, Van Den Heckii, and *sanderiana*.

MISCELLANEOUS STOVE PLANTS.

M. Ed. Pynaert was first for a collection of ten *Pandanus*, finely-grown plants. *P. pacificus* with broad, bright green leaves, and *P. caricosus*, bushy growth and short, dark green leaves, were the most striking.

Collection of twenty-five plants: First, La Société Horticole Gantoise, *Chaussée de Courtrai*, Ghent, with a remarkably fine display. The leaves of some of the plants, however, had been cut into shape with scissors, notably those of *Phyllotanium Lindenii*. Especially fine were *Diffenbachia Fournieri*, *Alphina vittata*, *Vriisia hieroglyphica*, *Pandanus Baptistii*, *Spadix phyllitum picturatum*, and *Dracena sanderiana*.

For twenty-five plants of *Dracenas* with coloured foliage, M. L. J. Draps Dom, 76, Drève St. Anne, Laeken, was first with well-grown specimens. D. Janssensii, D. goldieana, D. amabilis, D. Lindenii, and some good seedlings were most remarkable. For the twelve newest *Dracenas*, M. Draps Dom was also first. D. Victoria, D. Père Charon, D. Mme. Winkelman were among them.

Twenty *Crotons*: First, La Société Horticole Gantoise for a grand lot of plants, not unusually large though, but richly coloured and well furnished. Lucien Linden, Marie van Houtte, Sunshine, Moortii, and Mme. Riiffart were of the best.

Twenty *Crotons*: First, M. Delarnye Cardon, with a fine group of bushy and well-coloured plants. Alice, Nestor, Henryana, Alexandre III., and Queen Victoria were of the best.

Twelve stove foliage plants: First, L'Etablissement Dalière. *Diffenbachia Bausei*, *Dracena sanderiana*, and *Aralia monstrosa* were notable plants here. Twelve *Asparagus*: First, M. Bernard Spaë, Copure, Ghent, with A. Sprengeri, A. tenuissimus viridis, A. retrofractus arboreus, A. myriocladus, &c.

Twenty *Selaginellas* and *Lycopodiums*: First, M. de Ghellinck de Walle, Château de Wondelgem, with an extremely pretty exhibit of these plants. *Lycopodium Martensii* fol. var. L. coesia (blue-green fronds), L. denticulata aurea, L. d. variegata, *Selaginella grandis* (large deep green fronds), S. emiliana, S. e. aurea, and S. rubricalis were very attractive. M. J. Ed. Story, Allée Verte, Ghent, was first for a number of plants of *Dracena massangeana*; an excellent lot.

Twenty *Adiantums*: First, M. L. G. Duriez frères, Wondelgem. The plants were not large or remarkable. The best were A. emulum, A. Weigandi, A. fragrantissimum, and A. dissectum.

MISCELLANEOUS EXHIBITS.

M. J. Apers showed some grand *Azalea* bushes simply smothered with flowers. Mme. L. de Hemptune was first for 100 pot Roses. These were fairly good, chiefly Hybrid Perpetuals, and some Moss Roses with a fair quantity of bloom. Some lovely floral decorations were shown; baskets and bouquets were very beautiful. Carnations, Orchids, Roses, &c., were used to perfection in dinner table, room, and other decorations.

M. L. van Houtte showed a collection of *Bertolonias* and *Sonerilas*, which were very attractive.

A collection of twenty-five *Nepenthes* was shown by M. Albert Rigouts, Meirelbeke, but the pitchers were poor and the plants small.

M. Ed. Pynaert won the first prize for a collection of Colonial plants.

AZALEAS.

These were magnificent, well-grown, shapely plants, and simply a mass of blossom in most cases. Messrs. Sander and Sons, St. Albans and Bruges, were first for a collection of twelve *Azalea indica*. They were a splendid lot, dwarf plants smothered in flowers. Remarkably good were Frau Heinrich Seidel, large white flowers, crinkled edges; Julius Roehrs, rich rose (semi-double); Belgica, bright brick-red (semi-double); Lovely, large double white, very handsome; H. T. Pitt, lovely rose-carmine (semi-double); Princesse Elizabeth, large, prettily-irregular, pure white, with rich green patch of colour. Messrs. Sander were also first for the best sixty *Azalea indica* (small plants), with a dazzling display of richly-coloured sorts. Ami Charles Vermeire (glowing red), alba magnifica (white), and Professeur Walters (large lovely white-edged rosy salmon flower).

M. Ad. d'Haene was first for a collection of twenty *Azalea indica* with fine plants of good size and superbly flowered. M. d'Haene was also first for twelve *Azalea indica*, the plants being smothered with flowers. Rosa Bonheur (pure white), Souv. de M. Low (rich rose-purple, semi-double), and Le Flambeau (glowing red) were excellent. M. d'Haene was again first for a collection of 100 *Azalea indica*. These made a magnificent display, and were well grouped. Whites, reds, roses, and purples combined to

make a unique exhibit. M. d'Haene also won for the best specimen plant of a single-flowered *Azalea indica* with a wonderful plant absolutely one mass of flower, some 5 feet to 6 feet across at the base. The variety was Duchesse Adelaide de Nassau, reddish buff, with rose-purple blotch.

For twenty-five *Azalea* hybrids (mollis x sinensis), MM. Koster and Sons, Boskoop, Holland, were first with a circular group that contained some lovely coloured varieties; for instance, Gloire de l'Exposition, pale orange-buff, marked with glowing brown-red; J. C. Van Thol, soft apricot-red, suffused with orange; and a border of Anthony Koster *Azalea*.

Twelve double *Azaleas*: First, M. A. d'Haene, with fine plants. Good sorts were John Llewelyn, pink, blotched red; Youngianum, rosy purple; Phrynie, creamy white; and Niobe, pure white.

MISCELLANEOUS GREENHOUSE PLANTS.

Collection of twenty-five Orange trees (*Citrus sinensis*) in fruit: First, Mme. P. Snoeck, Ghentbrugge, with standard plants in quite small tubs, some 4 feet high, and each carrying about twenty-five fruits. These showed remarkable culture, as also did the second prize lot; the plants were about 2½ feet high and loaded with fruits. They were from M. D. Verhoeven, Destelbergen, Ghent.

Twenty *Clivias*: First, M. Charles Vermeire, Ghentbrugge, who showed plants with good well coloured heads of flower.

Messrs. Vilmorin-Andrieux et Cie, Paris, exhibited a bed of *Cinerarias*, *Calceolarias*, *Primulas*, *Polyanthus*, &c. Some of the *Cinerarias* of a rose shade were very good and distinct. M. E. Fierens, secretary of the society, showed a group of double white *Wallflowers*. Messrs. Lemoine, Nancy, showed a collection of hybrid *Deutzias*; D. Lemoinei Boule de Neige with white flowers in small dense heads was the most distinct.

M. E. George, Grand Lancy, Geneva, showed a remarkable group of *Cianthus* Dampieri and two varieties. The plants were in pots and baskets, as standards, dwarfs, and hanging plants, and made an unique display. They were said not to be grafted upon *Colutea arboreasens* (the usual stock) but upon a better stock. They were splendidly grown and flowered.

HARD-WOODED PLANTS.

Collection of thirty New Holland plants: First, M. Jules de Cock, Meirelbeke; *Genista elegantissima*, *Erica acuminata*, and *Acacia paradoxa* were the best, but few were very well flowered.

Collection of twenty: First, M. E. Bedinghams with *Acacia verticillata* (a magnificent plant) and *Leptospermum bullatum*, very fine.

Collection of thirty: Mme. Osterrieth, Brasschaet, Anvers, was first with the best collection of New Holland plants in the show. The best were *Acacia verticillata*, *Banera rubioides*, *Metrosideros semperiflorens*, *Leptospermum bullatum*, and *Erica depressa*, all finely flowered and huge plants.

Twenty New Holland Plants: First, M. A. Cornelis, Meirelbeke; *Brachysema acuminata*, with red pea-like flowers, was the best. In a second prize group of plants M. Firmin de Smet had a magnificent pyramid plant of *Acacia longifolia*, quite 9 feet high and the same across.

Collection of fifteen greenhouse plants in flower: First, M. Firmin de Smet, with grand *Acacia spiralis*, *Metrosideros semperiflorens*, *Genista precox*, &c.

Ten New Holland Plants: First, M. E. Bedinghams; *Erica arborea* and *Cytisus racemosus* were splendid. *Boronia elatior* was remarkably well shown, both as standards and bush plants, and they were flowering profusely.

Twelve Java *Rhododendrons*: First, M. J. Baumann; *fragrantissimum*, *Countess of Haddington*, *Victoria*, and *Gibsonii* were all good.

NEW PLANTS.

Messrs. Sander and Sons, St. Albans, Herts, and Bruges, Belgium, exhibited a number of handsome new plants of great decorative value. The best were as follows:—

Polypodium Knightii.—A handsome, strong-growing plant, with drooping fronds about 5 feet long; the leaflets are deeply cut, giving to this noble Fern an elegant appearance. As a basket plant it will undoubtedly become a great favourite.

Dracena Broomfieldi superba.—Perhaps the most meritorious, as regards general usefulness, of all the new plants exhibited. It is very attractive, the leaves have white margins, and the centre is grey marked with green lines. This *Dracena* is of sturdy growth, and all the leaves are well coloured. As an embellishment to the stove or as a table plant this new introduction will be of great value. Native of Queensland.

Selaginella watsoniana.—This grows about 9 inches high, and is extremely pretty; the fronds are a mixture of green and white, and tipped with palest yellow. Some of the plants appear to be almost covered with a silvery powder, the white markings are so heavy. Native of the East Indies.

Dracena kevenis.—A new Caledonian plant with rather broad, deep shining green leaves. The leaf-stalks and stems are dark red. It has the appearance of being a good grower and of easy culture. It should make a good table plant.

Asplenium congensis.—The large handsome fronds of this new introduction from the Congo, with prominent yellow midrib and the pinnae deeply and regularly cut, will prove invaluable in the winter garden and other positions where Tree Ferns are seen to the best advantage.

Drymophyes mooreanus.—A stove plant with large divided leaves, very dark green above and reddish below. The leaflets are simple.

Pandanus varrinianus.—This Screw Pine, native of Madagascar, has curved dark green leaves some 2 feet long, armed with short, sharp, strong spines. It is of distinct appearance and graceful habit of growth.

Phymium Micholitzii.—A plant of bushy habit, about 2½ feet high, with rather light green leaves marked with splashes of white and paler green. Native of New Guinea.

Linosydis Leopoldi.—A large, handsome plant, with leaves somewhat resembling those of *Cuniligo*, but larger

altogether and not entire. They are of a good green colour, and the veins are prominent. From the Pacific Islands.

Alpinia Sanderi.—From 3 feet to 4 feet high. The leaves prettily variegated, green and white, are 9 inches long, and arranged alternately upon the stem. From New Guinea.

Pteris Maussioneri.—A hybrid between *P. serrulata* and *P. tremula*. The fronds are rather dense, and the pinnae prettily toothed.

Uliconica Eduardus Rex.—A very handsome stove plant from New Guinea. The leaves are broad, reddish green above with bright red midrib, and dark shining red below; the stems also are red.

Pandanus sanderiana.—Leaves almost wholly yellow, especially the younger ones. Eleven large plants were shown, as well as numerous small ones. This was shown by Messrs. Sander for Mr. Dreer, Philadelphia, U.S.A.

Retinospora Sanderi.—A hardy, compact, glaucous blue conifer that remains dwarf. This plant has been exposed to hard frosts for several years.

Ficus pandurata has distinct handsome leaves, broadly ovate, some 12 inches across, and deep green, with distinct greenish yellow ribs and veins. The plants shown were 4 feet to 5 feet high. This would be invaluable for subtropical planting if suitable.

Dracena Victoria.—The central portion of the leaves is green, and the margins are yellow. A handsome plant, with well-coloured leaves down to the base of the plant.

Dracena hookeriana variegata.—This variegated form of *D. hookeriana* has leaves about 2½ feet long, with cream-coloured margins and green centre. It is of stiff, sturdy habit of growth.

Alpinia tricolor.—Native of the Solomon Isles. The plant shown was about 2½ feet high. The leaves are striped and splashed with green and white.

Asparagus sprengeri variegatus.—A magnificent plant of this was shown.

Fouquieria watsoniana.—Very attractive. The leaves have white margins, while the central portion is grey and green. Both green and white are pure and distinct, so the plant is of striking appearance. All the above were from Messrs. Sander.

Cyrtostachys renda var. *durivieriana*.—A Palm of stiff, Areca-like growth, the plant shown being some 6 feet to 8 feet high. The stem is bright red and very striking, while the dark green leaves have red midribs. This won the gold medal offered for a new plant. From M. L. de Smet, Duivier, Ghent.

Kentia elegans.—In the class for a new Palm this took the first prize. It is an attractive plant some 4 feet high, with elegant leaves, slender leaflets, and altogether of graceful appearance. From M. P. de Bruycker, Ghentbrugge.

Dracena Père Charon.—A splendid red-leaved variety. The plants are evidently strong-growing, and a large group of them made a fine display. From M. L. J. Draps Dom, Laeken.

Dracena Souvenir du Professeur Edouard Pynaert.—Of sturdy growth, with rosy red leaves marked with dark green. From M. P. Pynaert.

Rhododendron Prince Camille de Rohan.—Flowers palest bluish, with rosy red blotch and frilled edges. The plant is very free-flowering, and the truss is large and handsome. From M. Ad. d'Haene, Ghent, who showed a large group.

Anaryllis Souvenir of the Queen.—A white flower with green centre; the petals also are slightly tinged with green. There is not a trace of red colouring. A distinct and good variety. From Messrs. R. P. Ker and Sons, Liverpool.

Anaryllis Great Britain.—A large, rounded flower, rich deep scarlet, with darker lines of the same shade. A richly-coloured, handsome, and symmetrical flower. From Messrs. Ker and Sons, Liverpool.

Azalea hybrida.—The result of a cross between *A. indica* var. and *Rhododendron forficatum*. The flowers are double and deepest rose. Very free-blooming. From M. Eckhaute.

Vriisia hieroglyphica variegata.—A beautiful plant, with leaves rich green, marbled with black, and marked with longitudinal lines of white. Very handsome. From M. Louis Mullie, Saffelacre-Jez-Gaud.

Nidularium medio-picta.—Introduced from Brazil in 1902. The leaves have a broad band of light green at the margin, while the centre is white or greenish white.

Agave armata.—A Mexican plant with stiff, straight leaves about 20 inches long, armed with large grey spines. From MM. de Smet frères.

Rubus reflexus.—An attractive plant with handsome grey leaves, marked with dark green. The leaves are large, and somewhat resemble those of a *Begonia*. A very handsome plant.

Corypha australis variegata.—A pretty plant (the one shown some 2½ feet high), the leaves green, with some white markings. From M. Paul Thuysbaet, Moorbeke.

NEW AND NOTEWORTHY ORCHIDS.

Laelio-Cattleya Kerchovei.—A lovely hybrid between *L. anceps alba* and *Cattleya Trianae*, with broad white petals, narrow pointed white sepals, and fairly large lip, with a mass of rich yellow in the centre and broad margin of white, crimson lines beneath the column. Shown by the Marquis de Wavrin.

Laelio-Cattleya Prince Leopold.—This won the first prize for the best hybrid obtained between two different genera. The parents were *C. chocoensis* and *L. cinnabarina*. The flower is fairly large, of a lovely apricot-orange colour throughout sepals, petals, and lip. From the gardens of His Majesty, Laeken.

Lycaste pourbaixianum.—A hybrid between *L. Skinneri superba* and *L. Deppi*. The sepals are a uniform dark rose-buff, the petals thickly dotted with rose upon white. A distinct flower. From M. Eugene Pourbaix, 6, Rue des quatre Fils, Aymond, Mons.

Cypripedium x antwerpense.—A hybrid between *C. spectabilem* and *villosum aureum*. A very bright flower; the dorsal sepal light greenish yellow, slightly marked with crimson-black dots; petals yellow, marked with brown; lip prettily mottled brown and green. From M. A. Janssens and G. Putzeys, Mersin.

All the following were exhibited by M. A. A. Peeters, Brussels:

Laelio-Cattleya Mrs. Leemann.—The parents of this are *Cattleya aurea* and *Laelia digbyana*. The large, beautifully fringed lip has a lovely soft rose-coloured border, while between it and the red-brown centre is a band of dull yellow. The sepals and petals are primrose, tinged with rose. The whole flower is of a soft, pleasing colouring.

Laelio-Cattleya Chol etc.—A hybrid between *C. Mossiae* and *L. superbiens*, with spreading, drooping sepals and petals and rather long lip, light purple, marked with darker purple and yellow centre.

Odontoglossum wilckeanum var. germinyanum. A bold flower, the product of *O. luteo-purpureum* and *O. crispum*, with heavy red blotches on a primrose ground on sepals, petals, and lip.

Cattleya Fulcan has dark rosy purple sepals and petals and rich purple lip. *C. schilleriana* and *C. Mossiae* are the parents.

Cattleya resplendens is the result of a cross between *C. schilleriana* and *C. schofieldiana*. It has green-brown shining petals and sepals, dotted sparsely with red-brown. The lip is striking, heavily marked with purple feathered lines.

Mitonia bleuana var. Nobilior.—A hybrid between *M. Roezli* and *M. vexillaria*, the marking around the centre being pale red; the remainder of the flower is white.

Cattleya calviniana is the result of crossing *C. Acklandia* with *C. amethystina*. It is a beautiful flower, the petals and sepals much spotted with rich rose purple upon a creamy pink ground; the lip is light rose-purple.

Cypripedium robustum.—A hybrid between *C. Boxalli* and *C. albertinum*, a striking flower, with the dorsal sepal heavily marked with red-black on green, the margin is white, petals and lip green, the former spotted.

Cypripedium aureum var. hyacinum.—An attractive hybrid between *C. spicerianum* and *C. Sallieri*, with large dorsal sepal, white, with soft greenish brown centre; petals lie close by lip and are light brown and pale green; the lip is brown.

Odontoglossum crispum violaceum.—A flower heavily marked with rose-purple in the centre of sepals and petals; the edges are white.

Odontoglossum Koller optimon.—A pretty form, the sepals marked with dull purple upon dull white ground, petals less heavily marked. The lip is large, almost square, and the lower half white. *O. Pescatorei* and *O. harryanum* are the parents.

Odontoglossum excellens Prince of Orange.—One of the most richly coloured Orchids in the exhibition. The ground colour of sepals, petals, and lip is deep yellow and marked, but not heavily, with blotches of red. A medium-sized, elegant, and very attractive flower.

Cattleya Whitec.—*C. schilleriana* and *C. Warneri* are the parents; sepals and petals rosy purple, lip bright purple; a handsome flower.

Odontoglossum Koller var. ardentissimum.—An attractive form with broad sepals and petals heavily marked with dull purple.

Odontoglossum crispum virginale.—One of the most lovely, if not the loveliest, Orchid in the exhibition. Sepals and petals are pure white and of very good form, while the centre of the lip is clear lemon yellow. There were twelve flowers on the raceme.

Cypripedium aureum Surprise.—A hybrid between *C. spicerianum* and *C. Sallieri*, of a pale yellow tone throughout; there are a few brown markings on the petals, and the top of the dorsal sepal is white.

READING AND DISTRICT GARDENERS' ASSOCIATION.

THE meeting of the above association, held on the 6th inst., was set apart for the visit of a representative of the Bristol Gardeners' Association, the two societies having at the commencement of the year agreed upon a mutual interchange of lectures, and it is gratifying to know that this departure has met with great success both at Bristol and Reading.

To Mr. J. T. Curtis, of Down House Gardens, Stoke Bishop, fell the distinction of being the first Bristol representative, and he placed before the members of the Reading Association, who assembled in good numbers in the Abbey Hall, a practical and well-written paper on "Some Useful Stove Plants." After a few general remarks as to situation and size of houses the subject was dealt with under the following three headings: Creepers, flowering plants, and foliage plants. The cultural details were set forth in a very clear manner, and a good discussion followed, in which the President (Mr. Leonard Sutton), Messrs. Powell, Neve, Judd, Stanton, Gibson, Fry, Townsend, Tunbridge, Exler, and Cretchley took part. A hearty vote of thanks was accorded to Mr. Curtis, and the hope expressed that this interchange of lectures would become an annual event, as it was recognised that it might be the means of still forwarding the work for which the associations were formed.

The exhibits were exceedingly interesting, although none were entered for the certificate. Those contributing were Mr. J. Gibson of Danesfield Gardens, four fine plants of *Dendrobium wardianum*; Mr. W. Townsend of Sandhurst Lodge Gardens, bloom of a choice strain of *Polyanthus*; Mr. E. Fry, The Gardens, Greenlands, some good heads of *Commodore Nutt Lettuce*; Mr. Nash, Bulmershe Court Gardens, blooms of *Camellias*, *Magnolias*, and *Ornithogalum nutans*; whilst Mr. A. F. Bailey, Leopold House Gardens, had some grand flowers of *La Fraoce*, *Ulrich Brunner*, and *Camille Bernadine Rosa*. Among the new members elected was Sir William Farrer, J.P., Sandhurst Lodge, Berks (honorary member).

THE MIDLAND DAFFODIL SOCIETY.

PROFESSOR HILLHOUSE, Mr. Robert Sydenham, and the active committee of this society can be heartily complimented upon the very fine display made in the Botanic

Gardens, Edgbaston, on the 16th inst. The Midland show is undoubtedly the finest in the kingdom, it draws to it many of the leading experts with Daffodils, the finest and newest of the many varieties are certain to be produced here in fine character. The exhibition was remarkable for the large number of new varieties from Miss Willmott, the Rev. H. Engleheart, Messrs. Barr and Sons, Messrs. Pope and Son, and others; and there was a long sitting of a floral committee, and, despite the utmost care, a number of awards were made. Irish horticulture was represented by Mr. F. W. Burbidge, who acted as judge; by Miss Currey Lismore, who staged a very fine collection indeed; and there were splendid Alderborough Anemones from Messrs. Reamsbottom and Co., Geashill, King's County, while the trade was largely represented, one special feature being a bank of Mr. J. T. Gilbert's (nurseryman, Bourne) glowing double Anemone King of Scarlets; and Messrs. Hogg and Robertson of Dublin, in addition to the Daffodils, had superb Tulips. There was a luncheon at midday, and at night Messrs. Pope and R. Sydenham entertained a large party at dinner in the city; there were pleasant speeches, and the classification of the Narcissi was also dealt with. As there was no time for a full discussion the further consideration was postponed. The weather was favourable, there was a good company, and Mr. W. B. Latham's arrangements were excellent.

CUT BLOOMS.

In class I., for a collection of Daffodils of the three groups in fifty distinct varieties, Mrs. Berkeley, Spitchley Park, Worcester, was placed first, with a collection showing admirable culture and finish; of the Magni-Coronati section there were *Glory of Leyden*, *Lady Margaret Boscawen*, a beautiful variety of the size of *Sir Watkin*, having a brilliant white perianth and a large expanding golden cup, the flower measuring quite 5 inches across; *King Alfred*, a grand golden self; *Earl Grey*, the Rev. Charles Digby, Countess Grey, Ducat Genoa, &c., some of them being evidently quite new varieties; *Medio-Coronati*, *Solfaterre*, *George Nicholson*, *Brigadier*, a bicolor *Sir Watkin*, a beautiful Daffodil; *Will Scarlet*, white with rich scarlet spreading cup, considered to be one of the Rev. Mr. Engleheart's most remarkable productions; *Adjutant*, *Dorothy Yorke*, white, with large cup edged scarlet; *Pesch Nelson*, with a curious peach-tinted cup, &c.; and of *Parvi-Coronati*, *Sunset*, *Braia*, *Dante*, *Oriflamme*, *Cresset*, *Albatross*, a beautiful spreading *Eucharis*-like flower, cup canary, deeply edged with scarlet; *Valeria*, *Flora Wilson*, a charming variety of the *Barri* type, *Tasso*, *Curlew*, *M. Magdaline de Graaf*, &c., a very valuable group. Messrs. Pope and Sons, nurserymen, were second; of the Magni-Coronati section they had *Mme. Piemp*, *J. B. M. Camm*, *Emperor*, *Weardale Perfection*, *Captain Nelson* (a mere seedling), *Glory of Hootdwijk*, *Lady M. Boscawen*, *Giant Apricot*, &c.; *Medio-Coronati*—*Lucifer*, *Stella superba*, *Dorothy Yorke*, *Stronghow*, *Duchess of Westminster*, *Will Scarlett*, *Cristofa*, *C. J. Backhouse*, &c.; *Parvi-Coronati*—*Almira*, *Flora Wilson*, *Oriflamme*, *M. Magdaline de Graaf*, *Crown Prince*, &c. Mr. A. S. L. Melville, Branson Hall, was placed third, with a very fine collection, but was subsequently disqualified, it being found that two bunches of *Princess Mary* had been staged inadvertently. The collection was highly commended. Miss Willmott, Warley Lodge, Great Warley, was the only exhibitor of a collection of seedlings, setting up a very fine group, consisting of such varieties of the Magni-Coronati type as *Mrs. Berkeley*, white and cream; *Rev. C. Digby*, white, with pale yellow trumpet; *Countess Grey*, white and primrose; *Earl Grey*, deep primrose self; *Rev. C. Wolley-Do*, a large creamy white with deep yellow trumpet; *Warley Magna*, white; *Eleanor Berkeley*, white; *Cecil Rhodes*, yellow; and *Lilian*, white with primrose trumpet. *Medio-Coronati*—*Moonstone*, white; *Aladdin*, white, with open yellow cup; *Corydon*, white and primrose; and of the *Parvi-Coronati* type—*Lovelace*, *Rochester*, *Cressett*, *Incogniti*, *Firefly*, with rich orange-scarlet cup; *Rhymester*, &c.

The class for twelve distinct Trumpet varieties in commerce brought several competitors. Messrs. J. Pope and Son were placed first with fine examples of *King's Norton*, *Glory of Noordwijk*, *Weardale Perfection*, *King Alfred*, *Emperor*, *Mme. de Graaf*, *Tenier*, *J. B. M. Camm*, *Maximus* (a mere seedling), *Mrs. Camm*, and *Glory of Leiden*. Mr. H. B. Young, Metheringham, Lincoln, was second, having *Mme. de Graaf*, *Glory of Leiden*, *Emperor* (very fine), *Grande*, *Mrs. W. T. Ware*, *Empress*, and *P. R. Barr* as his best. The Rev. J. Jacob, Whitwell, Whichchurch, was third; his best examples were *Glory of Leiden*, *M. J. Berkeley*, *Emperor*, *Horsfield*, and *Captain Nelson*. In the class for six distinct varieties two collections were staged; the first prize was withheld, and equal second prizes awarded to Messrs. C. L. Branson and W. B. Latham. With twelve distinct varieties of *Medio-Coronati* type, Messrs. Pope and Son were again first, staging finely-developed examples of *Lady M. Boscawen*, *White Queen*, *Torch*, *Dorothy Yorke*, *Lucifer*, *M. Magdaline de Graaf*, *Barbara Wilson*, *White Lady*, *Albatross*, &c. Mr. H. B. Young came second, also with good blooms, chief among them *Gloria Mundi*, *Crown Prince*, *Duchess of Westminster*, *Lulworth*, *Beauty*, *Dorothy Yorke*, &c. The Rev. J. Jacob was third. With six distinct varieties Mr. J. H. Hartill, Olton, Birmingham, came in first. He had the following in good character: *Stella Superba*, *Duchess of Westminster*, *Lulworth*, *Flora Wilson*, *White Lady*, and *Mrs. Lamtry*. Mr. W. B. Latham was placed second, having much the same varieties, and Mr. C. L. Branson, Colehill Park, was third. The best six varieties of *Parvi-Coronati* (*Poeticus* varieties excluded) came from Mr. H. B. Young, who had *Model*, *Panessa*, *Agnes Barr*, *Ellen Barr*, *John Bain*, and *Baroness Heath*. The Rev. J. Jacob came second with much the same varieties, and Mr. A. S. L. Melville was third with six varieties of true *Poeticus*. Messrs. Pope and Son took the first prize, having such fine forms as *Almira*, *Homer*, *Poetarum*, *Poem*, *Ornatius*, and *Daute*. Mr. F. A. Walton, Handsworth, was second.

The following four classes were in the interest of growers of small collections of less expensive varieties, three of them

being limited to 10s. per dozen, catalogue price, and one to 5s. They served to illustrate the fact that there are fine varieties which can be obtained at a moderate price. With twelve varieties, Mr. R. C. Cartwright, King's Norton, was first with unnamed flowers of well-known sorts. Mr. J. A. Kenrick, Edgbaston, was second, and Mr. R. T. Mills, Chesterfield, was third. With six blooms, the Rev. T. Buncombe, Raibon, was first, having good flowers of such sorts as *Beauty*, *Mrs. Langtry*, *Autocrat*, *Barri conspicuus*, &c. Mr. J. Sweeney, Harborne, was second, and Mr. R. T. Mills third. The next class was for six varieties, maiden growers, the Rev. T. Buncombe taking the first prize, and Mr. Herbert Smith, Birmingham, second. In the class for twelve varieties, 5s. per dozen, Mr. R. C. Cartwright was first, and the Rev. T. Buncombe second.

An attractive class was for nine varieties of Tulips, not more than six blooms in a bunch, Mr. R. C. Cartwright exhibiting in excellent character such varieties as *Unique* (*syn Brunhilde*), *Joost van Vondel*, *Keizers Kroon*, *Fabiola*, *M. Tresor* (a fine yellow), *Duchesse de Parma*, *Gerise Grisdelin*, *white Joost van Vondel*, &c. Mr. W. B. Latham was a good second, having much the same varieties. Mr. Cartwright was the only exhibitor of six vases of Spanish Iris, having them in charming character.

PLANTS IN POTS.

There were two classes for Daffodils in pots, not to exceed 7 inches in diameter, one for twelve and one for six pots. Mr. R. C. Cartwright was first with well-grown plants in the class for twelve having good standard varieties, and Mr. R. Sydenham was second. With six pots Mr. W. B. Latham gained the first prize, and Mr. J. Sweeney was second. Mr. Latham had the best six pots of *Polyanthus Narcissus*. Such varieties as *Mount Cerus*, *Soleil d'Or*, *Grand Prince*, &c.; Mr. Cartwright was second, and Mr. J. A. Kenrick third.

Tulips in pots were an excellent feature; they are grown in Birmingham with great success. With six varieties Mr. R. C. Cartwright was first, having *Golden Queen*, *Fabiola*, *Unique* (a beautiful variety), *Keizers Kroon*, *Gerise Grisdelin*, and *white Joost van Vondel*. It would be difficult to improve upon this selection. Mr. J. A. Kenrick was a good second. He had some of the foregoing, with *Queen of the Netherlands* (a beautiful pale variety) and *Busart*. Mr. W. B. Latham was third. He had that novel variety *Spaendock* in fine condition. The only exhibitor of six pots of Lily of the Valley was Mr. J. A. Kenrick, and they were very good. The class for six pots of Liliums brought no competition.

FLORAL DECORATIONS WITH DAFFODILS.

One class was for a group of Daffodils arranged on a small round table, and Messrs. Pope and Son were first, using pretty bicolor and small cupped varieties in an artistic manner; Mr. W. B. Latham came second with a tasteful arrangement, but erring on the side of stiffness; Mrs. Master was third. An extremely handsome bouquet of Daffodils won the first prize for Messrs. Pope and Son, the execution was perfect; and Mr. W. B. Latham was second. There was a class for a bowl, vase, or centrepiece of Daffodils, and here there was a general tendency to overcrowding and stiffness. Messrs. Pope and Son were first; Mr. J. A. Kenrick second; and Miss Clark third. Mr. R. Sydenham's special prizes for three jars or bowls of *Polyanthus Narcissus* grown in cocoanut or moss fibre without drainage brought several exhibitors. Mr. J. A. Kenrick was first, and Mr. Cartwright second; the heads of bloom were as good as from pots of soil. Mr. Cartwright had the best three bowls of any other varieties of Daffodils, and Mr. J. A. Kenrick was second. There were two competitors in the class for a box or basket of cut bloom of Daffodils in bunches, packed for despatch by rail. Mr. Hartill was first, and the Rev. J. Jacobs second. Good flowers and packing characterised both.

The premier bloom of *Magni-Coronati* was the glorious yellow self *King Alfred*, shown in fine character by Messrs. Pope and Son, and they had the premier *Medio-Coronati*, having *White Queen*. The premier *Parvi-Coronati* was *Southern Star* in the collection of Mrs. Berkeley, white, with yellow cup, bordered with deep orange. Silver medals were awarded to *Medio-Coronati Robert Berkeley*, white, with sulphur cup; and to *Magni-Coronati Francesca*, a fine white self, both from Miss Willmott. A large number of seedlings were in receipt of awards of merit. A list of these shall be given next week.

AWARDS OF MEDALS.

were made to Mr. J. W. Cross, Wisbech, for a large and representative collection of Daffodils to Messrs. J. K. Pearson and Son, Chilwell Nurseries, Lowham, who had a very fine collection; to Messrs. Dicksons, Limited, Chester, for the same; to Mr. R. H. Bath, Limited, for the same; to Messrs. Barr and Sons, King Street, Covent Garden, for a collection including several fine novelties, to which further reference shall be made; to Messrs. Hogg and Robertson, nurserymen, for Daffodils and a group of very fine Irish-grown Tulips; to Messrs. Simpson and Son, Birmingham, for Daffodils in pots; to Messrs. Reamsbottom and Co., Geashill, King's County, for a collection of their superb Anemones; to Mr. J. T. Gilbert, Anemone Nursery, Bourne, for Anemones, including his fine double *King of Scarlets*; to Miss Currey, Lismore, Ireland, for a fine collection of Daffodils; to Messrs. Perkins and Son, nurserymen, Coventry, for exquisite floral decorations; to Messrs. Hewitt and Co., nurserymen, Solihull, for Roses, including a number of fine blooms of *Chatenay*, regarded as an improved *Mrs. John Laing*; to the Rev. G. H. Engleheart for a stand of novelties in Daffodils; to Messrs. J. H. White and Son, Spalding, for Daffodils; and to Mr. R. Sydenham for Narcissi and new varieties of Tulips, &c.

ROYAL HORTICULTURAL SOCIETY.

ANOTHER large meeting took place on Tuesday last.

FLORAL COMMITTEE.

Present: George Paul, Esq. (chairman), Messrs. C. T. Drury, James Hudson, Amos Perry, John Green, J. F. McLeod, J. W. Barr, C. Dixon, C. R. Fielder, W. Bain, C. J. Salter, Charles Jeffries, Herbert J. Cutbush, Charles E.

Pearson, H. J. Jones, R. Wilson-Ker, W. P. Thomson, E. H. Jenkins, W. G. Baker, Harry Turner, and Charles Blick.

The collection of *Cineraria stellata* from Messrs. Sutton and Sons, Reading, included many lovely things in blue and kindred shades, and from these to nearly pure white. Indeed, the strain is a remarkable one, the dwarf plants profusely and abundantly flowered, and of the true star character. Silver Flora medal.

Mr. H. B. May, Edmonton, on this occasion set up a choice lot of single and double zonal *Pelargoniums*, of which Mme. Carnot, white; David d'Angers, pink; Californie, scarlet; Mme. A. Erckener, salmon; Lady Ilchester, soft pink; Decorator, deep scarlet, very fine in pip, truss, and colour; King of Denmark, salmon; Lord Kitchener, scarlet; and Lord Northbourne, a crimson-scarlet with cherry shade, are among the best double and semi-double kinds. Mark Twain, flaked fancy, scarlet; Hall Caine, intense vermilion, a grand thing; and Conan Doyle, rich salmon, are gems in the single kinds. These in a setting of ferns and a background of Palms and Hydrangeas made a most effective display, even in the sombre Drill Hall light.

Messrs. Veitch and Sons, Limited, staged a group of *Cinerarias*, such as Feltham Beauty, C. polyantha, and C. Feltham Bouquet; the latter, C. polyantha x C. multiflora, made a gay display, freedom of flowering in many shades of colour being dominant features.

Not the least interesting of the groups displayed on this occasion was that from Messrs. J. Cheal and Sons, Crawley, of shrubs and such things in small pots. In this way a charming variety was accommodated in small space.

Some of the notable things were *Spiraea opulifolia aurea*, S. arguta multiflora, white; Berberis Darwinii, ever welcome; *Cydonia Maulei superba*; *Genista praecox* Wheeleri, pale sulphur, with Acers in variety made a very pleasing arrangement, more interesting and instructive than showy.

From Mr. E. Potten, Cranbrook, Kent, came two or three plants of the climbing Rose Dorothy Perkins, with rosy pink flowers, and Paul Transon, bluish, also a climbing variety. The former is very pleasing and distinct, but the plants were not improved by the great array of sticks. The new yellow Tree Peony P. Intea, of the P. arborea section, was also in this group, the solitary flower reminding one of a Water Lily, Nuphar lutea, for example. It is certainly golden in colour, but not large by any means.

Messrs. Wallace and Co., Colchester, had a small and very choice group. The species of Tulips were well represented. T. Greigii was exceptionally fine with its large goblet flowers, and freckled leaves. Of quite a distinct type is the small T. Lownei, with channelled, prostrate leaves. T. Eichleri is gorgeous, sturdy, and vigorous in every way. Erythronium Johnsoni, very pretty, and so also Anemones in variety, and with Adiantum pedatum made a pleasing group.

Messrs. George Jackman and Son, Woking, had a most beautiful group of hardy things, choice alpine, and a colony of hardy *Cypripediums*, that were indeed a feature, well grown, and obviously thoroughly understood; indeed, finer we have never seen. Of those shown we note C. acule, C. pubescens, C. macranthum—much varied in colour—C. Calceolus, &c.; *Incarvillea grandiflora*, *Androsace pubescens*, A. samentosa, and A. carnea were all in charming condition; *Gerbera Jamesoni* was superb, while *Gentiana verna* and *Viola pedata* were other choice things in an altogether choice lot. Silver Flora medal.

Messrs. Wm. Cutbush and Sons, Highgate, had a large array of forced shrubs, Magnolias, Wisterias, Azaleas, Heaths Tree Peonies, Lilacs, Brooms, and many others in this way. A large imposing group. Silver Banksian medal.

A similar lot of things were from Messrs. R. and G. Cutbush, Southgate. Lilacs, *Cytisus andreanus*, *Azalea mollis*, *Wisteria*, &c., in a setting of Acers, backed with Palms, were very showy. Silver Banksian medal.

Mr. R. C. Upton, Hardy Plant Nursery, Guildford, set up a showy lot of hardy things, mostly alpine and shrubs, *Epidemium niveum*, very beautiful *Ranondias*, *Saxifraga Rhei*, *Androsace*, *Geum Heldreichii*, and the ever-welcome *Gentiana acialis* were among the more striking. Silver Banksian medal.

The Misses Hopkins, Knutsford, had Primroses, Daisies, and single and double *Primulas* in variety.

Mr. Amos Perry, Winchmore Hill, had a group of hardy plants and bulbs, with *Iris pumila* and various *Iris* of the cushion group. There were *Psechklonia scilloides*, *Ranunculus amplexicaulis*, *Primula frondosa*, the double white *Arabis*, and many other beautiful flowering alpine. Bronze Banksian medal.

Roses from Mr. G. Mount, Canterbury, were, as usual, grand. Ulrich Brunner, Mrs. J. Laing, La France, Catherine Mermet, and Captain Hayward, were all in superb form. It is not possible to overrate the beauty or the value of these Roses. Silver-gilt Flora medal.

Mr. J. Laing, Forest Hill, exhibited *Streptocarpus* of a capital strain, that were much admired.

Mr. J. Russell, Richmond, had *Acalypha hispida*, with small *Caladins*.

Messrs. Low and Co. had *Schizanthus wisetonensis* in variety and in well grown plants.

Mr. B. Ludhams, Shirley, Southampton, had a small group of hardy things, in which we noted new or rare plants. The golden-leaved *Thalictrum* was again shown.

Messrs. Frank Cant and Co., Colchester, had a fine exhibit of Roses, in which White Maman Cochet, Frau Carl Druschki, Fortune's Yellow, and Marchioness of Londonderry were prominent. Lady Roberts was notable and very charming. Silver Banksian medal.

Messrs. J. Peed and Son, West Norwood, had small alpine in pots.

Messrs. James Veitch and Sons, Limited, Chelsea, staged a showy group of Narcissi, in which the double N. incomparabilis was prominent. N. major, Glory of Leiden, Barri conspicuus, Nobilis Anglobus, Emperor, and others were also shown. Silver Banksian medal.

Messrs. Gilbert and Son, Bourne, Lincs., set up a large

array of *Anemones*, single and double, and in great variety, the large flowers being much admired.

Mr. G. Renthe, Keston, Kent, showed hardy *Primulas*, *Saxifragas*, *Viola pedata*, *Lewisia Tweedii*, the beautiful *Saxifraga*, *Guildford Seedling*, *Sanguinaria canadensis*, *Erythronium revolutum* *Watsonii* (sulphur flowered) was very fine. Many other beautiful plants were shown.

Messrs. T. S. Ware, Limited, Feltham, showed *Primula Sieboldii* in great variety and goodly masses, that with towering spikes of *Eremuri* made one of the most effective groups in the hall. Silver Banksian medal.

Messrs. R. H. Bath, Limited, exhibited *Narcissi* in great variety. Mme. de Graaff, maximus, Sulphur Phoenix, Wm. Walks, Weardale Perfection (superb), and Nelsoni anranthias being all in fine form.

The Tulips from Messrs. Barr and Sons were very fine, and made a showy mass of colour. A few alpine were also shown, together with a choice lot of *Narcissi*, in which we noted Vivid, Loveliness (a white Ajax), Mrs. George Barr (a white Ajax), Cleopatra (a yellow Ajax), being among the best. Silver Banksian medal.

Another choice assortment of *Narcissi* came from H. R. Darlington, Esq., Potter's Bar. In these we noticed N. poeticus poematum, Emperor, maximus, Queen of Spain, Mrs. Burbridge, and others. Silver Flora medal.

Messrs. Hogg and Robertson, Dublin, showed Tulips and Daffodils in great variety. The former were very gorgeous, while in the latter we noted Mrs. H. Betteridge, Sentinel, Nelson major, Queen Sophia, Weardale Perfection, M. J. Berkeley, Brigadier (a fine bicolor Sir Watkin), and many others. Silver Banksian medal.

Messrs. Carter and Co., Holborn, showed a grand group of *Cinerarias*, a bank resplendent in colour and variety, and the plants finely flowered and well grown. Many charming things were in this group. Silver Banksian medal.

Primroses from Messrs. Cannel and Sons to several shades were much admired.

Messrs. Paul and Son, Old Nurseries, Cheshunt, showed a few trusses of *Rhododendrons* and *Carnation Galety* (Clovescent, and flaked with crimson on white ground), also Rose Mildred Grant, and others. *Rhododendron* Lady Alice Fitzwilliam (white, with chestnut-red chequering), was delightful.

NARCISSUS COMMITTEE.

Present: H. B. May, Esq. (chairman), Messrs. George S. Titheridge, P. R. Barr, W. Poupard, Walter Ware, R. W. Wallace, James Walker, J. Boscaen, G. Reulle, S. Emzene Bourne, Charles T. Digby, R. Sydenham, A. N. Kingsmill, W. Goldring, J. T. Bennett-Poe, J. D. Pearson, C. H. Curtis, Charles MacMichael, and Miss Willmott. There were many choice exhibits.

NEW NARCISSUS.

The following each received an award of merit—

Narcissus Lilian.—This is best described, perhaps, as a Leedi form, with the extended, more cylindrical crown of N. Queen of Spain. The perianth segments are pale sulphur, the crown of a full primrose tone.

Narcissus Resource.—A Nelsoni variety, enlarged, with broad, overlapping segments and well expanded crown.

Narcissus Moonstone.—A lovely flower in the way of Calathinus, singly set on stems 15 inches high. It is a flower of much purity and beauty. One of the most welcome hybrids we have seen of late years.

Narcissus Adour.—A self-coloured Ajax, intermediate in tone between N. maximus and N. spurius coronatus, with not a little of the form such a combination should give. All of the above beautiful hybrids were from Miss Willmott, Warley Place.

Narcissus Branston.—A most interesting plant, seeing it is a seedling from N. Barri conspicuus. It has a richer more intense cup, suffused with orange at base, while the segments are minus the yellow tone of the parent and approaching to white. From A. S. Leslie Melville, Esq., Branston Hall, Lincoln.

Narcissus Cleopatra.—A fine yellow trumpet after Emperor in colour. A refined flower.

Narcissus Mrs. George Barr.—A pure white Ajax, but little inferior to Peter Barr. The drooping flowers are of fine form and size, and will materially strengthen the section to which it belongs. This fine pair were shown by Messrs. Barr and Sons, Covent Garden.

FLORAL COMMITTEE AWARDS.

A first-class certificate was awarded to *Peonia lutea*.—A member of the tree section of *Peonies* with solitary cupped blossom of golden-yellow. Indeed, in its form the flower reminded one much of the yellow Water Lily Nuphar lutea. The plant shown was quite small, however, and doubtless the flowers will increase in size with the age of the plant. From Mr. E. Potten, Cranbrook, Kent.

The following received the award of merit—
Rhododendron Duchess of Portland.—A very beautiful early *Rhododendron* with pure white flowers in compact trusses. The plant is of dwarf habit and freely flowered. It is thoroughly hardy, vigorous, and in every way a gain to the list of hardy *Rhododendrons*. We hope shortly to illustrate it. Shown by Messrs. Fisher, Son, and Sibray, Sheffield.

Asperula subserota.—A neat if diminutive alpine from Greece. The pinkish blossoms are tubular and about 1 inch long, numbers of these being produced above a dense hirsute tuft of leaves. From Messrs T. S. Ware and Co., Limited, Feltham.

Rehmannia angulata.—A new plant from central China belonging probably to the *Bignoniaceae* family. The flowers are purplish with magenta, drooping, and produced singly from the axils of the leaves at intervals on a stem some 2 feet long. The exhibited plants had been grown in a quite cold house, and there is doubt at present as to its perfect hardiness. The plant is a true herbaceous perennial. Shown by Messrs. Veitch and Sons, Limited, Chelsea.

Lathyrus pubescens.—This lovely Chilean species was shown in splendid condition by Mr. Bain, gardener to Sir Trevor Lawrence, Burford, Dorset. The plant is not strictly hardy, perhaps, but the delicate beauty of its soft

pale blue flowers, which are sweetly scented, renders it one of the most exquisite of climbing plants. For corridors and the cool conservatory, or in any position excluding severe frost, the wealth of blossom it produces will make it a general favourite. It is one of the most delightful plants we have seen in colour.

Iris spuria fol. var..—A golden leaved form of this well-known *Iris*, and therefore a striking plant in the open garden where its sheath-like growth could be well seen. From Messrs. Barr and Son, Covent Garden.

ORCHID COMMITTEE.

Present: H. J. Veitch, Esq. (in the chair), and Messrs. J. O'Brien, H. Ballantine, N. C. Cookson, W. Coble, F. A. Rehder, J. Charlesworth, H. T. Pitt, W. A. Binley, W. Boxall, E. Hill, W. H. Young, H. A. Tracey, W. H. White, J. W. Potter, H. Little, J. G. Fowler, G. Douglas, and F. Wellesley.

Mr. H. Lincey, gardener to M. M. Low, Esq., Wellesbourne House, Warwick, contributed a group of well-grown plants of *Dendrobium nobile*. The variations observable in imported specimens were marked, some of the flowers being pale in colour, while others darkened almost to the tint of nobilium.

Messrs. Charlesworth and Co., Heaton, Bradford, were represented by a small group of Orchids, which was very interesting, from the fact that several handsome hybrids were represented. Amongst the most noticeable were *Laelio-Cattleya G. S. Ball*, L.-C. Highburyense, L.-C. mercia, *Cypripedium berkeleyanum*, *Laelio-Cattleya Dora magnifica*, and *Miltonia blieiana grandiflora* rosea.

Messrs. H. Low and Co., Bush Hill Park, Enfield, arranged a group of Orchids in varieties, which included *Cypripedium grande*, *C. lawrenceanum*, *C. niveum*, *Eria obesa*, *Odontoglossum harrayanum*, *O. anderssonianum*, *O. Adriane*, *Cattleya gigas*, *C. intermedia nivea*, *C. lawrenceana*, *C. Regnellii schilleriana*, *Dendrobium lituiformum*, and others.

A very attractive exhibit was that made by some splendidly-grown plants of *Dendrobium wardianum*, shown by Mr. J. Gibson, gardener to R. W. Hudson, Esq., Danesfield, Great Marlow. Every plant was profusely flowered, and in many cases the blooms were of considerable size, clean, and brightly coloured.

Messrs. J. Veitch and Sons, the Royal Exotic Nursery, Chelsea, sent a superb *Laelio-Cattleya* named Duke of Connaught. It is one of the Digbyano-purpurata hybrids, and in lip development and colour ranks with the very finest. This firm sent also *Cypripedium Little Gem*, which resulted from a cross between *C. harrisanianum* superbium and *C. Baron Schröder*.

Mr. R. J. Measures, Cambridge Lodge, Flodden Road, Camberwell, staged a hybrid *Cypripedium* named *Harric-Eul*, whose parentage is clearly designated by the name.

Captain C. C. Hurst, Burbage, Hinckley, showed a fine plant of *Lelia hysena magnifica*.

Mr. J. Gilbert, gardener to F. Wellesley, Esq., Westfield Common, Woking, staged *Laelia Iona ignescens*.

Mr. H. J. Chapman, gardener to Norman C. Cookson, Esq., Oakfield, Wylam-on-Tyne, staged a superb form of *Dendrobium Venns*, that was justly named *Grandiflorum*.

Mr. W. P. Bound, gardener to J. Coleman, Esq., Gatton Park, Reigate, sent *Acinetia Humboldtii* Colmani, which is very handsome.

FRUIT COMMITTEE.

Present: George Bunyard, Esq. (chairman), Messrs. A. H. Pearson, J. Cheal, W. Bates, G. Woodward, A. Dean, J. Gibson, H. J. Wright, G. Kell, C. G. A. Nix, F. L. Lane, J. Willard, G. Norman, W. H. Divers, J. H. Veitch, G. Wythes, H. S. Rivers, and G. Reynolds.

Miss Crooke, The Lady Warwick Hostel, Reading, sent four punnets of Royal Sovereign Strawberries, for which a vote of thanks was given.

The excellence of Edwin Beckett Peas was splendidly exemplified by the dish sent by Mr. J. Gibson, gardener to R. W. Hudson, Esq., Danesfield, Marlow. The pods were large and finely filled with Peas of first-rate flavour.

Mr. B. Greaves, gardener to Lady Hargreaves Brown, Broome Hall, Dorking, staged a box of as fine Royal Sovereign Strawberries as have ever been seen in the Drill Hall at this period of the year.

Mr. G. Wythes, V.M.H., gardener to the Duke of Northumberland, Syon House, Brentford, sent Cabbage Early Gem, which is obviously a valuable early hearting variety.

Mr. J. Crook, Forde Abbey Gardens, Chard, showed Onion Long Keeper, a variety of the Rousham Park Hero character that possesses undoubted keeping properties.

Messrs. Sutton and Sons, Reading, contributed excellent dishes of Peas Duke of Albany, Sutton's Seedling, and Early Marrowfat.

Mr. A. Dean proposed that a vote of condolence be sent to Mrs. Barron and family, expressing the deepest regret of the Fruit and Vegetable Committee of the Royal Horticultural Society at the death of Mr. A. F. Barron, V.M.H. In speaking of the proposition, Mr. Dean referred to the services that the late Mr. Barron had rendered to the Royal Horticultural Society in general, and to the Fruit Committee and the fruit growing community of Great Britain in particular. The speaker placed the deceased, and justly so, in the same rank as Dr. Hogg, Malcolm Dunn, Philip Crowley, and other great men in the fruit world. Mr. George Wythes, V.M.H., who seconded the motion, spoke briefly, but with considerable feeling, and added his testimony to that of Mr. Dean, as well as to the wide knowledge of Mr. Barron, but also to his desire to extend his information to his fellow gardeners.

REDBHILL AND REIGATE AND DISTRICT GARDENERS' ASSOCIATION.

The above association held their fortnightly meeting on the 31st ult., Mr. Bound in the chair. Mr. Mead was awarded the society's certificate for the best collection of salad. Mr. E. W. Wagner, of Hillgay, Redhill, read a paper on "Boilers, Flues, and Chimneys," and a hearty vote of thanks was accorded.

THE GARDEN

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[MAY 2, 1903

THE MISUSE OF BULBS.

NOW that many kinds of bulbs may be bought very cheaply, that very fact, though a boon to good gardeners, is a danger in the hands of the unwary.

It is not so much a danger to spaces within the garden proper, but to its wilder outskirts and nearer woodlands. Wild gardening is delightful when rightly done, but there are many ways of doing it wrongly, and one of the easiest is to buy hundreds of thousands of cheap bulbs, and to plant them at random in wild ground without any special plan or design.

Lately we have seen more than one woodland space that was already well furnished with its own wild Primroses, Bluebells, and Wood Anemones, sadly muddled and spoilt by the addition of exotic bulbs in incongruous mixture.

Good planting in wild ground requires as much knowledge as any other kind of gardening, *and a great deal more caution!* No doubt it is possible to use every kind of bulbous plant that is hardy in our islands in wild gardening. Certain plants are adapted for certain places and kinds of ground and environment, but it is fatal to good effect to plant without knowing exactly how, and what, and where. It is grievous to see a senseless mixture of Crocus, Daffodil, and Spanish Iris planted altogether, and in a wooded place where there should, perhaps, be only Moss and Wood Sorrel. It is not only a waste of bulbs that might be better used in plain garden spaces, or separately in quite different and rightly-chosen wild spots, but to put them mixed up, or even closely associated, is only spoiling the character of the wood.

There are many spots in our English woods where it would be delightful to come upon a good patch of the beautiful Wood Lily (Trillium), or the pale Erythronium giganteum. It would be far better to have fifty or a hundred of such a good thing, and to place it just rightly, than to get ten thousand mixed bulbs and spoil the wood.

If the character of wild ground is not to be destroyed, it is necessary to plant as Nature plants—never showing too many kinds of things at the same time. When Primroses are in bloom in the woods, they are nearly alone, or there may be Primroses and Wood Anemones. After them come the Bluebells, just intergrouping with the pink Campions that, for the most part, follow them.

If we interfere with this rule of the way the wild things (for the most part) grow, the beauty and restfulness of the natural ground are lost, and we only get a sort of messy, mongrel gardening. We do not mean to say that there should never be in woody places isolated plantings of some one thing; Nature does this also; but it needs knowledge, and the closest sympathy with the ways of plants.

True wild gardening may be described as the planting of exotic growths in uncultivated places in such a manner that they are in perfect accordance with what is about them, and look as if they might have grown there spontaneously.

The bad wild gardening that is now, alas! too often to be seen, looks only like the overflow of garden borders gone woefully astray.

Let no one put bulbous plants in the wild because wild gardening is in fashion and bulbs are cheap; for these would appear to be the motives that only too often impel the unwary enthusiast.

RIVIERA NOTES.

AMONG the more unusual of flowering shrubs

CORYLOPSIS PAUCIFLORA has been admired by several friends, who suggest it might be called the Cowslip Tree. Certainly its little bunches of primrose flowers and green bracts do recall a small and poorly-developed Cowslip, but hitherto I have been unable to perceive any sweet smell such as is always said to be its chiefest attraction. It is, however, a very dainty little bush, and its Hornbeam-like leaves are quaintly pleated and cut.

NANTHOCERAS SORBIFOLIA flowers in this climate at nearly every axil, and it certainly should find a place in every garden on this coast. It seems quite indifferent to soil and situation, flowering alike in dry and shady situations, but growing much more freely where it has more moisture and food. As always in this climate

THE *PÆONIES* have been and are magnificent in their beauty where they have been well fed. I have seen a fable that they will not stand manuring; here they are the very grossest feeders possible, and amply repay the most generous diet. The size and colour of the blooms are not to be imagined by those who have only seen northern examples. There is a great difference in their habit; some varieties are so straggling in growth and heavy-headed in their flowers that they need much training and tying in, and unfortunately some of the most beautiful in flower are the ugliest in growth. The foliage, however, is beautiful in any case, and, while expanding very early, does not decay till December, so that the bushes are not bare for more than two months. It is one of the lime-loving

plants, and gives more massive blooms in good calcareous loam than in other soils.

CYCLAMEN LIBANOTICUM, which I have seen mentioned elsewhere, is a delightful addition to woodland plants. Its shades of soft pink and rose-red are bewitching, and it varies so greatly that the finest varieties very nearly touch the persicum section in size and even width of petal. No two bulbs seem alike, but so far I have only seen one poor form, which recalled a big *C. Coum*, and that could not be called ugly. We owe much to the raisers of new Roses, I think, in extending the Rose season. Thanks to them the succession of Roses has been constant this season out of doors. At the end of March, when there used generally to be a gap between the winter and spring Roses, we now have such effective garden Roses as *Anemone*, *Dr. Rouges*, *Noella Nabonmand*, *Antoine Rivoire* (an extra large bloom here), as well as the older *La France de '89*, *General Schablikine*, and such older favourites. *Lady Battersea* gives a few fine early buds also, and I think *Georges Schwartz* will prove most desirable. *Frau Karl Druschki* promises to surpass the old and excellent *Gloire Lyonnaise* in every way. The drought is very trying this spring, and all flowers go off earlier than they should; but we have not to complain of frost and snow such as we hear of elsewhere, though the week after Easter was many degrees colder than usual. The succulents and drought-resisting plants have enjoyed the constant sunshine, while the little spring Phloxes have also flowered to perfection, making a pretty carpet to the Banksian Roses as they hang in wreaths from Cypress and Olive. That little-grown evergreen shrub,

ILLICIAM ANISATUM, is, without doubt, the most persistent flowerer that I know. A fine specimen in a damp and shady corner down in the plain of Nice has never ceased to cover itself with beautiful heads of starry white flowers since last October, and is now even more full of bloom than ever. If *Iris stylosa*, the pink Ivy-leaved *Geranium Mme. Crousse*, the winter *Salvias* and hardy *Roses*, with the winter-flowering *Cassia tomentosa* are the constant ornaments of the gardens here, it is strange that so beautiful and persistent flowering a shrub as this should be neglected. No doubt it takes two or three years to grow to flowering size, and, moreover, it will not thrive in a dry corner; but in most gardens there is both room and need for such a constant and beautiful shrub.

EDWARD H. WOODALL.

EDITOR'S TABLE.

AT this season the flowers of the garden are coming forth abundantly, and we invite our readers to send us anything of special beauty and interest for our table, as by this means many rare and interesting plants become more

widely known. We hope, too, that a short cultural note will accompany the flower so as to make a notice of it more instructive to those who may wish to grow it. We welcome anything from the garden, whether fruit, tree, shrub, Orchid, or hardy flower, and they should be addressed to The Editor, 20, Tavistock Street, Covent Garden, London.

MAGNOLIAS FROM DEVONSHIRE.

Mrs. Bayldon sends from Oaklands, Dawlish, Devon, flowers of *M. soulangeana*, which are a reminder that many of the early spring flowers will soon be over. The handsome purple-stained flowers are very welcome for large bowls, but as our correspondent mentions "they travel so badly."

ERICA PROPENDENS.

Messrs. Balchin and Sons, Hassocks and Brighton, send several lovely flowering shoots of this *Erica*. The shoots were thickly set with flowers of a misty pink colour, and were as beautiful as anything we have seen for a long time. This firm seems to have acquired the art of growing hard-wooded plants, and we well remember the sensation created by the blue *Leschenaultia* at the Royal Botanic shows years ago. *E. propendens* is certainly a Heath for all gardens where such plants are grown. The shoots, crowded with flowers so pure and fresh in colour, were a delight. The same firm sends

BORONIA HETEROPHYLLA,

showing the same skilful cultivation. The shoots—we might almost call them slender branches—were bent with sweetly fragrant flowers of warm crimson colouring and pretty bell form. It is astonishing to what perfection Messrs. Balchin grew the *Boronias*. The plants are triumphs of cultural skill.

RUSCUS ACULEATUS IN FRUIT.

A correspondent sent some time ago shoots of the Butcher's Broom (*Ruscus aculeatus*) in fruit, of which we give an illustration. There is nothing unusual in this, but we thank our correspondent for sending them.

NOTES OF THE WEEK.

FORTHCOMING EVENTS.

May 5.—Royal Gardeners' Orphan Fund annual dinner; Royal Horticultural Society, meeting of committee 12 noon, lecture at 3 p.m.

May 19.—National Tulip Society's Show, Drill Hall, Westminster; Royal Horticultural Society's meeting, 12 noon.

May 20.—Spring Show of Royal Caledonian Horticultural Society (two days).

May 26.—Temple Flower Show of Royal Horticultural Society (three days).

May 27.—Bath and West and Southern Counties Show at Bristol (five days).

Royal Horticultural Society.—The subject of photographing at shows was brought up on two new applications for permission, and the following statement and resolution was drawn up and proposed by Mr. J. Gurney Fowler, and seconded by Mr. F. G. Lloyd, and carried, viz.: In consequence of (1) the very crowded condition of the society's exhibitions, and (2) the increasing number of applications for permission to photograph at such exhibitions, the council have felt compelled to order that in future (1) all persons taking photographs at the society's shows must hold an authority to do so issued by the council. (2) All such photographers must place themselves unreservedly in the hands of the society's superintendent and act entirely as he directs. (3) In case of any block or engraving being made for publication from photographs thus made at the society's shows, the principal sending and employing the photographer must undertake to present to the society a duplicate of every such block, which the society will be at liberty to use in its own publica-

tions (but not otherwise), acknowledging the source from whence the block was received or stating in whom the copyright vests. The council feel it necessary that this regulation should be applicable to all journals and photographers without any distinction.—W. WILKS, *Secretary*.

The next fruit and flower show will be held on Tuesday next in the Drill Hall, Buckingham Gate, Westminster, 1 to 5 p.m. A lecture on "Peculiarities of the Cape Flora" will be given by the Rev. Professor George Henslow, M.A., V.M.H., at 3 o'clock. At a general meeting held on Tuesday, the 21st ult., fifty-nine new Fellows were elected, among them being the Marquis of Granby, Countess Cairns, Lady Evelyn Scott, the Hon. Mrs. Heywood-Lonsdale, the Hon. Mrs. Mark Napier, the Hon. Mrs. Henry Gladstone, the Hon. Mrs. Pennant, and Professor James Ward, Sc.D., making a total of 605 elected since the beginning of the present year.

Prizes for Tulips.—At the Royal Horticultural Society's fortnightly meeting, to be held in the Drill Hall, Buckingham Gate, on the 19th inst., special prizes will be offered for Tulips by the Royal National Tulip Society. For schedule of prizes see Royal Horti-



BUTCHER'S BROOM (*RUSCUS ACULEATUS*) IN FRUIT.

cultural Society's "Book of Arrangements for 1903," pages 63 and 64. Copies sent free on application to the secretary, Royal Horticultural Society, 117, Victoria Street, London, S.W., or separate schedules can be obtained from A. D. Hall, Esq., The Oast House, Harpenden.

The Tweed Vineyards.—Coming of age of Mr. W. H. Thomson.—An interesting event to the villagers of Clovenfords and district and to his many friends took place recently on the coming of age of Mr. W. H. Thomson, of the world-famed firm of William Thomson and Sons, Limited, Tweed Vineyards. The employees of the firm and the members of Clovenfords Draughts Club, of which Mr. Thomson is president, marked the occasion with the presentation to Mr. Thomson of a handsome marble clock and pair of bronzes. The subscribers, to the number of ninety, met in the club room, which was tastefully decorated. The company sat down to a sumptuous tea provided by the firm. The chairman of the evening was Mr. David

Calderhead, manager, who was supported by Miss Thomson, Mr. W. H. Thomson, Rev. R. Small, minister of the parish, Mr. Thomas Gibson, formerly of Torwoodlee, Mr. R. Grieve, &c. Apologies were received from Mr. George Monro, Mr. A. J. Craig, and other gentlemen. The chairman, in the course of a few remarks, said that he had known Mr. Thomson for twenty years, and he had no doubt that he would worthily uphold his own good name, as well as the fame of the Tweed Vineyards. He had pleasure in expressing the sentiments of all, and in congratulating him on attaining his majority. They all joined in wishing him long life and prosperity, and many happy returns of the day. Mr. Small then made the presentation.

The recent frosts and Roses.—In low-lying districts early-pruned Roses have fared rather badly of late. In some parts as much as 15° of frost have been registered. The folly of leaving the young shoots of Hybrid Perpetuals and kindred Roses when pruning was only too manifest, as these were quite spoiled by the frost. If they partially recover the flowers will have green centres or be otherwise marred, so that I would advise even now that the plants be gone over, and where the new shoots appear black to cut back the old wood to another good plump eye. They will quickly make up for this as soon as warm weather comes. Wall Roses of the Tea and Noisette race even if injured will right themselves, owing to the propensity of these groups to flower from eyes which break out around the first shoots. Rambler Roses which had started into growth have not apparently suffered. Some grand plants of Crimson Rambler with long, wavy branches were apparently unharmed after the frost alluded to, and the wichuraiana Roses upon tree stumps, though having young growths 3 inches or 4 inches long, do not appear to have suffered. We are not yet out of the wood. Last year early in May we had 10° of frost, and some pot Roses outdoors which had made a fine new growth were rather hard hit, but a good syringing with cold water before sunrise removed the frost, and the plants passed through the ordeal unharmed. I would advise amateurs to be on the alert. If frost does come, it should be remembered that syringing with cold water before sunrise will mitigate the evils of the visitation.—P.

The proposed gardeners' dinner.—A second meeting of the committee promoting this dinner was held on the 21st ult., at the Horticultural Club, by kind consent. Messrs. J. Jennings, Ascott Gardens, Mr. C. Jeffreys, Brentford (floral), and G. Kelf, Regent's Park (fruit committee) were nominated as members of the dinner committee. That body now numbers twenty. An offer from the Holborn Restaurant Company to supply the dinner in their beautiful King's Hall was accepted, and also that of the talented London Pierrot Company to provide the musical portion of the proceedings. The preparation of a list of gardeners of the kingdom to be invited to act in the interest of the dinner was proceeded with, but its completion was deferred to the next meeting of the committee on Tuesday next, when also the draft of the circular to be issued to these gentlemen will be submitted. So much interest has been created in horticultural circles by the announcement of the proposals of the committee that it is expected the function, which is to be so closely associated with the great fruit and vegetable show at Chiswick on September 29 next, will be a big thing. The suggestion that the dinner should be preceded by a reception, at which everyone attending should be specially introduced and welcomed, has caught on admirably. Country gardeners and horticulturists specially feel that when they come to any great London show no effort is made to give them any form of social welcome. As the price of tickets will be but 5s., and morning dress worn, ladies also being invited, there is good reason to anticipate a very large attendance. The committee, with Mr. Owen Thomas, V.M.H., at its head, will spare no trouble to render the dinner a great success. Mr. A. Dean, Richmond Road, Kingston-on-Thames, is secretary.

Proposed gardeners' dinner and reception.—This is a step in the right direction and worthy of the most liberal support. Such a gathering as this at Chiswick should, and no doubt will, induce many gardeners to come to the show and conference; moreover, it is at a season when most gardeners can get away. Many gardeners from the country do not care to come to the large shows, from the fact of not having much knowledge of London and having neither friends nor means of knowing where to obtain good lodgings. I am convinced that a good number (and especially young men) seldom or never attend the large meetings that would do so if a sort of club or place of meeting could be provided, where they could find the necessary accommodation at a reasonable price. I note that on the committee are many names that know the requirements of gardeners, and I trust they will see their way to provide lodgings for a limited number at a moderate price. Everyone who has had much experience in going to dinners and not having previously obtained lodgings, knows how difficult it is to obtain them at a late hour. I am glad to see that it is proposed to have a reception. Many will value this, as many prominent men are only known to others through the Press. The older men should show a genial and friendly spirit towards the younger gardeners. It is not pleasant to go to meetings and shows alone, and often without a friend or acquaintance. I well remember my experience in this way years ago in attending London shows. Now, if this gathering is carried out on a broad basis, it will remove much of this. May I suggest having a book so that those who wish to can enter their names, and this book be so placed that anyone can ascertain if his friends are present. It may cost a little to provide this, but it would be a boon. I am pleased with the proposal to try and get country gardeners to attend, and provincial stewards should be helpful. I hope gardeners will make it a great success.—*J. CROOK, Forde Abbey Gardens, Chard.*

Flowers in sleeping apartments.—A correspondent of a daily paper has raised the interesting question as to whether flowers, both as plants and when cut, are injurious to health when standing in sleeping rooms. What is amusing in relation to the subject is the writer's declaration that earlier death would be preferable to life without them. But whilst tradition asserts that flowers are harmful to the inhabitants of sleeping rooms if left in them during the night, absolute proof of such harm resulting seems wanting. Probably strong-scented flowers in a close stuffy chamber all night would be very unpleasant, but the fault is in using strong-scented flowers and imperfect ventilation.—*A. D.*

Sarracenia in flower.—These curious side-saddle plants are of value chiefly for their foliage, and certainly their pitcher-like leaves are remarkably quaint and pretty; at the same time the flowers are very attractive, and quite as striking in shape as the foliage. The deep red blossoms of *S. rubra* are, in addition to their noble appearance, very sweetly scented, the perfume being much like that of Violets. This fragrance is more noticeable during sunshine, as then two or three flowers will scent a considerable space. The pretty primrose-coloured blossoms of *S. flava* have, on the other hand, a disagreeable odour, while the crimson flowers of *S. Drummondii* are almost scentless. Some cultivators remove the flowers to promote foliage development, but by so doing a conspicuous feature is lost. Twenty years or more ago a considerable interest was taken in the different *Sarracenia*s, and more or less complete collections could be obtained from many nurseries; but after a time they almost dropped out of cultivation, being retained only in botanic gardens and by a few enthusiastic amateurs. There has been, however, within the last two or three years signs of a revival, and plants of this class, shown by Mr. Measures at the Temple show, attracted a considerable amount of attention. Should there be a remunerative demand some of our nurserymen will be sure to soon take them in hand again.—*H. P.*

Viburnum tomentosum plicatum. This *Viburnum*, generally grown as *V. plicatum*,

is well known as a delightful flowering shrub in the open ground, where usually about the end of May it is quite a mass of rounded clusters of pure white flowers, arranged in a flattened tier-like way. Besides this, it is also well adapted for flowering under glass, and in this way forms a pleasing feature in the greenhouse or conservatory. Like its relative, the European Guelder Rose, or Snow-ball Tree, it cannot be forced hard, but brought on gently it is by the end of March and throughout the month of April at its best under these conditions. It is largely grown by the Dutch nurserymen, who make a speciality of shrubs for forcing, and considerable numbers are sent to this country in company with Azaleas, Lilacs, Prunus, *Deutzia Lemoinei*, and various other shrubs. These plants are usually grown in pots and plunged in the open ground; but if they have been frequently transplanted the bushes may be lifted, potted, and gently forced with perfect safety. If preferred, the plants for forcing may be kept altogether in pots, in which case they must be plunged out in a sunny spot during the summer, and given occasional doses of liquid manure. The common Guelder Rose also conforms to the same treatment.—*T.*

Tulipa Hageri var. nitens.—The original *Tulipa Hageri* was never popular, its colour being dull and the basal blotch badly and irregularly defined, whilst the lateness of its flowering season brought the plant into competition with the best garden-raised Tulips. This new variety, collected in a fresh district, has many striking qualities. Its bulbs and slender sheathing leaves resemble those of *T. sylvestris*. The flower spans 3 inches; the petals are boat-shaped and a flamed orange-red in colour, the exterior being flushed with grey and bronze, whilst the centre of the flower is furnished with a small, rounded, well-defined black blotch. It is a very pretty form of brilliant colouring and refined shape, far superior to Heldreich's *T. Hageri*, and one can recommend it as an attractive border Tulip of medium size. Its cultivation presents no difficulty. It thrives in a light soil and in clay under shade and in full sunshine, the cooler conditions suiting it best, however, as the flowers are larger and last longer in good character.

The Peach crop.—I have not noticed that anything has been written about outdoor Peach crops, but considering the state of last season's weather sanguine expectations can be scarcely entertained—at any rate in low-lying situations and on heavy soils. Here, where such conditions have to be encountered, the wood of the trees at the time of the fall of the leaf, instead of being in a satisfactory browned and matured state, was comparatively green, while the fall of leaf was much later than usual, an indication of the wood's imperfect maturity. The usual way of managing Peach trees, *i.e.*, by disbudding and laying in young wood to supply the succeeding year's supply of fruit, is in ordinary seasons the best, but it is reasonable to think that in a season like the past, especially in unfavourable situations, better results would follow if the wood was spurred or considerably shortened. There is at the present time a practical illustration of this in a case of some Peach trees growing near here that received comparatively little summer attention other than having their young wood cut back, similar to that usually adopted for the Plum. These trees at the present time are thickly clothed with apparently perfect flowers, and promise to furnish a full crop of fruit. By alluding to this it must not be inferred that general spur pruning for the Peach is advocated, yet in a season like the last, under some circumstances a modification of the usual mode of training, so that the wood left for bearing the crop of fruit may be the better matured, seems to be the correct thing to do. Crowding of the wood is at all times a serious evil, and discretion should be exercised in mulching the roots of the trees. In unsuitable seasons, particularly upon cold soils, it causes late growth, which cannot perfectly ripen.

Potato Syon House.—Potatoes that succeed well in soils that are known as Potato soils are plentiful, but comparatively few varieties are

wholly satisfactory in heavy land. This fine variety, however, is an exception to the general rule, for it is, as a late sort, all that can be desired upon heavy soils. Upon such it has proved here to be an abundant cropper, handsome, with comparatively few small tubers, remarkably disease resisting, and excellent in quality. For many years we relied chiefly upon *Magnum Bonum* for a supply of late tubers, but after serving us well, notwithstanding that the planting sets were changed, it gradually dwindled, and was ultimately discarded, its place, upon the recommendation of Mr. Spencer, of Goodrich Court Gardens, being taken by *Syon House*. Growers with suitable soils have many strings to their bow, but all are not so favourably placed, and I strongly advise those having heavy soils to deal with, who have not given *Syon House* a trial, to do so: I feel confident that they will not regret it. This Potato, like most others, requires to be carefully cooked, and personally I prefer it served whole to any other way. It is an excellent variety for roasting.—*T. COOMBER, The Hendre Gardens, Monmouth.*

Tulipa stellata.—A pretty dwarf Tulip received under this name from Afghanistan, and which is distinct from any other species in many respects, should prove of considerable value for planting in the rock garden and for growing in pans for the cool alpine house. It produces buttercup-yellow flowers, flushed on the outside with rosy carmine; the petals are boat-shaped and pointed. It expands fully during very warm sunshine only, but it is then very pretty indeed, the flowers being distinctly starlike—a feature that suggested its name. In a bud state and when the flower is closed it most resembles *T. kaufmanniana*, but it has no basal blotch at the throat, being entirely self-coloured on the inside, whilst the surfaces glisten as though highly polished. The bulbs are very small, the stems slender, and the flowers are 3 inches across. The plant requires the warmest position the rock garden affords and a light, dry soil, whilst shelter from the north and east have been necessary during the past week.

The Easter frost in Devon.—The early appearance of spring flowers and the mildness of the season, which have been commented upon so generally, not only by the horticultural but also by the general press, received a severe check in this neighbourhood during the night of Monday and early morning of Tuesday (the 14th ult.). The bright moonlight night and strong north-westerly wind that had prevailed for some days, accompanied by cold showers and flitting hail, culminated in a frost, varying in intensity in different situations from 6° to 8°, and consequently leaving its mark upon much of the more tender vegetation. In the course of a walk from Starcross to Exminster on Easter Tuesday morning I turned into the nursery of Messrs. R. Veitch and Sons at the latter place to see what was flowering there in the open, and also to see what, if any, damage had been done to early-flowering plants. In the *Magnolia* quarters what had apparently been a fine show the day before distinctly proved the power of the frost by the petals, which bestrewed the ground, and the withered brown flowers of the white varieties, and the blackness of the purple, which yet remained on the plants. Amongst those which had so suffered we noted *M. Lenei*, *M. soulangeana* and its deep purple variety *nigra*, *M. conspicua* (or *M. Yulan*), and the fine-flowered form *Alexandria*. Amongst the Himalayan *Rhododendrons* the frost had also been at work, and the white and red-flowered *Camellias* also showed the effects of its silent working. In other parts of the ground, however, patches of colour, brightness, and fresh growth reminded us that spring was really among us. In a bright sun, though with a piercing north-west wind, a large bed of the *St. Bridget Anemone* with all its varied colours and profuseness of blossom was particularly striking. I was informed that these plants had been in flower since Christmas and in the condition they now are for the last two months, and thus they would probably continue for the next six weeks. Masses of the large purple-flowered *Aubrietia* overhanging a bank was also specially attractive, as well as a large bed of *Lily of the Valley* in perfect health

and vigour, as though defying the frost and all its works. Up to the date of writing (the 18th ult.) the frost has been equally severe every night, and great fears are entertained with regard to the fruit crops, especially bush fruits, of which a record crop was expected in this part of Devon.—JOHN R. JACKSON, *Claremont, Lympstone, South Devon.*

Amaryllis at Liverpool.—For the last few seasons the Botanic Gardens, thanks to the support of the City Council Parks and Gardens Committee, have become increasingly popular through the various special exhibits that are occasionally held. Possibly the present one may take the premier position, for the *Amaryllis* collection numbers over 2,000. The season may be an extended one, beginning at the end of February and possibly reaching to May. Now that the special house arranged for their culture is fully furnished, the only improvement that can be made is in the form, colour, and substance of the flower. In this matter there is a distinct advance on those of former years, and this no doubt will be improved. With the simple culture required the *Amaryllis* should play a far more extensive part in brightening our stoves than they do at present. The simple rule for successful culture is to shake out the old compost, repot in a fairly rich one, and plunge the pots under some suitable material, giving no water at the root except frequent syringings. After flowering again plunge and feed up the bulbs for next season's work. Fine batches of *Gloxinias* and herbaceous *Calceolarias* will take the place of the present displays, which include forced hardy plants, *Cinerarias*, and spring-flowering bulbs. Mr. J. Guttridge, the able curator, fully deserves the appreciation of his army of visitors.—R. G. WATERMAN, *Woolton.*

Fritillaria pallidiflora.—Though injured somewhat by recent arctic weather whilst in full flower, this has been exceptionally good this season, the warmer months of February and March helping the plants to develop their foliage and flowers in perfect condition. Under good cultivation its stems reach a height of 2 feet, clothed throughout with broad and short glaucous leaves, and terminating in an elegant raceme of delicately beautiful flowers somewhat like those of the Meadow Fritillary in shape, but more hooded, and with more widely-expanded petals. The colour when it first opens is a decided green, paler near the petal tips, but on the second and third day it changes to a deep rich cream, and it is well retained till the flower fades. One can grow the plant on any warm border provided its bulbs are well ripened in autumn by exposing the site to full sunshine. It makes its finest growth in a well-tilled soil overlying limestone or chalk. Where the soil is deficient in lime, a very little should be added in the form of limestone fragments about the bulbs when planting. This beautiful Fritillary was at one time very scarce, and it is still far from plentiful, hence existing colonies should be cherished with the greatest care.

Iris benacensis.—An interesting and little-known Flag Iris from the Southern Tyrol; it is the earliest of the taller group to flower, and often fails to expand owing to bad weather. It has singular-looking flowers of an inky black, bright and glistening to a marked degree, the centres alone being of a pale violet and grey colour. They are 6 inches in diameter, and generally borne in twos on stems 1 foot to 2 feet high. The sheaths are normally veined with crimson, the tips being entirely of this colouring, but in dry and warm situations they are very highly coloured, appearing as though blood-stained. The plant is a free grower, forming clumps quickly that are capable of producing several spikes each. The sombre colouring of the flowers is well-nigh unique, other examples being two species of the *Oncocyclus* group, but in this plant there is a relieving tone of colour in the delicate blue of the beard. The species is neither new nor costly, but so far unknown that one may visit hundreds of gardens without noting it.

Clerodendron myrmecophilum.—This *Clerodendron*, which is now flowering in the stove compartment of the T range at Kew, is

certainly one of the best new-flowering plants for a warm house that has been seen for some time, as apart from its showy inflorescence it is very distinct from any of its allies. There are two plants at Kew, both of which are a little over 18 inches high, of which height nearly one-half is occupied by the large flower panicle. It is quite erect, strictly pyramidal, and contains a large number of flowers, arranged in regular whorls. They are about 1½ inches across, and of a bright orange-amber colour. The long and slender stamens are, as in many other *Clerodendrons*, very noticeable, and bright red. The leaves are lanceolate in shape, and longer than in most members of the genus. According to the "Kew Hand List" this *Clerodendron* is a native of Singapore, from whence it was sent by Mr. Ridley of the Botanic Garden there. If *C. myrmecophilum* is as easy to grow and flower as most members of the genus it will doubtless soon become popular, as of flowering stove plants it is questionable if we have had anything so striking since *Acalypha hispida* (Sanderi) set everyone talking. It is, I believe, the first time that this *Clerodendron* has flowered at Kew, but it must have been there a few years, as the name occurs in the "Hand List of Tender Dicotyledons" cultivated in the Royal Gardens, Kew, 1899.—H. P.

The Hart's-tongue Fern.—I wonder how many readers of THE GARDEN know that for growing in rooms in large towns, if properly cared, the above-named hardy Fern is quite as useful—if, perhaps, not so effective—as the *Aspidistra*. The former, one may say, costs nothing. It is to be found in every hedgerow where Ferns are growing, but the *Aspidistra* is not a cheap plant, costing so much a leaf as bought in the pot at any florist's. It is wonderful with a little care what fine handsome specimen plants can be made out of the Hart's-tongue. Large young plants should be picked out in the spring and potted in suitable-sized pots, according to the size of the plants, in a mixture of rich old soil, peat, and silver sand, with a good drainage of broken crocks and cinders in the bottom of the pots. Keep the plants near a window, or in a little greenhouse now and then. But I am speaking of how I grow them in London, where, perhaps, many of my readers have no glass. Once the Ferns have started into growth, keep them well watered, and feed them with bone manure or dried blood manure, about two teaspoonfuls sprinkled over the surface to a 5-inch pot about every three weeks. When the fronds are fully grown and quite hard in texture, sponge them over every day with water from which the chill has been quite taken off, or water that has been boiled and let cool is better still, and I think my readers will not be disappointed with the result. As the old fronds fade cut them off, and after some months the roots will require a rest, as all Ferns do. Let them be kept only just damp. After a couple of months or so give them manure on the surface of the pots, water freely, and I know the result will be good, speaking from Kensington experience.—A. HASSARD-TYRRELL.

Tetradlea pilosa.—Better known in most gardens as *T. ericoides*, this pretty little Australian shrub occupies a foremost place among the spring-flowering members of what are usually referred to as hard-wooded plants. It was first introduced about eighty years ago, and, in common with many others of its class, enjoyed a season of popularity with the Heaths, *Epacris*, and such things, that have now almost dropped out of cultivation. Perhaps this *Tetradlea* would have shared the same fate if Messrs. Balchin of Hassocks had not taken it in hand a few years ago, as they had done the beautiful blue-flowered *Leschenaultia biloba major* some time previously. This led to such a revival in its favour that it is now often met with. It forms a much-branched little bush, with shoots clothed with narrow, hairy leaves, and when at their best are closely packed with pretty mauve-purple or rosy lilac blossoms. In this *Tetradlea* the petals do not overlap as in some of its allies, and consequently the flowers are not so bell-shaped as in some species. From the angle at which the flowers are usually disposed on the stem the interior of many of them is visible, and then a

noticeable feature is the dark-coloured stamens collected together in the centre, thus forming a blackish blotch. In a light, airy structure shaded from direct sunshine this *Tetradlea* remains in beauty a considerable time. For its successful culture sandy peat and careful watering are necessary. An allied plant formerly known as *Tetradlea verticillata* now bears the name of *Platytheca galioides*. This is extremely graceful, very distinct, and continues a long time in bloom. If pinched freely during its earlier stages it forms a bushy specimen, with wiry shoots clothed with very narrow leaves arranged in whorls of eight to ten. The saucer-shaped blossoms, which are of a beautiful shade of blue, are drooping and supported by long and slender stalks. As the shoots lengthen more buds are developed, and on this account its flowering season is a long one. This *Platytheca* is a native of South-West Australia, from whence it was introduced in 1845.—H. P.

A valuable late Celery.—Requiring Celery for cooking as well as for use as a salad, we have for some years grown Standard Bearer as our latest variety on account of the length of time it keeps. There are larger varieties, but size at this late period is not so much required as quality, and few at least that we have grown keep so solid as Standard Bearer. We have kept it in most seasons till the end of April. To get late heads we do not require large roots, the medium-sized being the best for their lateness. Most growers who require late Celery will have observed that this variety loses its pink colour as the season advances. It is always pale, and for cooking that is an advantage. To get late supplies we sow in cold frames very thinly, or, what is better, on a warm border. Thin out early and lift the seedlings direct into their permanent positions: ground thus it gives less trouble, and there is no fear of bolting, the plant is dwarfer and hardier.—A. C. N.

THE FLOWER GARDEN.

FRITILLARIA IMPERIALIS.

(THE CROWN IMPERIAL.)

ONE of those noble plants which seem inseparably associated with old-fashioned gardens is the Crown Imperial, and Parkinson chose it for the subject of his opening chapter in his "Paradisi in sole Paradisus Tenestris" (1629), placing it "before all other Lilies." The plant was evidently held in more esteem in those old-time gardens than is the case nowadays, and numerous other writers, such as Gerard, tell us how greatly it was prized. It would appear to have been introduced into Europe first of all by Clusius in 1576, who mentions it as being a native of Persia. For this reason it received the name of *Lilium persicum*, but this was soon changed to *Corona imperialis*, a name which is retained with but slight alteration in most European countries at the present day. The name Fritillary is derived from the Latin *fritillus*, a chess-board, in reference to the curiously chequered markings on the flowers of some of the species, which bear resemblance to those of a chess-board. For this same reason Gerard refers to the Fritillary as the Ginnie-hen flower, but this name was more particularly applied to *Fritillaria Meleagris*, from the supposed resemblance of the markings on its flowers to those of a guinea-fowl, and not to the Crown Imperial, whose flowers are not, of course, chequered. By many writers it has been made the emblem of majestic power, and one of these refers to it as "Emperor of Flowers." In April and May these stately plants are some of the showiest and most attractive subjects in border and shrubbery. It is, perhaps, hardly advisable to plant them in close proximity to the house owing to their disagreeable odour, and they are generally seen at their best when boldly grouped in pleasure grounds along with the dwarfer growing shrubs. There are no cultural difficulties whatever as regards these plants, and according to my experience they will grow almost anywhere and in any soil. On one



GROUP OF THE GOLDEN YELLOW CROWN IMPERIAL.

which is hot and sandy they are, however, apt to be stunted in a dry spring, and in any case never attain the proportions which they do on a good loam. The foliage and general appearance of these plants is unfortunately very unsightly when maturing, but in common with all other bulbs it should on no account be removed until decayed. The bulbs increase very quickly, and when too thick should be lifted and replanted immediately; it is a mistake to dry them off, as, like all Fritillaries, they seem to resent this treatment. The varieties most frequently met with in cultivation are as follows: Aurora, bronzy orange-red; lutea and its double variety, yellow; lutea maxima, a larger flowered variety of the preceding; rubra and rubra fl.-pl., red; rubra maxima, large red; rubra aurea marginata and argentea variegata, respectively variegated with yellow and silver; sulphurine, pale yellow; slagsward (syn. monstrosus), an exceedingly curious form, with a fasciated stem and fine red flowers; Triple Crown, or Crown upon Crown, a Dutch form, with several whorls of flowers one above the other.

The beautiful variety known as longipetala, which was figured in THE GARDEN for November 4, 1899, from a plant growing in Mr. Elwes' garden, does not appear to be in commerce; nor have I been able to hear of inodora, which was mentioned by Mr. G. B. Mallett in his notes on the genus which appeared in THE GARDEN last year (see vol. lxi., page 306). The illustration depicts a group of the large yellow Crown Imperial growing in a narrow border facing south-west.

Worcestershire.

ARTHUR R. GOODWIN.

BORDER POLYANTHUSES.

It is difficult to convey on paper one's impressions of the exceeding beauty and interest which attaches to a huge breadth of several thousands of border Polyanthus, covering a quarter of an acre of ground and all in bloom. That is the sight now to be seen in Mr. S. Mortimer's grounds at Rowledge, Farnham, Surrey, where annually a similar show of these charming Polyanthus may be found. One of the particular features of this big breadth of flowers is found in the great variation in colours and markings. Starting with pure whites, then come primrose tints, creams, yellows, deep yellows, pinks, reds, mauves, purples, magentas, crimsons, and almost blacks, with other

diverse hues. The flowers generally are large, many of them as big as a crownpiece and even larger, and all held erect on stout stems, making a truly beautiful show. No quantity of gathered blooms, let them be ever so fine, conveys to the eye the same conception of beauty and decorative effect seen in growing plants when the flowers have a good base of leafage.

Mr. Mortimer selects and plants in breadths separately whites, yellows, and reds; and these give a big percentage of seedlings true to colour. His practice is to sow seed in shallow boxes in a cool house or frame, where it can be lightly shaded, at the end of August. Because it is fresh the seed germinates much more quickly than it will if held over till the spring. When strong enough the little plants are pricked out 2 inches apart into other shallow boxes, and from these during open weather in the early spring are transplanted into well-prepared soil outdoors in rows 15 inches apart at that time of the year, and being strong and well rooted the plants soon get hold of the ground, and long before hot dry weather sets in are well established. The hoe is kept freely used amongst the seedlings during the summer to maintain a mulch of loose soil about them and thus check evaporation. In dry porous soils such as are found at Rowledge spring sowings would not produce satisfactory results. A. D.

CULTIVATION OF VIOLETS IN THE SOUTH OF FRANCE.

THE land at Hyères, occupied in the cultivation of the Violet (commonly but erroneously known as the Nice Violet), extends to hundreds of hectares. The variety most commonly grown is La Luxonne, and this has given origin to different sub-varieties, the type, in consequence of intensive cultivation, being rather in vogue. But these sub-varieties differ but little from one another, nor (since the growers generally jealously conceal any type which they think better than that of their neighbours) are they well defined.

The Violet flourishes especially in good, open, cool, and strong soils. The great alluvial plain in which Hyères is situated suits it well, and so also do the climatic conditions. The dry summers and wet winters of Provence assure to the Violetiers (to use the curious local term for them) the

moisture necessary in winter for their flowering, and the dryness necessary for their summer rest. Neither is the temperature an obstacle, the cold being seldom keen enough to harm the growth of these plants.

The soil, generally speaking, is only worked to a depth of about 20 centimetres. At the time of planting manure is spread over the ground and at once dug in. There are several ways of propagating the plant. Sometimes, in October or November, "runners" taken from the other beds are used for planting. Sometimes a dozen or so of roots are sacrificed, each one being divided into several tufts, which are planted separately. Some growers do this work only in the spring (March and April), when they destroy the old beds, whose power of production has become exhausted.

The best system, although it is the longest, is to take the runners in autumn from the beds intended for the winter crop (an operation it is well to do, even if the runners are thrown away, since they exhaust the tufts), and to place these runners in the nursery in little bunches of three or four together in any kind of bed. They will take root during the winter, and in spring can be planted out. As they have already taken root they will lose no time in striking (as plants propagated by dividing the roots do), and so, growing without check, they will form much stronger tufts than by the other method.

Runners which we planted in this way last March at La Toussaint formed plants 50 centimetres in diameter and 25 centimetres high. No matter what method of propagation is employed, the planting is always done in trenches about 60 centimetres apart. For this purpose the soil is worked with a special tool, called a "trinque," by which trenches can be formed 20 centimetres deep by 30 centimetres broad.

The tufts are planted at 30 centimetres from one another, at half the depth of these trenches on the north side (the furrows always run from east to west), for on the south side, if the bed is planted in autumn, a row of Peas is sown, or if the bed is planted in spring a row of Haricot Beans.

When the planting is finished a watering is given and there is nothing more to do. The only care necessary is weeding and watering with running water two or three times during the summer. As soon as the autumn rains arrive the growth of the Violets is doubly vigorous, and in September the first flowers appear. At first they are very small, but they gradually increase in size until they attain their normal dimensions about All Saints' Day, when the gathering begins.

In September a manuring is generally given to the plants. The manure most commonly used by the Violet growers of Hyères is oilcake refuse or some other organic manure, which is lightly covered by a top-dressing. This nitrogenous manure, though it has the advantage of increasing the leaf production and of thus giving larger leaves for the making of bouquets, does not effect such an active production of flowers as a manure with a phosphoric acid base would do.

In November screens made of Heath are placed over the beds to protect the plants during the winter. The screens are put upon stakes in parallel rows placed at a varying distance of from 5 metres to 10 metres from each other. The rows are composed of two lines of upright stakes, the one row being 1.80 metre high and the other 1 metre high, with such a distance between them as to give the screen (which rests upon iron wire on the top of the stakes) an inclination of about 45°. These screens, placed so as to just touch each other, concentrate the solar heat on the rows which they cover, and in a less degree on those which are in front of them, and this causes these rows to produce a greater abundance of flowers. By this means also the Violets can be gathered unwetted

by the morning dew, which often spoils the uncovered flowers when one is obliged to gather them while still moist. Moreover, the screens set from east to west break the force of the cold winds from the north-west (the "mistral"), which are sometimes very keen in winter and which then burn the unprotected Violets.

The gathering of the flowers ends about March 15, for the plants then naturally cease to blossom. At this period they are allowed to dry up for want of watering. Some cultivators even have them "fed off" by sheep in order by depriving them of their leaves to force the plants to enter at once upon their period of repose. Other growers allow them to wither until June or July, when they mow them so as to remove all the dead leaves, which are the refuge of various insects, and as they do not water them until September (if the rain does not do this work before then) the beds remain quite bare during two or three summer months. To see the land thus bare one would think that nothing was planted there.

The beds are nearly always broken up at the end of two years, otherwise the blossoming becomes later and later, for the plants which have already blossomed during one winter do not bear flowers again until the new year, whilst those planted in the spring begin to flower in the autumn; but whilst the young plants abate their blossoming powers during January and February, the old



CARNATION LAYERING.

ones are then at the maximum of production, and this is why the cultivators generally have half their growth of Violets in roots of one year's growth and the other half in roots of two years' growth, in order to secure regularity of production.

In the work of this cultivation the greater part of the population of Hyères earns its daily bread, and if this pretty little town of the Côte d'azur had not been named Hyères-les-Palmiers it might just as well have been called Hyères-les-Violettes.

From French of A. POTTIER fils, in *Le Jardin*.

CARNATIONS IN THE GARDEN.

WORK DURING SUMMER.

I WILL now deal with the work which should be done during the growing season, and this is not heavy. Keep the soil between the plants free from weeds with a hoe, and if the ground is poor give a top-dressing of old well-decayed manure (I do not recommend a top-dressing of manure in autumn, as it is a harbour for slugs). Water the plants in dry weather, and remember when doing this that a little water sprinkled on the surface is useless. Give them a good soaking, so that the water can reach the roots; wet the foliage as well as the soil, as this helps to keep down green fly.

Next will come the staking of the plants, or rather the flower-stems, as they grow too tall to support their own weight, and for this pur-

pose the best things I have seen are coil stakes made of strong galvanised wire in spiral form of varying lengths, painted pale green, *i.e.*, the same tint as the foliage of the plants. To these the stems are easily adjusted, and no tying is necessary. Simply insert the stake in the ground close to the plant, give the flower-stem a turn round it, and as the stem grows higher it is quite easy to give it another turn or two until it reaches the top. There is only one thing to be careful about in using them, *i.e.*, do not stake your plants too soon, or you will find the soft stem will be liable to get bent at the joints if any of the side shoots become fixed in the spiral twists of the stake during their growth. This will not happen often when you get accustomed to them, and I must say for neatness, or rather invisibility, there is nothing to equal them. Next will come the

DISBEDDING,

and it is quite a matter of taste whether a quantity of rather small blooms or fewer larger ones are desired. I think when a plant has a great number of buds on each stem it is better to thin out, say, half of them. This should be done when they are quite small. Where there are two or more buds close together, pinch, or rather twist, or break off the smaller ones, an amusement I find ladies are rather fond of.

The flowering season will now be fast approaching, and the keenest interest is taken in the blooms as they begin to show colour and gradually open, especially where there is a bed or two of seedlings. Among the latter especially several will be noticed with buds of varying shapes and sizes, some very thin and long. These will be single flowers. Others, again, will be thick and stumpy, and these will produce double blooms with probably far too many petals, which will cause the calyx to burst before or as they are expanding. Both of these will be worthless. The bud which will produce the best shaped flower is that of medium girth, long, and shaped like a Filbert. This will be a double flower, with sufficient petals to form a good bloom, and not too many. I may say that careful watering will do much towards preventing the blooms bursting.

The flowering time is, of course, the season of greatest interest in the life of the Carnation grower, and amongst the seedlings, as well as the other plants, there will be a considerable amount of work to be done, as that is the time when they should be layered to produce a supply of young plants for the following season. It is advisable to have young plants and discard the old ones each year, except perhaps compact sturdy growers. Tall straggly plants are not likely to stand the rough winds in winter as some of the shorter, more bushy ones will do. The two year old plants often produce better, and, of course, always more, flowers than the yearlings. A Rose border here was a lovely sight last summer with the intervals between the Roses filled with two year old plants of the variety George Maquay. In the majority of cases, however, it is better to layer every year, and this is the season when the varieties to grow again must be decided upon, and which are considered not worth keeping, especially amongst the seedlings. Having determined this, and having marked the seedling plants intended for layering, and taken notes of their colour and habit of growth, make the necessary preparations for the most important work of the year. I will now describe how the process of

LAYERING

is best carried out. When the plants are ready the sooner layering is begun the

better. If delayed too long the "grass" will get stiff and will not root so freely; besides this, it will be liable to snap off when bent, as also occurs when it is too young and soft. The earlier varieties will, of course, be ready sooner than the later ones, but as a general rule the best time to do the work is as soon as they are in full bloom. If the plants are not wished for in the flower garden for layering, which certainly spoils the appearance of the beds, have a few stock plants of the named varieties kept specially for this purpose in some other place—say the kitchen garden; these will be useful for providing cut flowers, and the layers will be all the better for having the flower-stems cut off.

Before layering is begun prepare some fine soil, such as road scrapings and leaf-mould mixed with plenty of sharp sand, but if these ingredients are not procurable, any good light potting soil will answer the purpose. A sharp, small-bladed knife and some layering pins will be required; the best sort of layering pins are those made of flat galvanised wire, and I think the "Sydenham," which is shown in the accompanying sketch, is the best. This has a little loop at the top which serves as a handle, and makes it much easier to fix into and remove from the ground. There are many other things used as pegs for layering, such as the stems of dry Bracken, but there is nothing better than the wire pins described; they are quite inexpensive, about 1s. per 100, and if cleaned and stored away dry when the layers are taken up, will last several seasons. A small hand fork or trowel is also required for loosening the surface soil round the plants, and a soft pad to kneel upon will be a great comfort to the worker.

W. A. WATTS.

(To be continued.)

THE INDOOR GARDEN.

GLOXINIAS—THEIR CULTURE.

AMONG warm house plants none excel the Gloxinias for decoration during the summer and autumn months. The Gloxinia is easy of culture, and this fact should raise it in the estimation of amateur growers, for beyond some little heat they require no more attention than other plants. Seed should be sown, for a display the same season, early in the year—January if possible; they will germinate slowly in a temperature of 60°, but 65° to 70° may be relied upon, and better results will certainly follow. Shallow pans will be found best for sowing the seed in. Place some crocks at the bottom for drainage, then a layer of moss, and over this the roughest of the compost, filling up with well sifted soil, consisting of good loam two parts, leaf-mould one part, and sand two parts. Make the surface firm and level, and scatter the minute seed on it, taking care not to sow too thickly, which encourages "damping off." As soon as the seedlings have made two leaves they may be potted into small pots, using the same compost as previously advised. Here they may remain until they are potbound, when they may be potted on into 2½-inch pots, and in course of time into 5-inch pots, in which they will flower.

Watering must be very carefully done; it is better to keep the plants on the dry side than too wet. When the flowering season is past, the plants should be gradually dried off, and kept so through the winter, removing the old soil in spring, and re-potting when growth commences. The second year, the plants may be supplied with weak stimulants, to assist them in making firm growth, without which they cannot bear a good supply of blossom. Gloxinias are easily propagated by leaves;

these should be inserted in a close propagating case until they are rooted. J. DENMAN.

The Laurels, Caius Cross, Stroud, Gloucester.

CAMPANULA VIDALII.

This Campanula is entirely distinct from the rest of its race, and, although a handsome plant, is rarely met with in gardens. It was discovered by Captain Vidal, R.N., on a small island near Flores in the Azores in 1851, so that it has been in cultivation for more than fifty years. It is of shrubby habit, forming a woody stem 9 inches to 1 foot in height, which at that distance from the ground throws out numerous branches, some of which become elongated into flower-spikes. These often attain a height of 2 feet, and vigorous specimens about 3 feet high furnished with several blossoming flower-spikes present a most attractive and uncommon appearance. This Campanula is valuable for conservatory decoration, being of very distinct habit and associating well with such subjects as are in flower in July and August. Good-sized examples in large pots, stimulated from time to time with weak liquid manure, make strong growth, and sometimes bear as many as two dozen or more blooms on a flower-spike. The blossoms are long, drooping, and bell-shaped, creamy white in colour, with a bright orange ring at the base of the cup. The corolla, which is slightly contracted in the middle but expanded at the mouth, is waxy and very substantial in texture, so that the flowers retain their beauty for a lengthened period. The narrow leaves are about 3 inches in length, fleshy, and serrated, with glossy upper surfaces. The plant is also useful in the open border, where it may either be plunged in its pot or planted out at the end of May or beginning of June, when it proves very effective during its flowering season. It cannot be left with impunity in the open during the winter, and should therefore be lifted and given glass shelter before the advent of frost. The specimen here illustrated has remained absolutely unprotected in the open border through the entire winter, and is now in the best of health; but this spot is exceptionally warm and sheltered, and the past winter has here been a phenomenal one, the screen thermometer never having fallen below freezing point, though on two occasions 32° was registered. Such a mild winter is not likely to be again experienced, and I am quite prepared to see the plant succumb to the effects of an average winter season. In vol. liv., page 299, there is an illustration of Campanula Vidalii at Ardcairn, County Cork, representing a group in flower which, with its edging of Fern fronds, makes a very pretty picture. The accompanying note, however, mentions that these plants were merely plunged in their pots in the open ground. This Campanula produces seed in quantity, which if sown in the early spring usually germinates well. Plants flower the second year from seed, which is the best method of propagation. Cuttings taken in the spring are sometimes recommended, but glutinous white sap exudes freely when the cuttings are taken off, and they occasionally prove difficult to strike.

S. W. FITZHERBERT.

Kingswear, South Devon.

VARIEGATED AND STRIATED ZONAL PELARGONIUMS.

In some experiments which were made by grafting the oval-leaved *Passiflora acubæfolia* upon *Passiflora cœrulea*, with its five-lobed leaf, it was found that, if the stock above the graft was allowed to grow, shoots were produced whose foliage was not altered in form (being that of *P. cœrulea*), but which, instead of remaining green, was covered with yellow spots, in the same manner as the leaves of the *P. acubæfolia*. The variegation was moreover fixed, for on taking these shoots for cuttings the spots were reproduced on all the new leaves.

The same experiment can be made by grafting *Abutilon Thompsoni*, with its yellow-spotted leaves, upon any green-leaved variety; on shoots above the graft the latter produces variegated

leaves in exactly the same way. These two experiments clearly indicate that the graft influences the stock, since in both cases the latter manifested a tendency to appropriate one of the peculiarities of the former. I conceived the idea that an analogous phenomenon ought to occur, if not directly, at least more indirectly upon the flowers from seeds gathered from different zonal Pelargoniums, which had been grafted one upon the other. A few years ago I grafted a *P. Souvenir de Mirande* upon a plant of the variety *Panaché de Nancy*, whose flowers are of a salmon tint regularly streaked with white. In the same way I grafted the second variety on the first. The seeds gathered from the umbels on the grafted stems, or from those which had grown on the stock above the graft, and sown indiscriminately, produced a lot of seedlings, among which I found several varieties whose flowers were of a colour similar to *P. Souvenir de Mirande*, and which were also perfectly striated and ribboned. The three varieties with single flowers which I sent out in the spring of 1902 are named and described as follows:—

Avènement.—Large pure white centre, surrounded with clear violet. This violet zone is perfectly ribboned and striped with deep red; the variegation is very constant.

Souvenir de l'Exposition.—Large centre, spotted with pure white, surrounded with clear brick-red, perfectly striped, and ribboned with bright vermilion and white. This is, in a word, *Souvenir de Mirande* with striated flowers.

Scintillant.—Clear vermilion-red finely streaked with white. Their characteristics (as in all variegated or striated flowers) are not always constant; some flowers are much striated, others less so, some even lose all trace of the streaks. This is evidently but a beginning in the blending of quite new colours, a beginning which will only attain perfection when by sowing seeds gathered from well characterised flowers we obtain plants quite constant, just as the white stripe has become constant on the salmon-coloured ground in the beautiful varieties, *Panaché de Nancy*, *Labyrinthe*, *Figaro*, &c. These latter, with the varieties *New Life*, *Double New Life*, and *Eugenie Tabart*, are moreover the only types of zonal Pelargonium with striated flowers at present known.

For more than twenty years experiments have been made with these varieties, but the plants obtained have given no results distinct from those which already exist; therefore, I think I may safely say that the varieties obtained by combined

grafting and fertilising will be the source of many interesting plants, with colours very different from those already known, and especially so when double-flowered varieties of this sort are produced. These experiments and the results obtained clearly prove the influence of the graft upon the stock, or *vice versa*; but this does not say that all the properties of the one can be directly communicated to the other. No; I believe rather in an influence on the seeds, which may accidentally produce a small number of individuals possessing certain characteristics—certain properties of the graft or of the stock, especially the stripe.

I will not venture to say, as some botanists have dared to assert, that by grafting certain vegetables (even when they are not of the same family) hybrids with all their characteristics modified can be obtained. Certainly, it is not by thus working that new types of plants partaking of the nature of the grafted parents will be obtained. I cannot believe that an influence so complete can be frequently produced, but by operating upon plants nearly related botanically (as in the case I have just submitted to notice), by grafting, one may frequently succeed in changing either the colour or the time of blossoming of some varieties, or even the quality of certain fruits, effects not always induced quickly enough by the use of artificial fertilisation alone.

FR. GERBEAUX, in *Le Jardin*.

WALL GARDENING.

WALL GARDEN - MAKING.

VII.—WALLS OF MASONRY NOT BUILT FOR WALL GARDENING, BUT WHICH MIGHT BE ADAPTED TO THAT PURPOSE.

IN the last chapter I mentioned walls of masonry specially built with a view to wall gardening, and I explained how during the building operations openings might be left for soil and plants. I will now deal with walls that were never intended for wall gardening, but might be adapted to it.

The great difficulty presented by such walls is naturally the provision of nourishment for the plants. In a wall built purposely for wall gardening soil can be introduced, and can be varied according to the nature of the plants to be used; but in the case of a wall built entirely with stones



CAMPANULA VIDALII IN FLOWER IN A SOUTHERN GARDEN.



ARENARIA BALEARICA (THE BALEARIC SANDWORT) IN AN OLD WALL.
(From a sketch by H. G. Moon.)

or bricks with either cement or mortar joints, and apparently without a particle of soil, this would be more difficult. That it is possible, nevertheless, to grow plants on such a wall is proved every day, if we take the trouble to examine old walls or old ruins which have become clothed with vegetation without the aid of man. The plants may be weeds or common Ferns only—sometimes they may even be trees or large bushes; but, whatever their nature may be, they have become firmly established, and by their luxuriant appearance they prove to us that plant life is often possible under seemingly adverse circumstances.

OLD WALLS OF MASONRY.

The masonry walls best suited for wall gardening are very old retaining walls, the older the better. The reason for this is not far to seek. A retaining wall always contains more moisture than a wall standing by itself with both faces exposed, and the former, therefore, becomes covered with natural vegetation of some kind or other much quicker than the latter.

In order to glean a useful lesson from Nature, we shall do well to observe how a masonry wall becomes naturally clothed not only with creepers, but with plants of all kinds springing from the joints. Probably the first kind of vegetation on an old wall would be Moss, which year by year increases until it forms quite a thick coating, not only over the joints, but probably also over a portion of the stones or bricks. If the position should be a moist and shady one, this partial coating with Moss would be much accelerated. But even a dry, sunny wall left to itself does not remain entirely bare very long. Owing to lack of moisture Moss would not form so readily as on the moist and shady side. But there would probably be a very thin coating of some kind of Moss formed during the wet season, but which would shrivel and die during the summer. Lichens of various kinds, however, would, in the course of time, grow even on the sunny side, and beneath and between them dust would accumulate, carried there by wind or rain. Of the Moss, too, small portions would annually decay, forming a thin layer of humus. Into these minute cushions, formed of a mixture of dust, grit, decaying vegetable matter, and humus, seeds may by chance

have been deposited by the agency of birds or wind. The moisture caused by rain or dew would make these seeds adhere to the Moss or Lichen, where probably they would soon be covered by a fresh accumulation of dust. Soon they would germinate, and in the struggle for existence the fittest would survive.

It is generally by such means as these that walls first become clothed with plants naturally. The plants may be only annuals, and, if so, they would die at the end of the season; or, if they are perennial, they may die through want of nourishment eventually, but their decaying roots which had already penetrated into the joints

or into the stone pave the way for the next generation of plants, whose roots will speedily absorb what was left of its predecessors, and will protrude still deeper into the wall, until they in their turn will have to give way to plants of a still more robust nature asserting themselves.

Now the lesson thus taught by Nature is well worth our attention, since it is an excellent guide, and may prevent grievous blunders. It teaches us above everything else that the process of establishing plants on existing walls must be a very gradual one. Immediate effect is possible when a wall is specially built for wall gardening, but on an ordinary masonry wall, either old or new, immediate effect in the proper sense of the word is an impossibility. Let us imagine that we have to do with an old masonry wall. The owner has read somewhere that it is possible to convert such a wall into a perfect picture of beautiful plants. He has a number of holes knocked into the face of the wall, fills these holes with soil, buys a nice lot of strong, well-established plants, has them planted into the holes, and—waits for the picture. The

picture never appears. One by one the plants die, till not one is left to tell the tale. Why? Because for strong plants the sudden change from more congenial surroundings to the narrow confines of a hole in a wall is not reasonable. When our wall garden is formed by a "dry wall" with soil between the stones, or when we were able to put in plants and stones simultaneously as the wall was built, then by all means let us use the strongest plants we can get. If properly planted they will be safe, because there is plenty of root space provided for them, and plenty of soil for them to feed on. But when we have to deal with a masonry wall, success can only be obtained by using either the smallest of plants or seeds only. F. W. MEYER.

(To be continued.)

AN ARTIST'S NOTE-BOOK.

BALEARIC SANDWORT.

FOR clothing the cool base of rock-work no plant of low stature is more satisfactory than this little Sandwort. It runs into the joints and over the prominences almost like a coat of thick green paint, so closely does it cling and so clearly does it show the form of the stone beneath, while in early June its hosts of little flowers, large for the size of the plant, deck it with sheets of purest white. It readily sows itself, and in a year's time a chance seed will grow into a pretty tuft, such as is shown in Mr. Moon's drawing.

PLANTING TIME FOR WATER LILIES.

MAY has come, and with it many duties in the garden. Where it is the intention to have Water Lilies no time should be lost in ordering them. A list of the finest hybrids has been recently published (March 21 last), so that it is needless to refer again to planting and selection.

ROUND ABOUT A GARDEN.

THE NORTH WIND'S RAVAGES.

THAT Solomon was not an Englishman could easily be proved from his writings. "Awake,



A WATER LILY GROUP, (From a sketch by H. G. Moon.)

O north wind, and . . . blow upon my garden" could under no circumstances of horticulture with which I am acquainted have been a British sentiment. During this spring especially the north wind has been the chief thing encountered "round about a garden," and it has been peculiarly detestable. Yet one cannot help noticing with joy how admirably spring blooms adapt themselves to the worst exigencies of their season. Imagination boggles at the attempt to picture the effect of such blizzards as we had lately upon flower-beds blazing with the fragile glories of July. Why, even the rooks and the sparrows could not face or even cross the racing storms of driven snow that seemed to sting like hail—until it changed to real hail, which lashed like scorpions, and then you knew the difference. They had to cast a wide circuit and beat up to their destinations under shelter.

Where hedge or coppice felt the full brunt of the storm the new and tender greenery has been shrivelled brown upon the windward side, and where the wild Crab Apples have since burst into bloom, the pink-and-white loveliness of the blossom looks as out of place among the dead and shrivelled leaves as rouge and pearl powder upon old, shrivelled cheeks.

STORM-RESISTING BLOOMS.

Yet with all this devastation on the windward slopes without, you had to look close even in the most exposed parts of the flower garden to find traces of damage from the storms among the wealth of spring bloom. There is a little shabbiness round the fringed discs of yellow *Doronicum*—always rather tawdry—and some of the lingering *Daffodils* are tattered and wind-thrown; while, of course, if you put things which need shelter always, like *Dielytra*, in exposed places, you must take the consequences. Where it could swing gently to the music of the tearing north wind, in protecting Bays of the shrubbery, even the *Dielytra* still held aloft its perfect strings of split crimson bells, without speck or stain upon the snowy fringe between. But it is out in the open garden, where the spring beds blaze with a splendour which even July will not eclipse, that one has been gratefully amazed to see how Nature has fortified spring flowers against the worst that spring can do.

AGE AND YOUTH.

When a stilled *Hyacinth* is past its prime, indeed, a little touch of roughness in the weather spoils the bloom, which might have passed muster as fresh for another placid week, as when a woman, who has to cultivate the semblance of past youth, betrays in any slight disorder the real wreck of age. When the *Tulips*, too, have lost the sensitive elasticity of youth you can see their painted beauty falling to the ground in showering flakes beneath the violence of the hail; but while they are young and quick to fold their swelling

globes at every passing cloud, shunning the rude touch of boisterous weather, you may watch them bending like the painted spear-heads of a fairy army before the driving storm, and a week later admire them still spreading their cupped bosoms to the sun, without flaw or scratch upon the satin surface, except that in some kinds the outer scarlet on the side exposed to the storm is minutely speckled with white dots, each dot showing where a hailstone struck. As for the other spring flowers, not a trace of spring's violence was left two days later in the mosaic of colour with which they filled the beds.



ÆSCULUS PARVIFLORA (*PAVIA MACROSTACHYA*).

(From a photograph sent by Mr. A. Herrington, Madison, New Jersey.)

EVOLUTION'S GIFT.

This power which our spring flowers exhibit, of withstanding the rudest weather, is only natural after all. The early months of the year are treacherous all over the temperate zone from which our hardy spring flowers are drawn, and the whole story of their evolution is almost summed up in the acquirement of weather-resisting powers. It would be surprising, indeed, if they should be wrecked and spoiled by the chance violence of an April blizzard, seeing that their ancestors have survived for indefinite ages, from generation to generation, mainly through weathering the storms of the early year until at any rate the

flower's purpose was accomplished and the seed was set. After that the plant seems to lose all interest in keeping its blooms. The *Anemone* ceases to turn its back upon the wind, and the *Tulip* carelessly forgets to close its perianth when the sky is dark with clouds. Then, when rain falls, or hail, you can see the coloured garments of the flowers falling with it to the ground.

THE SPARROW'S MISCHIEF.

One thing which the spring flowers have not learned to resist is the English sparrow; and this year I have been making careful notes of his doings in the flower-beds. I have seen him pecking holes in unopened *Daffodil* buds; I have seen him nip off the growing points of *Tulips*; I have seen him lay white as well as yellow *Crocuses* low. When the *Arabis* is first struggling into bloom he hops round the clumps, pulling off every white petal that he can reach. When, later, the *Arabis* has outgrown his stature, I have seen him sit upon the *Box* edging to reach it. He has stripped the petals from most of the *Primroses* and *Polyanthuses* which grow outside the shrubbery, and earlier in the year he strewed the ground with bright blue *Scilla* blossoms. He sits in the middle of a clump of hardy *Carnations* and nips all the tender shoot-tips within reach. He has pulled out the centres of *Snowdrops*, and bitten off the flowers of winter stock. As soon as the *Larches* flowered he stripped all the flowers off, and then he turned his attention to the *Laburnum* buds, removing more than 50 per cent. of the year's prospective bloom. All these things I have watched the sparrow doing from the window where I write, and they are jotted down upon a piece of paper which lies on my desk for the purpose. If he goes on at this rate I shall have a bill for ink and paper to add to my other claims against the sparrow. And all this refers only to a narrow slice of garden, viewed from a single window. E. K. R.

TREES & SHRUBS.

ÆSCULUS PARVIFLORA.

A BEAUTIFUL shrub in leaf and habit of growth, as well as in flower, is the above, and its late period of flowering, from July on into August, when most trees and shrubs have long ceased blooming, gives it additional value. It is so choice that it should be included among the select things for even a small place, and in such is seen to best advantage as an isolated specimen upon the lawn. Whilst growing in height it also spreads outwards by means of stoloniferous shoots, soon attaining considerable dimensions, and assuming a graceful, symmetrical form. Where the area permits of its being boldly grouped it can be effectively planted, and a mass of it makes a striking foliage feature from spring till autumn, whilst in its flowering season it is exceedingly hand-

some with each shoot terminated by an erect spike of flowers, the spikes often attaining a length of from 12 inches to 14 inches, and lasting from three to five weeks. With us during hot years it ripens seeds quite freely.

Madison, N.J. A. HERRINGTON.

EVERGREENS NEAR CITIES.

In the report of the expert commission which recently examined Central Park, New York, appears many sensible observations concerning the trees and shrubs growing therein. Among other things referred to is the uselessness of planting coniferous evergreens near cities. This is practically correct, but I wish to call attention to an evergreen which, in Philadelphia, has stood, and that very well, too, where other sorts have not. I refer to the Austrian Pine. Whether it has just "so happened" I cannot say, but more than once has this tree appeared in a thriving condition when the appearance of others has been far from inspiring. In the way of broad-leaved evergreens the Euonymus, Holly, Box, and Aucuba stand very well, not objecting to city life as many shrubs do, and many fine specimens of these are to be seen in the closely-built section of the city. Very often it is the soil as much as the air that is at fault, which is often the refuse of rubbish heaps, clay from cellar excavations, and similar non-suitable material. Given proper soil and freedom from proximity to leaky gas pipes, trees to rejoice us would often succeed those now it grieves us to see.

J. MEEHAN, in *The Florists' Exchange*.

THE ROSE GARDEN.

ROSE VIOLETTE BOUYER (H.P.).

IF only for its many offspring that fine old Rose Jules Margottin would retain the esteem of all Rose lovers, and it is doubtful if from among its many descendants a more beautiful kind exists than *Violette Bouyer*. It is one of the sweetest of the Hybrid Perpetuals, and this is all the more remarkable considering there are so few really fragrant white Roses, *Merveille de Lyon*, *Frau Karl Druschki*, *Marchioness of Londonderry*, all being comparatively scentless, whereas *Violette Bouyer* is noted for this quality. As with many delicate coloured Roses, this variety outdoors is best in dry weather, but its hardiness, earliness, profuse flowering, and fine vigorous growth recommend it above many other kinds. As a pot plant, either for the amateur or market grower, it holds a high position, and I am told by a large grower that he finds this Rose and *Mrs. Sharman Crawford* two of the best paying Hybrid Perpetuals for forcing. A plant in an 8-inch or 9-inch pot will yield on an average six good blooms, and they may be cut with long stiff stems, which considerably enhance the value of the variety. As a specimen pot Rose for exhibition, *Violette Bouyer* possesses a formidable rival in *Frau Karl Druschki*, but the delicate shell-pink tinge which suffuses the outer petals makes it sufficiently distinct from any other light-coloured Rose.

PHILOMEL.

[The Rose was photographed in Mr. Lloyd's interesting Rose garden at Langley, near Slough, where all the finest varieties are grown, and many novelties. Mr. Lloyd is High Sheriff for Buckinghamshire, and a keen lover of his garden, besides taking a practical interest in horticulture. He is a member of the council of the Royal Horticultural Society, and represented that body with Lord Redesdale at the recent Ghent Quinquennial Show.—Ed.]

CORRESPONDENCE.

(The Editor is not responsible for the opinions expressed by correspondents.)

IMPROVEMENT OF ROSE SHOWS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—The views expressed in the various contributions to *THE GARDEN* with reference to the improvement of Rose shows show the need for reform, and one of the results of the advocacy for the change should be seen in the immediate alteration—if only to a limited extent—of the present system of exhibiting Roses. The Dean of Rochester, whose views every lover of a garden will most heartily respect, requests critics of the present system of staging the blooms "to make a few practical and possible suggestions for the future." You also ask in the issue of March 28 last "for definite advice." No one wishes to abuse the methods which at present exist, as it is generally recognised that a run of boards or boxes of blooms, in which it is difficult to know where one class ends and another begins, is monotonous, except, perhaps, to those specially interested. Practical and possible suggestions have already been made by some of your critics. Mr. Chas. Wm. Crosby suggests among other changes classes for "vases of cut blooms, from six to eighteen, and baskets of cut blooms, either decorative or show." These suggestions are worth consideration. Why not institute classes for six or a dozen blooms of one colour, and see that the various distinct colours are each represented. Would not this effect a change and display many beautiful Roses at their best? The decorative classes are too few by far. What is really wanted is a more comprehensive display of decorative exhibits. I do not advocate the inclusion of more decorative classes to the absolute exclusion of exhibits in the orthodox Rose box.

By all means let the Rose be exhibited in such a way that the best cultural skill is shown, and for this reason a certain number of classes might well be retained in which the present

orthodox method of exhibiting should be followed. The so-called garden Roses are not set up so well as they might be. Last season's display at the Temple show of the National Rose Society fell far short of anticipations. Both in this class and also in the non-competitive display of the trade the tendency appeared to be to crowd as many sprays of blossoms as possible into each receptacle. Each vase was made to represent a mass, and it would be exceedingly difficult for anyone unacquainted with the natural character of the plant to form anything like a correct idea of what the plants would be like in the garden. Would it not improve the shows if points were given for effective arrangement? These free-flowered Roses lend themselves well to good arrangement. Groups of Roses in pots, such as were arranged at Holland House last year, make a most attractive display.

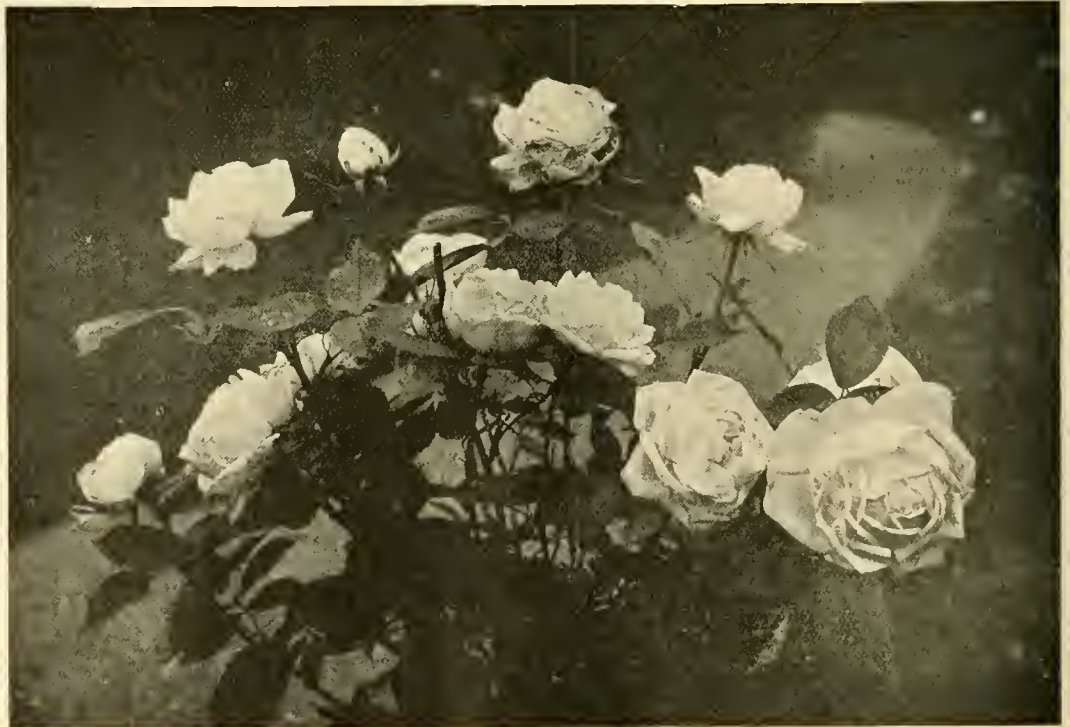
Many readers will support "A Well-wishing Critic" in his desire to have the chief show of the National Rose Society in the gardens of the Royal Botanic Society. In many respects this is an ideal place for such an exhibition. C. A. H.

MISCELLANEOUS.

A WAYSIDE GARDEN.

LAST Easter Monday, walking along a dusty highway between St. Erth and St. Ives, and battling against a strong north wind laden with the hot Cocoanut-like smell of the Gorse hedges, I became aware of a veritable pot-pourri of sweet scents, the Cinnamon fragrance of Stocks, the scent of Wallflowers, and the same smell etherealised which betokens the presence of Violets, and that other scent only belonging to ripe Apricots or the Cowslip family. I at last came to a high gate. Peeping over I beheld a field garden, and the owner thereof digging; he works in it for profit on working days, and for pleasure on holidays.

This being one of the holidays the gate was padlocked against intruders, but before long I was hospitably invited in by way of a small garden containing Oxlips and flowering Lilac and



ROSE VIOLETTE BOUYER IN THE GARDEN OF MR. F. G. LLOYD, LANGLEY HOUSE, BUCKS.

pink Veronicas. Ioland the gardens are already full of monthly Roses, but the air was too salt for them here. The greater portion of the field garden was planted with Violets Princess of Wales and The Czar, the latter thriving best.

After being allowed to pick a large bunch of these for myself the other plants were introduced to me. "Gooseberry bushes from Bunyard's, in Kent, you know." Dark red Wallflowers, so many square yards of it, all from a 6d. packet of seed, a profitable investment. Giant two year old double crimson Stocks, plants 2 feet high and wide, needing their sturdy stalks to carry the huge trusses of flowers that made all one side of the field rosy. Then came a dazzling bed of St. Brigid Anemones, most of them beautiful, but over some their owner muttered something resentfully. Thinking that he was banning slugs and snails, I said, "Yes; we are troubled with those near London," but seeing his astonishment, I found he was speaking of pheasants. He said, "They come from the plantation yonder, and I can do nothing, for we must not interfere with rich men's pleasures." It may be pheasants, but their evil-doing strongly resembles the work of a common garden snail. By this time my hands were full of portions of everything mentioned, save the Gooseberry bushes, just leaving room for a parting gift of Bee Balm, plucked from the hedge. "We rub the hives with it to coax the bees in."

W. SPURLING.

DOUBLE VIOLETS.

THE Violet is always a favourite, especially the double varieties, which are very sweet and little rosettes of petals. "A Reader" asks for the names of the best, and they are as follows:—

Marie Louise.—A well known and grand old favourite.

Lady Hume Campbell.—One of the best doubles. It is a little later than Marie Louise, and is therefore useful for extending the Violet season. This is an indispensable variety.

Mrs. J. J. Astor.—This is a distinct and beautiful variety, exceedingly sweet. Its colour is a mixture of violet, heliotrope, and pink.

Bertha Byron.—Dark purple, one of the best.

De Parme.—Pale blue, one of the sweetest.

Neapolitan.—An old and general favourite, and very sweet; but its constitution is delicate, and it is difficult to grow it well.

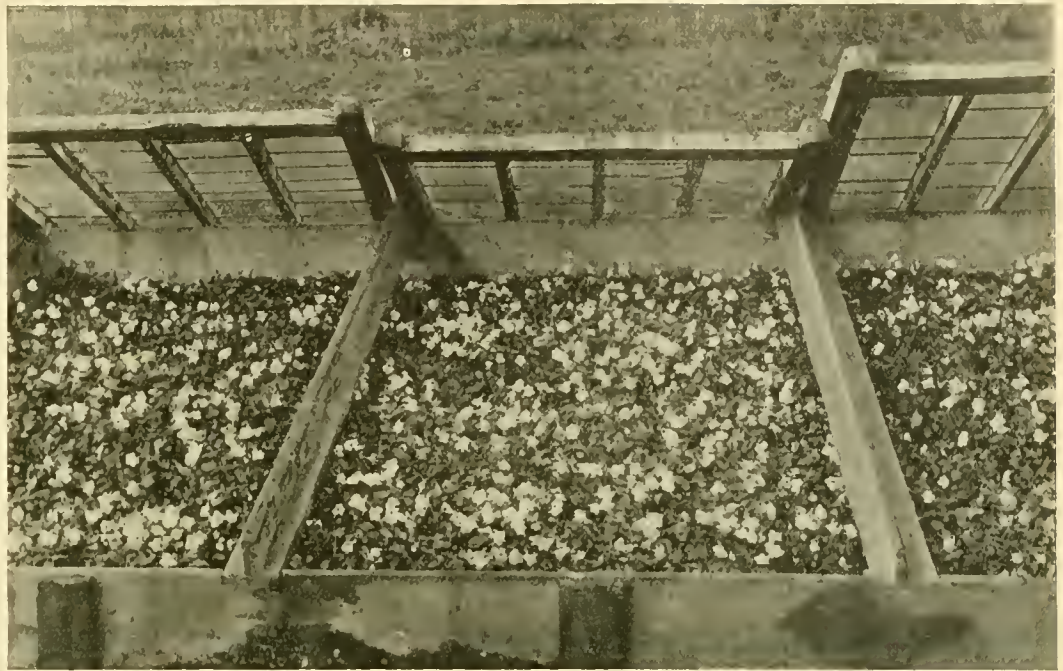
Blue and White.—This is a delicately coloured variety, and strongly scented.

Comte de Brazza.—Pure white, and the only white variety worth growing. Our illustration represents a frameful of it in Mr. Heath's Devonshire Violet nursery.

GARDENING OF THE WEEK.

THE FLOWER GARDEN.

DILIGENT search should be made for the small caterpillars to be found folded in young Rose leaves. If they are left undisturbed many of the buds will be pierced and spoiled. Squeeze the folded leaves before turning them out. Any buds that have been pierced must be pinched out, as well as any malformed ones. When too many are crowded on one shoot always leave the crown bud to bloom. To ground that has been well manured during the winter no fertilising agent need be applied, but where there is reason to think that the soil is somewhat exhausted this is a good time to apply artificial manure, either in the form of a liquid or powder.



A FRAMEFUL OF WHITE VIOLET COMTE DE BRAZZA IN THE NURSERY OF MR. HEATH, KINGSKERSWELL, DEVON.

LAWNS.

Weeds and foreign grasses will now be appearing on lawns, and it is best to at once root them out. This is an excellent time to top-dress and roll lawns, having first run the mower over. Rich peaty soil, with a little bone-dust and dried blood manure mixed in, makes an admirable top-dressing and fertiliser, and is free from the seeds of weeds, &c., which farmyard manure introduces.

Walks will now need looking to, weeds and grasses must be got out at once, and all leaves and other rubbish cleared up. Roll the paths well, and gravel them afresh if necessary.

THE POPPY.

Choice garden varieties of this flower have deservedly become very popular, the colours of many of them being unsurpassed in brilliancy. As garden flowers, whether grown in groups or interspersed among other plants, they make a showy display. For the table or other decorative purposes, when carelessly arranged with ornamental grasses, there are perhaps no other flowers to vie with them in creating effect. Their colours are various, from snow white, rich yellow, and palest of pink to the richest of crimsons and scarlets, and their forms are very dissimilar. They are hardy annuals that will flourish almost anywhere and in any climate, but prefer a light or sandy soil, and are well adapted for a dry sunny border. The Shirley strain represents some of the most beautiful of the Ranunculus-flowered Poppies, which have sprung from the common kind (*Papaver Rhaeas*). The colours are rich and delicate, and the flowers of a satiny texture. *P. umbrosum* is a dazzling scarlet, with a jet black blotch on the inner face of the petal. This is sometimes margined with ashy grey. White Swan is a double-flowered variety, snow white, the petals being beautifully lacinated. Poppies should not be sown in thickly. The seed soon germinates, and if scattered evenly on the surface of a sunny border thinning will not be necessary. All that is required is to keep free from weeds, and in hot weather give a good watering. This will help materially to prolong the flowering season.

T. B. FIELD.

Ashwellthorpe Hall Gardens, Norwich.

THE FRUIT GARDEN.

STRAWBERRIES.

If these plants still occupy shelves in Peach houses and Vineries lose no time in getting them removed to safer quarters, and thoroughly cleanse

the houses or the parts in which they are likely to have left the nucleus of a colony of spider before it has time to extend to the permanent and more valuable occupants, where it will do more mischief than the Strawberries are worth. If a hot-water pit—in which the plants can be placed near the glass—is available, this will be found the best place for their reception, as there they can be copiously syringed and shut up early with sun-heat to swell the fruit. The pots being less exposed to bright sun and draughts of air, feeding can be more effectually and economically carried on than when elevated on shelves in lofty houses. By this time the stock will have been reduced to the late kinds occupying 7-inch or 8-inch pots, and as these will now be making an abundance of foliage and throwing up their flower-scapes, see that they have plenty of air and water. Syringe well when the pit is closed for the day. If the plants have not been disturbed since they were stored away in the autumn and space is available, a general turn over and partial replunging, giving the best more room by turning out the weakest to form a later batch by themselves, will well repay the time and trouble. Let the crows be examined as the work proceeds, and correct any derangement that may have been caused by worms; also ram the soil well back to the sides of the pots to ensure the even passage of water, and top-dress the surface with a mixture of rich loam and rotten manure. To secure extra fine fruit thin out weak flowers before they open, fertilise those left when ready, and tie up to light sticks when they begin to swell.

HARDY FRUIT.

Fruit trees on walls are apt to be attacked by red spider, as from their position the air round them is generally warm and dry, and the cracks and holes in the walls are favourite places for the red spider to shelter in, therefore take great care to prevent them being infested. This may best be effected by syringing the trees night and morning with plain water, directing the water particularly to the undersides of the leaves, so as, if possible, to wash off the spiders and their webs. If the trees be already attacked, add soft soap and sulphur to the water. Sulphur is one of the best agents known for killing them; it will not, however, mix properly with water in its ordinary form, but should be treated according to the following recipe: Boil together in 4 gallons of water 1lb. of flowers of sulphur and 2lb. of fresh lime, and add 1½lb. of soft soap, and before using 3 gallons more

of water, or mix 4oz. of sulphate of lime with half that weight of soft soap, and when well mixed add 1 gallon of hot water. Use when cool enough to bear the hand in it. Any insecticide containing sulphur is useful. The walls should be well washed with some insecticide of this kind. Old walls in which the pointing is bad and the bricks full of nail holes, &c., are very difficult to keep free from red spider. They should be painted over with a solution of soot water mixed with clay to form a paint.

To a gallon of this paint add 1lb. of flowers of sulphur and 2oz. of soft soap. This mixture should be thoroughly rubbed with a brush into every crack and crevice of the walls, and if applied regularly every year would probably prevent the trees from being badly attacked. As red spider passes the winter under some shelter, frequently choosing stones, rubbish, &c., near the roots of the trees, keep the ground near the trees clean and well cultivated.

CHERRIES.

While it is difficult to imagine a more beautiful sight than a house of Cherry trees in full bloom, it is impossible to name a crop which can be brought to maturity at so little cost, but patience is needful, as the temperature of the house under artificial treatment should not exceed 40° at night, and 10° to 15° higher by day. Even then a stagnant atmosphere should be avoided by having the ventilators a little open. It sometimes happens, as has been the case this season, that the temperature of the open air is many degrees above these figures, when a constant circulation gives the trees all the advantages without the risks attending their culture on open walls. These favourable conditions have brought about a bold blossom, a good set, and rapid growth, so far free from insects, but the grub is sure to appear, and the first curled leaf must be a signal for daily examination and hand picking.

When the fruit begins to swell the inside borders may be nicely mulched and well supplied with water at a temperature of 70°, and the trees will require a thorough syringing twice a day, always with the ventilators closed, as it is the warm, genial atmosphere, resembling that of a fine April day, which helps the fruit along. After the first syringing give air at 50°, gradually increase it to 60° with moisture and a free circulation. Ventilate to the full extent when sun-heat raises the house above these figures. Reduce in a similar way; syringe and keep closed for a time, and reopen the ventilators for the night.

ORCHARD HOUSE.

Since our last notes appeared the trees in this department have made great progress, and the fruit on many of the most forward Peaches and Nectarines is now set. Later kinds, also Plums and Cherries, still in flower will require abundant ventilation when the outside temperature is not below 40°. Maintain a constant circulation of warm air, with moderate moisture where pot Vines are ripening up their fruit, and, while reducing the supply of stimulating liquid to the roots, see that they do not receive a check through extreme dryness, and add more covering to the surface roots to prevent the escape of moisture. Get Vines which have been cut back and shaken out shifted into their fruiting pots as they become ready. Plunge in a sweet bottom-heat and shade slightly for a few days.

Train the young canes near the glass, and ensure short-jointed growth by giving plenty of light and air. Where spring planting is contemplated April is the best month in which to turn out growing Vines. These should always be planted in inside borders, and the compost should be made warm by the absorption of sun-heat before it is placed about the tender roots. Settle the soil as soon as they are planted by giving a little water at a temperature of 80°; shade lightly for a few days, and then treat as has just been advised for pot Vines.

MELONS.

When the female blossoms begin to open keep the atmosphere dry, and give air on all favourable

occasions to keep the foliage stout and firm, and at the same time assist setting of the fruit. Having secured a sufficient number of Melons on each plant by artificial fertilisation, stop at the second joint, mulch with stiff loam and manure, and gradually increase the supply of stimulating liquid and atmospheric moisture. Keep the foliage clean by good syringing on fine afternoons, but avoid wetting it on bright mornings. Aim at a night temperature of 70°, give a little air at 76°, run up to 80° or 85° under sun-heat, and a few degrees higher after closing. Keep a stock of healthy young plants by sowing once a fortnight, and throw away previous sowings before the confined state of the roots produces spider.

Madresfield Court.

W. CRUMP.

KITCHEN GARDEN.

SEED SOWING.

THE principal main crop seeds will have been sown by this date, and those required for forming successions will now be engaging the gardener's attention. Examine closely all seed-beds, and where blanks occur dibble some seed in them without delay. These will germinate quickly at this time, and will not only fill up unsightly gaps but will produce fairly good specimens, though, of course, not so large as from seed sown at the proper time. To maintain an unbroken supply of the various crops over as long a period as possible is of the utmost importance, and to ensure this a weekly examination of the seed drawers should be made, so that nothing is forgotten at the right time. Provided sufficient ground is at command it is no loss, and in many instances a gain, if more is produced than required by the household, for in most gardens there are ways of disposing of the surplus.

PEAS.

Excellent varieties to sow at this date are Veitch's Perfection and Ne Plus Ultra, following with that grand late variety Autocrat. As the Peas attain 2 inches or 3 inches in height mound them up well and stake.

CUCUMBERS.

Attend well to the fruitless growths, leaving as much fruiting wood as will adequately furnish the trellis of the house without crowding, and cut away all yellow foliage. Thin the fruits while small somewhat severely to induce the plants to continue in full bearing as long as possible. Top-dress every few days with rich soil, to which is added a good sprinkling of artificial manure. Cucumbers are gross feeders, and provided care is exercised in not applying too much at one time there is little fear of over-feeding, provided the atmospheric conditions are favourable to quick growth. Sow seed for producing strong plants for succession houses and for frames. Hot-beds made up at this time with any rough stable litter and a frame placed thereon will grow good Cucumbers during the summer months, and these may be depended upon for keeping up a supply for ordinary use, and will free the houses for plants or other crops if required.

MUSHROOMS.

After this time the best Mushrooms will come from beds made up in the open, for though fairly good ones may be grown in houses set apart especially for them, much better results follow when they are grown in cool cellars or in beds made up in cool positions in the garden during summer. When the latter way is adopted the ridge form of bed is undoubtedly the best, and it should be covered with litter to maintain an equable temperature and to retain the necessary degree of moisture, and also to keep dark. During very dry weather such beds require the litter removed and a copious watering with tepid water.

Stoneleigh Abbey Gardens.

H. T. MARTIN.

ORCHIDS.

REPOTTING CATTLEYS.

AFTER a long rest many of the Labiate section of Cattleyas have again entered upon their growing

season. *C. gigas*, *C. aurea*, *C. gaskelliana*, and *C. labiata* are well on the move, and *C. Trianae*, *C. percivaliana*, and *C. Schroderae* are beginning to grow. There are two stages when these Cattleyas may be repotted—when the plants begin to grow, and a later period when new roots issue from the base of the developed, or almost developed, growth. *C. gigas* and *C. gaskelliana* frequently emit new roots when developing their buds and flowers. When this occurs they should not be repotted until the flowers are taken from them.

Plants of *C. Trianae*, *C. percivaliana*, and *C. Schroderae* should now be examined, and those that have overgrown their receptacles should be repotted. Turn the plants carefully out of their pots if the roots and compost are in a satisfactory condition and the plants compact. Transfer to other receptacles large enough to allow two or three years' growth without disturbing the roots, and place the plant level with the rim of the pot. Allow two-thirds drainage. Fern roots may be used as a substitute for crocks; over this place a layer of sphagnum moss, and fill up the remaining space with equal proportions of moss and good fibrous peat level with the base of the plant. Press moderately firm, and work a few crocks in the surface layer as the work proceeds.

CAELOGYNE CRISTATA AND ITS VARIETIES

are now pushing out new growths, and should have attention in the way of top-dressing, &c. Pick out the old decayed surface material and top-dress the plants with fresh peat and sphagnum moss, and by no means disturb them unless really necessary, for if they are shaken out and pulled to pieces recovery is slow. If they have overgrown their receptacles the leads should be carefully bent round and pegged on the compost, placing them to fill up bare places, and direct their growth towards the centre of the plant to keep the plants as compact as possible. *C. c. alba*, owing to its greater length of rhizome, needs frequent attention in this way. *C. cristata* and varieties grow well in the Mexican house, and should be shaded from direct sunshine.

DENDROBIUM BRYMERIANUM AND D. HARVEYANUM.

The former is a handsome and distinct species with large golden-yellow flowers. The most wonderful feature is the triangular cordate lip, the middle lobe is greenish yellow, beautifully fringed with a long beard-like appendage, the short broad lateral lobes very deep orange with a shorter fringe. The flowers are of very striking appearance. *D. harveyanum* is a very interesting species, a good companion to *D. brymerianum*, which it resembles more than any other Dendrobium. The flowers, which are not so large as those of *D. brymerianum*, are deep chrome-yellow, the petals having a dense marginal fringe, the lip is circular and fringed. Both species are natives of Burmah, and should be grown in the coolest and shadiest part of the Dendrobium house. When the plants begin to grow any necessary repotting should be done. Fern roots are suitable in place of crocks, and fresh sphagnum moss should be used as compost. Press this moderately firm and work in a few pieces of Fern roots so as to ensure porosity. After repotting the plant must be sparingly watered until the young growths have further advanced and the new roots are moving in the fresh material. *D. brymerianum* produces numerous young growths from the upper portion of the stems. These should be taken off when they emit roots and be placed in 5-inch or 6-inch pans and suspended, when they soon make strong healthy plants.

F. W. THURGOOD.

Rossllyn Gardens, Stamford Hill, London, N.

INDOOR GARDEN.

ACALYPHA HISPIDA (SANDERIANA).

PLANTS now in 4½-inch and 6-inch pots and fairly well rooted should be potted on. This *Acalypha* when well established enjoys a somewhat strong compost—two-thirds of fibrous loam and one-third of peat or clean well-decayed leaf-soil, with a little dry cow manure and an addition of sand and charcoal being suitable. Moderately firm potting is essential, as

the plants require an abundance of water when growing. A hot stove house, where the syringe can be freely used among them, is necessary or red spider will show itself. Shade the plants lightly during bright sun, and avoid any change in the condition of the atmosphere that would tend to check them. Plants 3 feet to 4 feet high carrying fifty or more of their bright crimson pendulous spikes are most effective.

MEDINILLAS.

Old plants are excellent for the decoration of warm show houses during May. As soon as the blooming period is past shorten all the branches back to one or two joints, and by adopting this method of pruning the plants are kept more compact in habit and bloom more freely. The young points may be used for cuttings, and if inserted in light sandy soil and plunged in a brisk bottom-heat under a bell-glass will soon make roots. A compost of equal parts of fibrous loam and peat with sufficient sand and charcoal to keep it open will suit the *Medinillas* well with general stove treatment, and with a free use of the syringe during the growing period very little further attention will be required. The species most frequently met with are *M. amabilis*, *M. javanensis*, and *M. magnifica*.

POINSETTIA PULCHERRIMA.

The propagation of young stock should now be proceeded with. Well ripened wood from the base of last season's growth may be cut into lengths of two joints each. These dibbed into small pots filled with light sandy soil and plunged in a sharp bottom-heat will soon make roots, and must be grown on in a warm house until well established. Older stock plants must be cut back to two or three joints at the base of last season's wood and placed in any light house where a

temperature of 58° or 60° can be maintained. Be sparing with the amount of water given them for a few weeks, and allow them to enjoy plenty of light and air so that the young shoots get well developed, otherwise small inferior bracts will be the result.

The various species of *Liliums* cultivated in pots should be top-dressed with light rich soil as soon as the young roots start from the apex of the bulb. See that all necessary staking and of the young growths is attended to, and that the plants are kept free from aphid. During very bright periods all *Liliums* are benefited by a little shade and a somewhat humid atmosphere. Make another sowing of *Rhodanthes*, *Torenia*s, *Balsams*, *Celosias*, and *Cockscombs*. These annuals now require a little closer attention to watering and shading than they did a month or two back.

Wendover.

J. JAKUES.

KEW NOTES.

ARUNDINARIA SIMONI IN FLOWER.

UNTIL quite recently the flowering of a Bamboo in this country was a very rare occurrence, but during the last three or four years quite half-a-dozen species have been recorded as bearing blossoms, and it is quite probable that now that Bamboos are cultivated so largely many more will flower within a few years' time. The flowering of Bamboos, however, is not an event to look forward to with much

pleasure, except to the scientist, for as a rule the flowers are small, and not showy, as in the case of some large-growing grasses, and many species die outright after flowering. As a rule, when a species is recorded as being in flower at a certain place it is probable that it is flowering in quite a number of gardens, the whole lot imported at one time often flowering at once. A few years ago a number of plants of *Arundinaria hookeriana* were imported to Kew, and these all flowered about three years later. After flowering all the plants died, but sufficient seeds were obtained from the plants to raise a fresh stock. Though, however, some Bamboos die outright after flowering, it is not always the case. In the Temperate house at Kew there is a large plant of *Arundinaria falcata* var. *glomerata* which has rarely been without flowers for at least seven years; the flowers in this case are, however, very few in number and scattered here and there about the branches. *Arundinaria Simoni*, of

which a figure is here given, is another case of a Bamboo which is said to live after flowering. The specimen figured is taken from an old plant growing in the Temperate house at Kew. The plant, or clump, is about 20 feet in height and composed of a large cluster of stems. The flowers are of a pale straw colour and borne on some of the branches only, quite unlike the behaviour of *A. hookeriana*, for in this case every branch flowered. The flowering culms of *A. Simoni* are quite as tall as the other culms, but instead of being feathered with leafy side branches the side branches are composed largely of flowers, leaves being very few in number. In the Bamboo garden at Kew a very large clump of *A. Simoni* is to be seen, the tallest growths being quite 18 feet in height. For planting in a position where a thicket is required quickly this Bamboo is to be recommended, for it suckers freely and runs about in all directions, forming itself into a picturesque group.

W. DALLMORE.

THE MARKET GARDEN.

WATERCRESS: ITS HISTORY AND CULTIVATION.

(Continued from page 172.)

ANNUAL cleansing and replanting, which involves considerable expense, should be carried out during the slack months of August and September. The tops of the Cress are first gathered and stored away in a convenient place, sheltered from the sun and wind, until required for replanting. The dykes are then thoroughly bottomed out and the muddy soil removed, with all the old roots, weeds, and living creatures it contains. This process is followed by a careful levelling of the bottom, and a stream is allowed to flow for a sufficient time to thoroughly scour out all impurities. Everything is now ready for replanting, which is carried out in the following manner: The cut Cress is carefully laid down in rows, or spread broadcast on the ground, being sometimes secured by large stones where it is in danger of being shifted from its position. It is advisable to turn on the water sparingly in the first instance, for fear the plants should be disturbed; but in the course of four or five days the young rootlets will begin to strike and to take hold of the ground.

All this work needs skilled labourers who have had experience in the business, and they must be specially equipped for their task. The most important part of their outfit is the boots, which are provided by the employer at a cost of from 4s. to 6s. per pair, and are similar to those used for marsh work. In addition to the expense of cleansing, laying down a Cress bed would cost 6s. or 8s. per perch if the plants were purchased. In order to procure fresh shoots for this autumn plantation, it is an approved plan to lay down some beds in March and set them apart for this purpose. The clean plants from these rearing beds will be vigorous and free from weeds and other impurities. Small brooks and ditches inconveniently situated for market work are utilised for the purpose of obtaining fresh plants.

Readers of this article will naturally ask what it would cost to construct a Cress bed. We have already seen that the purchase of plants is a large item. The preparation of the ground is a more serious matter still. Much depends on the situation of the land, the irregularities of the surface to be overcome, and the level of the field or meadow in relation to the springs which it is desired to utilise. If the task is merely to shape out, to straighten, to take off the angles, and level the bottom of a ditch so that the stream may have a gentle, steady swing, then 4s. or 5s. a perch might suffice. The formation of large Cress beds to any extent is a heavier undertaking. There are the excavation of and the moving away of the surplus earth, making



ARUNDINARIA SIMONI IN FLOWER AT KEW.

a true and correct incline to regulate the flow of the stream, and this may soon involve considerable expense. To take a medium figure perhaps it would cost £90 to £100 per acre in the formation of the beds, and with the plants at £1 per cwt., or £20 per ton, of which nearly two tons would be required to thoroughly plant an acre, the further cost would be £40. Thus £130 or £140 would be the rough estimate arrived at. The best pulled plants, if purchased, are difficult to acquire, though not costing so much when supplied on the farm. When the work is done by the occupier himself these alterations are carried through in an economical way and at much less cost than any contractor would attempt them. Yet, after due consideration, I feel that, without a thorough knowledge of the surroundings of each case, such estimates must be rather conjectural and hypothetical. The

MARKETING

of the Cress is an important problem, and needs much attention and forethought. London claims the first consideration as the largest consumer, but the big towns in the provinces must be remembered. The probable demand must be gauged as far as possible or the markets would certainly be glutted. The gathering and packing of the crop are mainly done by men, whilst women take a part in tying up the bunches. In cutting the Cress, the men in big boots wade through the beds, having long boards to stand on when the depth of the water is abnormal or the bottom of the bed is treacherous. The use of boards has also the advantage of pressing the roots of the plants into the soil, and flattening down the stems and foliage under the water. Careful workmen are most particular in selecting the forward stems, which should be gathered singly, or, at most, two or three sprigs at a time; the more cautiously this is done the sooner the bed is ready to be culled again. The picked Cress should be carried in flasks or half-load baskets to the shed, where it is washed free from Duckweed or any trivial impurity. Women take up this department, and tie the Cress up in small bunches at about 3d. per dozen, and skilled hands often earn 2s. 6d. per day. Raffia is now largely imported for tying purposes. The cost of the raffia ranges from £40 to £50 per ton. The Cress, after tying, has to be packed in baskets called flats, which contain about eighteen dozen bunches. The weight of a flat varies according to the size of the bunches, which again depends on the season; some growers make them up about half a cwt. in the flat, but there is no uniform weight for all districts. I find in my researches only two distinct kinds well known, though there may be slight variations. Brown Cress has the first place, and has the highest reputation; green Cress is not so highly valued, and only comes in the summer. The former, with careful treatment and under certain conditions, is available, and is gathered in the coldest seasons; the latter is a delicate plant, which thrives only when the weather is mild. The Brown Cress may be sent all the year round, but is only needed in small quantities during the summer months, whilst the green Cress is in abundance. The Cress sent to the north of England is forwarded loose or in bulk, as traders there prefer to make their purchases by weight. The men pack the flats as well as pick the Cress, and know how to fill the baskets to their full extent. Cressmen accustomed to water work have different pay in different districts, their wages ranging from 15s. to 25s. per week, according to locality and season. Good wages are current when the trade is in full swing, and much of the gathering and packing is done by piecework. Speaking generally, Cress workers earn rather more than the average rate of the labourers amongst whom they reside.

The great difficulty in sending a long distance is that the Cress is apt to heat and change colour; to obviate this tendency it is laid lightly in the middle of the basket that the air may ventilate it. The French method, with the same end in view, is to have the baskets constructed with an air space in the middle, and thus to keep the contents cool. When sent to Manchester or Liverpool from the south, a block of ice is often placed in the centre of the Cress, and this has a good effect. Watercress

on reaching London from the provinces is dealt with in various ways. Many salesmen pay special attention to this class of business, and thoroughly understand the trade. Large quantities change hands on arrival at the railway stations in London, and dealers thus obtain their supply.

ENEMIES.

Various animals, including insects, are, as well as weeds, troublesome in Cress beds. Water rats always find out where Cress grows, and must be trapped or shot. Dogs cannot be used without doing damage. Freshwater shrimps (*Gammarus fluviatilis*) are often numerous and are very destructive; but quicklime is an efficacious remedy, and put into the incoming water kills them without injury to the crop. The water beetle (*Dytiscus marginalis*) is a frequent inhabitant of some Cress beds, but is not complained of so much as the caddis worm. Small snails are also rather troublesome in some water, but I was unable to find out the exact genus of mollusca to which they belong. Various weeds thrive in Cress beds, which the expert readily detects and endeavours to eradicate. The most troublesome is Duckweed (*Lemna minor*); and of the Pondweed tribe, *Potamogeton densus* is very perplexing to the picker. One known locally as Network or Silkwort, on account of its thread-like stems, forms a tangled mass around the Cress, and must be cleared off in preparing for market. Procmment Marshwort (*Helosciadium nodiflorum*) is a plant with the habit of Watercress, in company with which it often grows, and for which it is sometimes mistaken. Water Starwort (*Callitriche aquatica*) is also a frequent intruder, and flourishes in the spring water; Canadian Waterweed (*Elodea canadensis*) also is often seen. Brooklime (*Veronica Beccabunga*), I discovered, is a succulent plant which abounds in situations favourable to Watercress. Some varieties of the Crowfoot tribe, such as *Ranunculus aquatilis*, thrive in running as well as in stagnant water. The Water Parsnip (*Sium angustifolium*), the Mare's-tail or Water Milford (*Myriophyllum spicatum*), and the Horse-tail (*Equisetum palustre*) are also treated as weeds in a Cress bed, and are more or less troublesome.

The cultivation of Cress is carried on in numerous places in the basin of the Thames, some of which have been already mentioned. On the Colne, between North Mimms and Staines, there are about twenty-two acres; on the river Gade, between Great Gaddesden and Rickmansworth, about forty-two acres; on the river Bulbarne, from Dudswell to Hemel Hempstead, about forty-one acres; on the Mibaume Stream, from Great Missenden to Denham, about seven acres; on the river Chess, between Chesham and Rickmansworth, about sixteen acres; on the Aldenbaume, between Fulmer and Iver, about four acres; on the river Ver, from Margot to Watford, about five acres; on the Tillingbourne, between Abinger Hammer and Chilworth, about fifty-one acres. There are other plantations farther away in Buckinghamshire, Berkshire, Hampshire, and Gloucestershire, in the valleys and streams of these counties.

NURSERY GARDENS.

AMARYLLIS AT CHELSEA.

FOR some twenty-five of the forty years that Mr. John Heal has been with Messrs. James Veitch and Sons, Limited, he has cultivated the Amaryllis (*Hippeastrums*) that are such a fine feature in the Chelsea nursery every spring, and during that long time many remarkable changes have taken place in these flowers. Varieties which some years ago sold for five guineas a bulb are now not worth more than half a guinea, while such handsome blooms as are now raised were then unknown. There are many distinct colours noticeable in this year's novelties, and particularly among the lighter flowers. Messrs. Veitch's plants are arranged in a low span-roof house with a central walk and

make a splendid display. The Chelsea nursery has recently been practically rebuilt; most of the indoor plants are now grown at Feltham, and among them the *Hippeastrums*. In the Feltham nursery is a house 100 feet long full of seedling *Hippeastrums* in various stages of growth. When the plants reach a flowering size they are brought to Chelsea, there to open their handsome blooms.

One of the prettiest varieties in the house is that called Apple Blossom, which obtained an award of merit from the Royal Horticultural Society recently. The ground colour is white veined with rose-red; the name is very suggestive of the colour of the flower. Others remarkably good are Cleopas, large, rich deep scarlet; Acyrus, rose-scarlet, shaded deep crimson; Mimos, large, soft scarlet, lightly veined with crimson; Minterne, light ruby-red, attractively shaded with darker ruby; Halotus, handsome orange-scarlet, petals 4 inches across; Nysa, very deep ruby-red; Epicles, a very attractive claret-coloured flower; Patalus, symmetrical, crimson-rose with greenish white eye; Queen Alexandra, red-scarlet, white edged and white centre; Dolores, rich glowing scarlet, a striking flower; Euphrasia, vivid crimson-scarlet; Juvantes, symmetrical, greenish-white ground colour lightly marked with red veins; Surprise, a distinct and beautiful flower heavily marked with scarlet-crimson on a light ground colour; Epirus, with rich scarlet-red lines upon a white ground; Syros, heavily veined with salmon-pink upon a white ground, a medium-sized symmetrical bloom. Other good varieties are Cloma, pure white except for a few pale red markings; and Aureole, rich dark scarlet, the flower 10½ inches from apex to base.

THE KITCHEN GARDEN.

LATE BROCCOLI IN SPRING.

OWING to the absence of severe frost the Broccoli supply this year in most parts of the country has been good, and this applies to most varieties, especially the late ones, which at this season are most valuable. For private use the medium-sized or even small heads are excellent. For sale the large Broccoli is most esteemed, as here size is a necessity to obtain the best prices, but even then I have noticed there are fewer huge heads that found so much favour at one time, as the medium close pure white varieties were in greater demand. With a mild winter the seasons vary greatly, as this year we are cutting from our latest lot of plants that at other times have furnished a supply well into June, and this cannot be helped, as even seed sown late last spring is turning in quite a month earlier, but this remark will cause growers to question the value of too early sowing. With regard to this much depends upon the culture when planted and condition of the seedlings. Many fail with this vegetable, and much depends upon the soil, position, and date of planting. I have seen the seed sown early in March—that is, as soon as the soil was workable—and I have also seen the seedlings remain till the early part of July or later before planting out. Often the seed-bed is much too crowded. More space should be allowed the seedlings to secure a sturdy plant. In many gardens the cultivator cannot plant when he would frequently do so, owing to the land being occupied with other crops, such as early Potatoes, Peas, or green crops, with the result, if the season is a late one, that the Broccoli seedlings have to remain far too long in the seed-bed, and they rarely make a good plant, as they are weak and deficient in roots.

This points out the value of either sowing later, or, what is better, of pricking off the seedlings in rows, and by so doing giving more space and getting a plant well rooted, as these lift well when the quarter is ready to receive the plants. I am not much in favour of late planting or sowing, especially in the northern counties, as there must be a good season's growth to secure a strong plant.

Still, there can be no doubt whatever that it is preferable to sow sufficiently late, so that the plants do not remain too long in the seed-bed. There should be no rest or wait between the time the plants are above the soil and of planting. The best Broccolis I have seen are those given field culture, and treated as advised, that is an ample seed-bed, early planting before the plants are weakened by overcrowding, and after the planting there is no coddling, that is, the plants are thoroughly exposed and make a sturdier growth than in rich garden soil. As regards sowing a certain date cannot be given to suit all parts of the country. In the South the early Broccoli is one of the best paying crops grown, and, though my note refers more to the value of the late supplies, I would add the early spring varieties are equally valuable.

It will be found in such seasons as this that if the late Broccolis are earlier than usual, other green crops, such as the Borecoles, will be soon over. This will result in scarcity for a short time, but it is a simple matter to keep the small late heads of Broccoli later by lifting and laying in under a north wall and screening from bright sunshine. Treated thus, quite a fortnight's time as regards the supply will be secured.

There is no gain whatever in sowing late, as the plants do not pay. They must have a fair season's growth, and when sown too late the result is disappointing. Of course, much may be done to keep up a full supply by sowing late varieties, but these cannot always be trusted. This year we are cutting June Monarch early in April, but there are some compensations, as when the Broccoli is erratic the spring Cabbage is much earlier. This is a great gain, as if one fails the other comes in to take its place.

Another point the grower should always bear in mind is that no plant can stand extremes of heat and cold, rain, and snow if not strong and well-rooted. It is the weak ones that fall out, and it is well to get a good plant to stand our variable winters.

I have referred to soil and position. With regard to the former I have always got the best supplies from a deeply-dug or holding soil. This results in a more solid growth, and, given free exposure, there are fewer losses. In many gardens the Broccoli crop cannot get much attention, and even with the best culture there are great losses in severe winters. I have found fewer plants die when grown on as advised. Our soil is very light, but we get a hard root-run by planting on land from which the early or first Strawberries have just been cleared. For the latter crop the soil is trenched, well manured, and the early plants only occupy one season, as our object is fine fruit. The Strawberries are hoed off and the Broccoli placed in position; they are planted between the rows, the land being very hard and trodden. Of course, to do this good plants is necessary, and this is easily managed by pricking out the seedlings if the season is late.

Our best late Broccolis are not numerous, and I will only refer to those I have grown for some time, and these, in my opinion, are far superior to the huge heads grown a quarter of a century ago. For home supplies—that is, the private garden—two varieties should be grown in all gardens where delicate, medium-sized heads are required for use from April to June. Veitch's Model is one of the best introductions of late years, and very little inferior to the best Cauliflowers; it is very hardy, of fine texture, beautifully white, and well protected with its folding foliage. This variety is very distinct, the heads being conical, remarkably close and compact, and of splendid flavour. We usually have this variety on three quarters to get a long supply, and in severe seasons the plants on a north border escaped when those on a warmer one were killed.

Another very fine late Broccoli is Sutton's Late Queen. It is as valuable as Model, and one of the hardest sorts grown. I have had it at midsummer in the northern part of the kingdom; indeed, it never failed, as it is a dwarf grower and a splendid garden variety. Another very late variety, also hardy, is Carter's Champion, which is a very

fine Broccoli. June Monarch is also good, very late, and hardy. A favourite Broccoli in Scotland and the North is Methven's; it gives a close, compact head, and is a well-flavoured variety. The old Cattell's Eclipse is also hardy, but it may not do like its sulphur colour. It is still a favourite for field culture. G. WYTHES.

OBITUARY.

ANDREW PETTIGREW.

It is with deep regret that we announce the death of Mr. Andrew Pettigrew, of Cardiff Castle Gardens, which took place on Sunday morning last, April 26. Mr. Pettigrew, who was seventy years of age, had been seriously ill for some weeks. By his death we lose one of the most notable of British gardeners. Mr. Pettigrew was known throughout the kingdom as an expert horticulturist, more particularly as a fruit grower, and



THE LATE MR. ANDREW PETTIGREW.

was greatly respected wherever known. His face will be missed by many at horticultural gatherings.

Even those who did not know him personally will hear with great regret of his death, for Andrew Pettigrew was a household word in gardening circles, while those who had the pleasure of close acquaintance with him will remember him as an honourable, just yet generous and warm-hearted man, and a typical Scottish gardener.

Mr. Pettigrew commenced work in an Ayrshire garden at the early age of twelve, and subsequently worked in the following gardens for periods varying from nine months to two years: Craigie House (Ayr), Dalblair House (Ayr), Rozelle House (Ayr), Sheffield Botanic Gardens, Minard Castle, Drumlanrig Castle, Stoke Farm, Daylesford House, and Rollinson's Nurseries, Tooting. At the age of twenty-nine Mr. Pettigrew was appointed head gardener to the late C. Meeking, Esq., Richings Park, Bucks, and remained there for six years. Then, greatly against the wishes of his employer, he returned to Scotland to take charge of the late Marquis of Bute's gardens at Dumfries House, Ayrshire. After six years' service there Mr.

Pettigrew, at the request of the Marquis, went to South Wales to lay out the gardens around Cardiff Castle.

Subsequently Mr. Pettigrew formed the famous vineyards and successfully conducted experiments in wine making after spending some time in visiting vineyards in France and studying the methods of wine making there. Mr. Pettigrew had been in the service of the Bute family for thirty-six years. The pot Vines and Melons, as well as the specimen Apple and Pear trees in the gardens of Cardiff Castle, we have rarely, if ever, seen equalled, and Mr. Pettigrew was justly proud of them. He was a thorough gardener, and took delight in excelling in his profession.

Several eminent gardeners of to-day have spent some time in the Cardiff Castle Gardens under Mr. Pettigrew, and it is not too much to say that in a large degree they owe their present success to the knowledge gained under his thorough tuition. Mr. Pettigrew was a Fellow of the Royal Horticultural Society, before which he has lectured on several occasions. He was a valued contributor to our columns. Great sympathy will be felt with Mrs. Pettigrew, her three sons and daughter in their bereavement.

JAMES W. WITHERS.

MR. WITHERS, of the *American Gardening* Publishing Company, New York, died on April 13 in Jamaica, West Indies, whither he had gone in hopes of recuperating his health.

Mr. Withers was born in Welshpool, Montgomeryshire, England, forty-two years ago. Going to America in 1892, Mr. Withers entered the employment of the Oasis Nursery Company. In 1894 he joined the staff of the *Florists' Exchange*. In October, 1898, he purchased *American Gardening*. During his stay in the United States the deceased did some excellent work in the cause of horticulture. He took a keen interest in exhibitions, and did everything in his power to encourage them. He was an active worker in various horticultural organisations. In the untimely death of Mr. Withers horticulture has sorely lost a valued exponent and true friend. —*The Florists' Exchange*.

THE LATE MR. BARRON, V.M.H.

YOUR pages are always open to those who advocate the claims of our gardening charities or who work in their behalf. Our good friend and worthy horticulturist, Mr. A. F. Barron, will be remembered as one who did much for the widow and orphan. Few were his equals with regard to fruit, especially hardy fruit culture. As a judge of fruits it was a pleasure for anyone to be associated with him. There is no occasion to point out the late Mr. Barron's qualities. These were testified to when he resigned the position as superintendent of the Royal Horticultural Society's gardens by the testimonial of £500 presented to him on that occasion. We all regret the loss of such men, and sympathise with those he has left behind. G. WYTHES.

MR. A. F. BARRON'S BOOK OF THE VINE.

THE late Mr. A. F. Barron undoubtedly possessed a wide knowledge of fruits, and a good deal of that knowledge may be found incorporated in the "Fruit Manual" and other books to which he was a contributor but not the author. He left behind, however, one book at least that is a standard authority, viz., his "Book of the Vine." It is without doubt the best and most authoritative work on the subject that has ever been issued from the press, and has the merit of being not merely fully but most truthfully illustrated. Mr. Barron had a very matter-of-fact mind, and he carried that fact thoroughly into his book. For that reason it is found on all gardeners' book-shelves, and is the work of reference when Vines are in question. It is not a big book by any means, but it is one that will live long after many other books have been forgotten.

It is very difficult indeed to keep books on gardening up to date, the progress made being so rapid, but the Vine progresses very slowly; indeed, the varieties held in the highest esteem twenty years ago or much longer are still the best varieties of to-day, and, judging by the rate with which new varieties of Grapes are introduced that make reputations, it is just possible that a century may elapse ere we shall see Black Hamburg, Madresfield Court, Muscat of Alexandria, Mrs. Pince, Black Muscat, Gros Colman, Black Alicante, Lady Downe's, and Foster's Seedling displaced.

Of the several varieties that have received awards or been put into commerce during the past ten years hardly one has yet made any reputation. Something may be due to the fact that Vines can only do so very slowly. It is this fact that lends such value to the late Mr. Barron's book, and must for many years yet to come make it the standard work on the Vine in British horticulture. A. D.

BOOKS.

The Chrysanthemum: History, Classification, Description, and Culture.—This in plain English is the title of a new book that has just been published in the Italian language by a Mr. Dario Formilli of Rome. It is a pretty book, and, judging by its bulk, it is likely to prove to be a very useful one. It is the first book that has ever been written in Italian on the subject of the Chrysanthemum, and for style and comprehensiveness is an example to be imitated. We cannot compare it with any other book that we know of or with which our readers are familiar, but if we did we should be inclined to say that it was a happy blending of styles analogous to "Le Chrysanthème," by Anatole Cordonnier, and the Chrysanthemum Album published by Sautel, whose coloured engravings are vividly recalled to our memory by those in Mr. Formilli's book. The author certainly deals with his subject in a very liberal manner, and seems to have spared no expense in producing a useful and, at the same time, well-executed cultural and historical manual. History, the various types with illustrations in black and white, literature, culture for all the many purposes to which the Chrysanthemum is put are freely and ably dealt with. Various composts, formulae for liquid manures and mixtures to combat the rust, &c., are also supplied. Then there are lists of the best varieties for all kinds of purposes, besides much other literary matter, which we cannot even briefly review. The book is a substantial volume, well printed, freely illustrated, and one that we hope will materially help to extend the culture of the Chrysanthemum in Italy and to add to the dignity and well-being of the Italian National Chrysanthemum Society, after whose late president, Mr. A. Scalarandis, the variety forming the coloured frontispiece is named.

SOCIETIES.

CROYDON HORTICULTURAL SOCIETY.

This society has every reason to be pleased with its third annual exhibition of spring flowers and plants, which was held recently in the Art Galleries, Park Lane, Croydon. The objects of the society are not for the purpose of enabling its members to obtain monetary and other rewards for the particular branch of horticulture in which they may be engaged or take up as a hobby, but to create and encourage a love of horticulture amongst the masses, and this is certainly brought about by exhibitions such as this. Purely for the love of horticulture professional and amateur gardeners enter into friendly rivalry, and certainly with the result that year by year one sees an advance on the exhibitions of previous years. There were on this occasion more entries than previously, and the quality throughout was of a higher standard. The exhibition consisted of collections of plants and Ferns, which were grouped round the wall and in the centre of the room. Amongst some of the most prominent groups visitors could not fail to be struck by those of Mr. M. E. Mills, gardener to Mr. F. Lloyd, of Coombe House, who had a collection of herbaceous plants, including some fine specimens of the Narcissus

Emperor and Empress blooms, and also showed a splendid collection of Primula obconica. Mr. J. Dingwall, gardener to Mr. F. Stanley, J.P., of Cumberlow, South Norwood, in a fastidiously-arranged group of flowers and plants, exhibited a splendid specimen of Amaryllis. Mr. A. May, gardener to Mr. Wickham Noakes, of Selsdon Park, had a collection of Cinerarias of delicate tints and shades, and other collections of flowers, Ferns, &c., were sent by Mr. F. Oxtoby, gardener to Mr. J. J. Reid, of Coombe Lodge; Mr. E. Perrett, gardener to Mrs. Fuller, of Hollywood, Duppas Hill; Mr. W. Bentley, gardener to Mr. George Curling, of Elgin House, Addiscombe; and Mr. J. R. Ball, gardener to Mr. A. D. Klaber, of Norhyrst, South Norwood, who also showed some forced French beans. Amongst the nurserymen Mr. Butcher, of South Norwood, in the centre of the gallery grouped a first-rate collection of Palms, plants, Ferns, &c., the effect of which was much enhanced by the magnificent bouquets of Roses Gloire de Dijon and La France, which occupied prominent positions at each end of the group. Messrs. J. R. Box and Co. of Derby Road, Croydon, had some excellent spring flowers, including the finest variety of the Barri section, Dorothy E. Wenyss; also an interesting collection of alpine plants, showing how these can be utilised in Japanese art pots for table decorations. Messrs. J. Peed and Sons, of West Norwood, had a similar exhibition of alpine plants. A feature of the show was the group of Orchids sent by Mr. E. Kromer, of Bandon Hill.

MIDLAND DAFFODIL SHOW.

NEW DAFFODILS AT BIRMINGHAM.

As the exhibition of the above society at Birmingham is regarded as the leading competitive display of the flower in

of the stock of this was disposed of on the day the award was made.

Castille.—A large Barri type, soft lemon, star-shaped perianth, with a medium-sized spreading cup of bright orange.

Hyacinth.—One of the flat crowned varieties Mr. Engleheart has produced, the perianth pure white, the flat cup clear lemon-yellow; a rather small-sized variety with a distinct perfume.

Miss Willmott obtained awards of merit for **Lemon Queen.**—An incomparabilis type having a large soft yellow perianth and spreading cup of a darker yellow, but smaller in proportion to the perianth.

Red Charles Digby.—A Johnstoni bicolor, with small white open perianth and large soft yellow trumpet.

Cecil Rhodes.—Also of the Johnstoni type, in colour pale lemon yellow, having a flat open perianth and long straight trumpet.

Croydon.—One of the Backhousei type, having a creamy overlapping perianth and soft yellow spreading cup of the Sir Watkin type.

Ducat.—A medium-sized well-formed trumpet variety, like an undersized but refined Golden Spur.

Moonray.—A hybrid of triandrns, having a pure white expanded cup and perianth, somewhat in the way of Moonstone, but the perianth is more open and the cup not quite so bold.

Messrs. Pope and Son received an award of merit for **King's Norton**, which might be described as a giant Emperor, the trumpet large and rather bolder than in the case of King Alfred, but with scarcely so solid a perianth, which is of a primrose-yellow shade.

Messrs. Barr and Sons obtained awards of merit for



A GROUP OF DAFFODIL ENTHUSIASTS AT THE MIDLAND DAFFODIL SOCIETY'S SHOW.

Standing (reading from left to right): Mr. W. B. Latham, Mr. John Pope, Mr. Herbert Smith (hon. secretary), Mr. R. C. Cartwright, Mr. Robert Sydenham (treasurer), and Mr. E. M. Crossfield. Sitting: Mr. P. Rudolph Barr, the Rev. G. H. Engleheart, and the Rev. S. E. Bourne.

the kingdom, it is not to be wondered at that new varieties find their way there from all parts. The judges and the leading experts present form a floral committee and act precisely in the same manner as the Daffodil committee at the Drill Hall. A large number of novelties were staged by the Rev. G. H. Engleheart, Miss Willmott, Messrs. Barr and Sons, Messrs. de Graaff and Son, and others, and the following varieties obtained awards of merit. No first-class certificate was granted, the Daffodil experts apparently holding the opinion that unless their allocation is challenged by something most distinctly novel it is best to make awards of merit in the first instance, leaving it open to make the higher award of a first-class certificate later on.

The Rev. G. H. Engleheart was, as usual, in strong force, and he obtained awards of merit for the following:—

Strongbow.—Of the character of Nelsoni, having a broad, white, overlapping perianth, and a long, clear yellow and somewhat spreading cup.

Laurate.—A very large form of the Poeticus type, white, with a large flat cup like that of Poetarum.

Salmonea.—A rather small and star-shaped Burbridgei, perianth white, with a delicate orange cup, paler on the edge, almost to white.

White Ensign.—Another Burbridgei, having a broad, pure white overlapping perianth and large flat yellow cup slightly stained on the edge.

Broadwing.—Somewhat of the same character; large pure white perianth, and a large and somewhat flat yellow cup margined with light orange. It was stated that the whole

Leopatra.—A large yellow trumpet variety, having a broad flat overlapping perianth, and may be best described as a refined Glory of Leiden.

Cygnel.—A bicolor, the white perianth inclined to curl and twist inwards; soft yellow trumpet somewhat open at the mouth.

Loveliness.—Broad overlapping perianth and pure white trumpet, rather long; an enlarged Mme. de Graaf.

Mrs. George Barr.—Another white trumpet in the way of Loveliness, and may be said to be intermediate between it and Mrs. Robert Sydenham, described below.

Messrs. de Graaff and Sons, Leiden, secured awards of merit for

Mrs. Robert Sydenham.—In the way of Messrs. Barr and Sons' Loveliness, but with a rather longer and more open trumpet.

Francesca.—Broad white overlapping segments of the perianth, and short but fine open trumpet; one of the best of the new varieties shown.

Odonus Rugulosus maxinus.—A very fine form of the type, but of a rich deep yellow tint, and though one flower only was produced on a stem it is thought it may run to two.

Apricot Phoenix.—A fine double form in the way of Primrose Phoenix, but flushed with deep apricot at the base.

The Rev. G. H. Engleheart had among his new varieties a single flower of prodigious size, the perianth of which measured 5 inches in diameter, and the trumpet nearly 3 inches in depth; it is of the Emperor type, and is to be known under the name of Royal. R. D.

THE GARDEN

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[MAY 9, 1903.]

VEGETABLE GROWING AND RAISING.

THE FORTHCOMING EXHIBITION.

ONE item in this year's scheme of work of the Royal Horticultural Society will create great interest among practical workers in the garden, and that is the vegetable exhibition at Chiswick in September next.

It will not be disputed that good vegetables are as important as good Roses. We want both in the British garden, and, though the practical culture, selection, and raising of vegetables does not appeal to everyone, the value of the best vegetables and the best ways of growing them are widely recognised. The exhibition will serve to emphasise the importance of varieties and skilful cultivation.

We who enjoy the good things that the garden gives are indebted to the nurserymen and gardeners for this increasing popularity of the well-made kitchen garden, with its flower-lined walks and margins. It is regarded with pride by those who at one time thought only of the rock or Rose garden, and the illustrations we have published when occasion has arisen show that space set apart for vegetables may possess even a certain beauty when laid out with taste and judgment.

The exhibition should represent all that is best in vegetable gardening in these isles. It should be a display of the gardeners' skill, and those who have never visited an exhibition of this nature are advised to do so as one means of learning to what perfection the growing of vegetables has been brought by men who are often not growers only, but raisers also.

Many of the vegetables we prize for their wholesomeness and rare quality have been raised by gardeners, and the young men who are hopeful of filling good positions in the future should take the lesson to heart that without a good knowledge of fruit and vegetable growing their services are of infinitely less value than when the chief or only desire is to excel in one branch, perhaps of small interest to their employers. The late Mr. Barron's success was due to his thoroughly practical work, and his efforts to bring fruit and vegetable growing to the front awakened a strong interest in these two important branches of horticultural practice.

Of course, the best nurserymen and seedsmen have taken their part—and a great one—in the work of raising and selecting vegetables to gain productive and well-flavoured varieties.

And as there is a season of preparation before the exhibition takes place, we hope the trade, gardeners, and even amateurs who are interested in this phase of gardening will combine to make the show a complete success.

WOODLAND PLANTING.

THE timely counsel on the misuse of bulbs calls to mind two woodland pictures which are graven deep on memory. A late March day on a main road between two Italian hill towns—the white track, none too wide, bounded by long stretches of Chestnut woods. On the right the hillside sloping away to a flood-swollen stream at its foot. To the left a rocky shelving bank, not too high to shut out the view of the woods beyond, with thin low growth of overhanging Broom and Cistus, giving sheltered mossy nooks where pale-tinted Hepaticas clustered amongst their last year's brown leaves, side by side with tufts of bright blue Squills. Above, on the more level space under the budding trees, myriads of Apennine Wind-flowers opened wide their countless stars, not in a dull monotonous carpet, but gathered into happy little groups and colonies, as if joining hands to laugh and sing together for pure joy in the gladness of returning spring. No colour to foil the greenery other than these daintiest tones of blue, softening away into pure milk-white, with here and there a tall pale Hellebore keeping sentinel and breaking the level of the woodland floor under the forest trees. It was one of the most beautiful bits of Nature's planting that could be seen—simple and harmonious and satisfying.

The only remedy for the mixed muddle in woodland planting which, unfortunately, in the enthusiasm of the moment seems to be coming into vogue is that so well pointed out in last week's issue of THE GARDEN—"knowledge and the closest sympathy with the ways of plants." When shall we learn that such knowledge and such sympathy can never be the haphazard work of an idle hour?

An illustration lies ready at hand. The Apennine Anemone, having the same character as our own white wood Anemone, is at home in the same surroundings. We could never be startled to see it lifting up its soft blue flowers at our feet in the wilderness walk on an early spring day. It would seem quite natural that it should be there, though we are aware that it is Art and not Nature that planted it. But try to establish clumps of the scarlet Poppy Anemone in a similar position, and even should we succeed in painting the woodside with splashes of vivid colour, it would give no sense of pleasure, simply because the Poppy Anemone is not by nature a woodland flower. Yet both are Anemones, and how is it possible to guess that one species is more suitable for our purpose than the other, unless we have some previous knowledge of their distinctive habits?

Another picture—this time on the woodland fringes of a Cornish garden. It was still early in the year, and the trees, save only the Hedges and the Hollies, were bare-boughed. The pathway led along the margin of a fine pool, but the low, mossy bank of the woody, sheltered side was the home of hundreds of hardy Cyclamens. The rosy flush of their flowers had faded with the autumn tints, and already the long stems were tightening their spirals to draw down the forming seed-pods into the safe custody of Mother Earth, but the polished tufts of marbled leaves showing now and again their purple lining were almost more beautiful than flowers, spreading themselves as they would in every hollow and cranny left by the knotted tree-roots. Just so they may be seen in their native haunts, but there is nothing alien to an English wood in their somewhat un-English mien to forbid our giving them a welcome, for hardy European Cyclamens for many a long day have taken kindly to favoured sheltered spots in these islands, nor are they too fastidious as to location, but scatter their seed and make colonies after their own fashion better than can be done for them by the most practised hands. Do we ask how it is done? Perhaps it may read like a fairy tale, but we have it on unquestionable authority that often it is through the agency of ants. Have we not many a time seen the diligent little creatures busy in copse and woodland, and, to tell the truth, have we not sometimes impatiently craved their room rather than their company? We must do so no more if we are anxious to naturalise Cyclamens in our copse! One species in particular, with a terrible long name, having a liking for a special bit of the outer coat of the Cyclamen seed will drag them out of the ripe seed-pod when it lies in his path—not an unusual incident in the nature of things—and will carry them off one by one to the family hillock. Sometimes he stops by the way to nibble the dainty morsel, but no harm is done—the nibbling has no ill-effect on the germ of the seed. On the contrary, while he is only minding his own business and laying up his store, he is in reality helping forward a very different work, for one seed and another is lost by the way and drops into some little hole or corner where clumsy human hands could never have conveyed it, and there it takes root and grows and thrives, and one fine day, perhaps, we pass by and wonder how on earth a Cyclamen could have perched itself in that particular spot. Truly the Cyclamen, with its complex life-history, deserves more than a passing admiring glance!

For home coppices or the borders of wilderness paths let me commend these two woodland plants. Give them a sure foothold to begin with, and then have patience to watch their pretty ways of colonising themselves. In due time exquisite pictures of Nature's own framing will be the sure reward. K. L. D.

NATIONAL ROSE SOCIETY'S SCHEDULES.

WE have received the catalogues of the shows to be held this year, one on July 1 in the Temple Gardens, and the other on Wednesday, July 15, in St. Andrew's Hall, Glasgow. It is interesting to notice that two classes are provided for "exhibition Roses in vases." The following is the rule: "The vases used in this section must rest on the staging itself, and not be raised above it; and the flowers must be equally distributed round each vase, and not be arranged to face only one way. Vases of different sizes may be used. Only Roses mentioned in the National Rose Society's catalogue of exhibition Roses are to be included. The quality of the blooms will be the first consideration with the judges. In judging, each set of blooms will be counted as a unit, and not as seven separate blooms." Flowers shown in this way last year made a very charming feature of the exhibition in the Temple Gardens.

"I AM very gratified to see that the National Rose Society's schedule for 1903 has undergone a big reformation. The new classes introduced will, I think, prove a great success, and a step has certainly been taken in the right direction. As one who criticised in your columns the sameness of Rose exhibitions, allow me to congratulate the committee on their progressive efforts, which I am sure will commend themselves to rosarians and the public alike.

"C. P."

"I HAVE just received the schedule for 1903 of the National Rose Society's central exhibition, which, unfortunately, apparently must be held once more at the Temple, and not, as suggested by 'C. A. H.' and others, in the Botanic Gardens at Regent's Park. However, this alternative is decidedly preferable to the Crystal Palace, and I think anyone reading the schedule cannot give any reason why the exhibition this year should not be a great success. Classes are most clearly defined and increased in numbers, the decorative much improved, and the show ones greatly so. The class for vases of cut blooms I hope will be well responded to, as foliage and growth (providing the weather really mends) can be shown to great advantage.

"CHAS. WM. CROSBY.

"Broome Hurst, Dorking."

NOTES ON RECENT NUMBERS.

THE BEST SWEET PEAS (page 255).—An important point in the beauty of the Sweet Pea does not seem to be sufficiently emphasised—that is, that the standard should be upright and widespread. The folded over or hooded form, which is so conspicuous a defect in some of the large whites of American origin, suggests a flower that is slightly withered, while the broad, upright standard gives the flower the look of alert and cheerful vigour that is one of the Sweet Pea's best characters. Besides this, a good width of standard displays the colour of the flower, and adds much to the colour effect of the whole plant in the mass.

The beauties of Rose foliage (page 273).—Though one hardly thinks of Roses in connexion with winter evergreens, it should not be forgotten that that vigorous grower, Reine Olga de Wurtemberg, holds its handsome foliage till well after Christmas, at which time of year, and frequently for some weeks later, it is conspicuously beautiful.

Large-leaved Saxifragas (page 276).—Definite information and means of identification of these most important garden plants are much

wanted by amateurs. The cordifolia section is fairly easy to identify; the large one mentioned by Mr. Dean is one of the best of foliage plants. It appears under various nursery-Latin names, and though the bloom is rather rank in colour, the red stem and grand leathery leaves make it quite indispensable for many kinds of garden use. The one known as *M. ligulata*, and perhaps rather loosely named, is more beautiful as to the colour of the flower (a beautiful tender pink, with good red stem); but the plant is much less hardy and the leaves less good. The strongly-waved outline of cordifolia is a great merit. *M. ligulata* was the one so much used at Belvoir by the late Mr. Ingram; he advised putting newspapers over the plants at night when there was danger of frost.

Horse Chestnuts layering themselves (page 281).—There is just such another example in the grounds of a house at Albury, in Surrey, where branches droop, run along the ground, and have rooted, throwing up quite large trees all round.

G. J.

RECENT PLANT PORTRAITS.

THE *Botanical Magazine* for May contains portraits of

Rodgersia pinnata.—Native of China, and also known as *Astilbe pinnata* in Franchet's list of the Abbé Delavay's plants. This is a free-blooming and rather handsome foliaged plant, of even more ornamental appearance than its Japanese brother so well known in our gardens as *Rodgersia podophylla*.

Sempervivum urbicum.—Native of the Canary Islands. This is also known under the synonym of *Emium urbicum*. It is a tall-growing, free-blooming golden-yellow flowered succulent, presented to Kew by Mr. Van den Bosche of Tirlmont.

Sphedamnocarpus pruriens.—Native of South Africa, also known under the synonym of *Acridocarpus pruriens*. This is a very ornamental, yellow-flowered, lofty-climbing shrub, sent to Kew by Mr. Charles Howlett, curator of the Botanic Gardens at Graaf Reinet. It flowered in the Temperate house in October, 1902.

Hebenstretia comosa.—Native of South Africa. This is a plant of more botanical than horticultural interest. It was introduced into cultivation by Messrs. Dammann of Naples.

Dissotis Mahoni.—Native of Uganda. This is a very beautiful stove shrub of rather trailing habit, with large circular rosy purple flowers resembling those of *Monochetum ensiferum*.

The second part of *La Revue Horticole* for April contains a portrait of

Fritillaria Askaniensis.—A newly-introduced pale greenish yellow flowered form of the well-known Crown Imperial, of little beauty and merely of botanical interest. The first part of the same publication for May contains portraits of two bright-coloured, recently introduced species of Tulip, collected by Mr. Sintenis, and named respectively *T. micheliana*, after the late Marc Micheli, and *T. wilsoniana*, after the late G. F. Wilson.

W. E. GUMBLETON.

KEW NOTES.

INTERESTING PLANTS IN FLOWER.

Temperate House.

AOTUS VILLOSA, *Asystasia bella*, *Boronia polygalifolia*, *Burchellia capensis*, *Chianthus Dampieri*, *Corydalis thalictrifolia*, *Echium Wildpretii*, *Eriostemon buxifolius*, *Gesnera cardinalis*, *Helichrysum humile*, *Kniphofia Tuckii*, *Leptospermum scoparium*, *Lysichitum kamtschaticum*, *Olearia stellulata*, *Passiflora racemosa*, *Pimelia spectabilis*, *Rhododendron Dalhousiae*, *Sphaerolobium grandiflorum*, and *Swainsona coronillifolia*.

Palm House.

Barringtonia samoensis, *Clavija macrophylla*, *Delarbraea collina*, and *Saracea indica*.

Water Lily House.

Clorodendron speciosum, *Eranthemum Cooperi*, *E. hypocrateriformis*, and *Sagittaria montevidensis*.

Orchid Houses.

Acanthophippium sylhetensis, *Ansellia africana*, *Aspasia lunata*, *Bulbophyllum fuscum*, *B. leopardinum*, *Chloraea crispa*, *C. virescens*, *Cyrtopodium barbatum*, *C. dominianum*, *C. hirsutissimum*, *C. lawrenceanum*, *C. rothschildianum*, *Cyrtopodium palmifrons*, *Dendrobium crepidatum*, *D. crystallinum*, *D. Draconis*, *D. thyrsoforum*, *D. tortile*, *Diaerium bicornutum*, *Epidendrum armeniacum*, *E. ciliare*, *E. radiatum*, *Masdevallia Chimera* var. *Rozlii*, *M. harryana*, *M. peristeria*, *M. radiosa*, *Maxillaria sanderiana*, *Miltonia vexillaria*, *Oncidium Cebolleta*, *O. concolor*, *O. Iridium*, *Pelexia maculata*, *Pholidota imbricata*, *Polystachya pubescens*, *Rodriguezia venusta*, *Saccolabium gemmatum*, *Satyrium corifolium*, *Selenipedium titatum*, *Tetramicra bicolor*, and *Vanda teres*.

Range.

Albica minor, *Antigonon leptopus*, *Clorodendron Thomsoniae*, *Gœthea kermesiana*, *Pelargonium ardens*, *Scilla plumbea*, and various *Ixias*, *Tritonias*, &c.

Succulent House.

Bulbine latifolia, *Epiphyllum Gartneri*, *Kalanchoe kewensis*, and *Mamillaria spinosissima*.

Greenhouse.

Boronia elatior, *Canna Duchess of York*, *Heuchera sanguinea*, *Saxifraga sarmentosa*, *Schizanthus wisetonensis*, *Senecio Lady Thiselton-Dyer*, *Statice macroptera*, and many other things.

Alpine House.

Achillea ageratifolia, *Androsace rotundifolia*, *A. sarmentosa*, *Anthyllis montana*, *Arenaria balearica*, *Armeria juncea*, *A. Welwitschii*, *Asperula suberosa*, *Aster buldensis*, *Biscutella laevigata*, *Cerastium Boissieri*, *Dianthus Freynii*, *Dodecatheon Jeffreyi*, *D. Meadia*, *Erodium guttatum*, *Gentiana verna*, *Houstonia cœrulea*, *Lithospermum prostratum*, *Lychnis alpina*, *L. Lagascae*, *Phlox canadensis* var. *alba*, *Polemonium confertum* var. *mellitum*, *Scilla verna*, *Sedum ternatum*, *Tanacetum argenteum*, and *Townsendia sericea*.

Herbaceous Ground.

Adonis vernalis, *A. walsiana*, *Allium* (various species), *Anthemis cupaniana*, *Asphodelus albus*, *Camassia Cusickii*, *C. Leichtlinii*, *Euphorbia Myrsinites*, *E. palustris*, *E. polychroma*, *Fritillaria acmopetala*, *F. acutiloba*, *F. lusitanica*, *Iris iberica*, *I. Leichtlinii*, *I. lupina*, and various species of *Tulipa*.

Rock Garden.

Alyssum saxatile var. *citrinum*, *Anemone Halleri*, *A. narcissiflora*, *Corydalis bracteata*, *C. nobilis*, *Daphne Cneorum* var. *majus*, *Gentiana acaulis*, *Geum triflorum*, *Macrotomia echioides*, *Matthiola varia*, *Phlox reptans*, *P. stellaria*, *Polemonium confertum* var. *mellitum*, *Potentilla splendens*, *Primula auriculata*, *Ranunculus acontifolius*, *R. carpaticus*, *Saxifraga muscoides* var. *atropurpurea*, *S. Rhei*, *Sedum ternatum*, *Senecio aureus*, *Trillium erectum*, *T. grandiflorum*, *T. g. roseum*, *T. pendulum*, *T. sessile*, and *Viola cucullata*, and *V. c.* var. *alba*.

Arboretum.

Various species of the following genera are at their best: *Berberis*, *Cytisus*, *Genista*, *Prunus*, *Pyrus*, and *Spiraea*, together with other things.

EDITOR'S TABLE.

AT this season the flowers of the garden are coming forth abundantly, and we invite our readers to send us anything of special beauty and interest for our table, as by this means many rare and interesting plants become more widely known. We hope, too, that a short



GROUP OF TREE LUPINE (LUPINUS ARBOREUS).

cultural note will accompany the flower so as to make a notice of it more instructive to those who may wish to grow it. We welcome anything from the garden, whether fruit, tree, shrub, Orchid, or hardy flower, and they should be addressed to The Editor, 20, Tavistock Street, Covent Garden, London.

POLYANTHUSES FROM STRAFFAN HOUSE, COUNTY KILDARE.

Mr. F. Bedford writes: "I send you spikes of our strain of Polyanthus, each spike representing a different variety. The colours are not so bright as usual, and show signs of the late severe weather." A welcome gathering of Polyanthuses. The growth is conspicuously strong, the clusters of flowers held upon sturdy stems, and the colouring very beautiful of all the varieties. The crimsons and reds were brilliant in the extreme, warm glowing shades, and the soft creamy whites and rich orange forms, reminding one of the best of Bunch Primroses, were as beautiful as the other colourings. The flowers were also of exceptional size, but not coarse. We were pleased to see a strain so varied and good in every way.

DOUBLE AND SINGLE-FLOWERED BEGONIAS.

We are reminded of the brilliant and tender colouring of the tuberous Begonia by a collection of flowers from Mr. John Box, West Wickham, Kent. Mr. Box has done much to popularise this bedding plant, but in a note from the sender the earliness of the flowers is especially alluded to. Mr. Box writes: "A few blooms from my early plants of Begonias, which not only show their beauty for decoration at this season, but you will observe that we have made considerable improvements with regard to the shape and style of the flowers, which are beautifully frilled, serrated, and in some cases delicately tinted." The flowers were very varied in colouring, some brilliant orange-scarlet, others as delicate as the shades of a Tea Rose. The singles were of immense size, and, as our correspondent mentions, beautifully "frilled."

CHOISYA TERNATA.

Dr. Macindoe sends from Sidmouth, Devon, a boxful of flowering shoots of the Mexican Orange Flower. Its white fragrant clusters and glossy green leaves make this one of the best of shrubs for sheltered gardens. Our correspondent writes:

"In this sheltered vale *Choisya ternata* does well, forming a large shrub always beautiful to the eye."

I am sending for your table clusters of the sweet-scented shrub, *Choisya ternata*. It is surprising how seldom one meets with this treasure in gardens, even where the owners love sweet-scented flowers and their gardens are well adapted to the culture of it. No garden, however small, should be without its Mexican Orange Flower. I know of nothing more useful for placing in bowls for room decoration; the foliage is bright and evergreen, and will last in good condition for weeks if only given fresh water occasionally. The plant will flourish in any ordinary soil. It is not advisable to expose it to cold east winds. It should be planted liberally in borders where it will get the protection of other shrubs. In very cold localities it should be grown against a south or west wall, and in very severe winters slight protection will be necessary.—T. B. FIELD, *Ashwellthorpe Gardens, Norwich*.

MARECHAL NIEL ROSE.

Mr. Field also sends superb flowers of this famous old Rose.

NOTES OF THE WEEK.

FORTHCOMING EVENTS.

May 19.—National Tulip Society's Show, Drill Hall, Westminster; Royal Horticultural Society's meeting, 12 noon.

May 20.—Spring Show of Royal Caledonian Horticultural Society (two days).

May 26.—Temple Flower Show of Royal Horticultural Society (three days).

May 27.—Bath and West and Southern Counties Show at Bristol (five days).

National Dahlia Society.—A special silver trophy, presented by the Duchess Dowager of Sutherland, will be offered at the annual exhibition in Class 19 (twelve fancy Dahlias, distinct, amateurs).

A new climbing Rose.—This is called "Blush Rambler," and was one of the exhibits which attracted much attention at the meeting of the Royal Horticultural Society on Tuesday last. It was exhibited by Messrs. B. R. Cant and Co., of Colchester. The plants were from under glass

and smothered with bunches or clusters of delicately pink-tinted flowers, with the yellow stamens making just the right contrast. It is a beautiful Rose for growing under glass, very free, strong, and, it is important to note, quite as happy in the open garden as under glass early in the year.

The tree Lupine.—This is hardly suitable for the ordinary border, but adapted for growing in large or spacious beds on the lawn or for grouping in any good position in the open. As a wall plant for a western exposure, I know of no finer subject than this, for in this way it may be grown in any part of the country.—E. J.

Forthcoming gardeners' dinner.—We are very pleased to know that Mr. Leopold de Rothschild will preside over the great gathering of gardeners that will take place in London in September next. Mr. de Rothschild will receive each guest, and with such a president the success of the evening is practically assured.

Hybrid Tea Rose Prince de Bulgarie.—This is a lovely Rose. Several blooms of it were shown by Messrs. Frank Cant and Co., Braiswick, Colchester, at last Tuesday's meeting of the Royal Horticultural Society. The flowers will probably make excellent show blooms; the petals are strong and broad, and pass to a deep apricot colouring in the centre. It is as beautiful

in bud as when fully expanded, and the form is faultless. A Rose to make a note of.

Mr. George Nicholson.—It is a pleasure to know that Mr. Nicholson is rapidly recovering from his illness—a source of satisfaction to a wide circle of friends.

Royal Gardeners' Orphan Fund. The annual festival dinner of this institution was held on Tuesday evening last at the Hotel Cecil, the Right Hon. the Earl Carrington, G.C.M.G., presiding. About 140 were present. A detailed report appears elsewhere.

A good combination.—The pretty pink Tulip Rose *Gris-de-lin* (or any one of the many good Tulips of this colouring) is charming in association with the vigorous double white *Arabis*.

Kew Guild dinner.—We are requested to remind our readers who are old Kewites that the annual dinner will take place at the Holborn Restaurant on the 25th inst., at 7.30 p.m., and that the secretary, Mr. Winn, would be glad to hear before the 18th from all who intend to be present. The chair will be taken by Dr. Scott, F.R.S., and he will be supported by Sir W. T. Thiselton-Dyer, director; Sir T. H. Elliott, Secretary to the Board of Agriculture, &c.

The Dulwich Chrysanthemum Society.—This society has had a very successful season, and that the members appreciate the work of the executive is well shown by the re-election of ten out of twelve members of the 1902 committee and five out of six of the officers. The ninth annual balance-sheet and report of the committee were unanimously approved at the recent annual meeting. A slight increase of membership was recorded, and though a large increase was made in the prize list, an improvement in the balance was recorded as the result of the year's working. The balance of assets over liabilities amounts to £43 9s. 8d. The schedule for 1903 shows a further marked increase in the classes and sections, and should command even stronger support from the members for their tenth exhibition. The general meetings of the society have been well attended throughout the year, discussions and papers of an interesting character being a frequent feature. Mr. Mills, of Croydon, recently gave a most interesting paper on "The Cultivation of the Japanese Chrysanthemums for Exhibition."

Narcissus Count Visconti, shown by Miss Willmott on Tuesday last (R.H.S.), is superb. It is of the triandrus group, with a bold, handsome flower which lasts long in perfection.

A large Rose tree.—We have at the present time (April 29) a Réve d'Or Rose tree in full bloom in one of the houses that may be worth noting for its size. Planted on a back trellis, in the spring of 1882 in conjunction with another variety, it grew away at a great pace, and its companion not doing very well it was gradually allowed to monopolise the whole of the trellis, and now covers a space of rather over 500 square feet, and is very lovely just at present with the flowers in their many stages, from the tiny bud to the expanded bloom. The border has only received new soil once in the twenty-one years, but has a good surface mulching of cow manure every season. With such a lofty house to deal with, I had great difficulty in keeping it and the other inmates free from fly when only tobacco paper and cloth were to be had, and the advent of XL. All has been a great boon.

The spring of 1903.—This has been with one exception the most disastrous season experienced here for the last twenty-one years. The exception was, if I remember rightly, in the late eighties, when we had over 20° of frost towards the end of April. In that case, however, the cold only lasted three nights, whereas during the recent spell we had no less than fourteen consecutive frosts, starting on the 13th ult., and ranging in intensity from a minimum of 9° to a maximum of 15°. It has damaged almost everything in the way of fruit—Plums, Cherries, Pears, and Apricots, although covered with a double thickness of half inch and one inch mesh netting, are nearly all black, only just a few escaping where the foliage was thickest. Peaches and Nectarines are a trifle better, but a thin crop. Gooseberries are nearly all killed in the open, but a few will be available from wall and trellis. Turning to trees and shrubs, the result, though not so disastrous as in the case of fruit, is, nevertheless, very disappointing, many things very interesting in their respective seasons being practically ruined. An inspection of a Wistaria that covers nearly 1,500 square feet of wall and that was a mass of buds fails to show one bud that will develop into flower. Foliage and catkins of the big *Pterocarya* recently figured in THE GARDEN are alike blackened. Various forms of *Calycanthus*, *Deutzia*, and many other shrubs are also blackened, so too is nearly all the young growth on *Azalea pontica*. This, of course, in common with many other things; but growth will be late and weak, and there will be little likelihood of flower in 1904. Different classes of Roses have varied greatly in their susceptibility to frost; in some cases both foliage and early buds are nipped, in others only the tender foliage, and some again have come through practically unscathed.—E. BURRELL, *Claremont, Esher.*

Flowers in Regent's Park.—The well-known flower walk was very beautiful recently with its boldly-planted masses of spring flowers in splendid variety, the colouring receiving a welcome foil to the fresh leaves of the trees. A few brief notes of some of the more striking floral combinations may prove acceptable. Coming from the Portland Road entrance the large beds presented a magnificent appearance, huge vases were filled with spring flowers in good variety. A bold bed of *Narcissus Figaro*, perianth deep yellow, orange cup, with a mixture of that very fine salmon-pink *Tulip Proserpine*, always so well done, was a striking feature. A big planting of *Hyacinth Gigantea*, delicate pale rose, fine spike, was admirably relieved by an intermixture of *Day Lilies*, the narrow green well-furnished foliage of the latter giving quite an undulating appearance, and taking off the necessarily stiff appearance of the *Hyacinth* spikes. Very effective were good clumps of *Hyacinth Grand Maitre*, a fine deep porcelain blue, alternately planted with the imposing *Narcissus Sir Watkin*, *Hyacinth Gigantea*, and *Primula Sieboldi* just coming into beauty—a form always done well here. Attractive was a mixture of *Auriculas* and *Jonquil Campernelle* edged with *Saxifraga muscoides*. That grand *Tulip*, *Joost Van Vondel*, crimson, shaded white, was in excellent condition in various parts of the park. A bold mass of *Narcissus Emperor* mixed with yellow *Doronicums* was a fine feature. *Grape Hyacinths*

and *Jonquil Campernelle* associated very prettily. Another effective arrangement, too, consisted of *Jonquils* and the charming blue-flowered *Scilla sibirica* edged with the tufted *Saxifraga cespitosa*. Quite worthy of note was a bed of alpine *Auriculas* mixed with the pretty and well-known *Narcissus poeticus ornatus*. It is only a matter of simple justice to say that large quantities of the bulbs were supplied by the well-known firm of Messrs. James Carter and Co.—Quo.

Crown Imperials.—I should like to have the experience of some of your readers who grow these noble plants as to how they have flowered this season. Out of twelve bulbs purchased and planted last July in my rather light soil here only four have flowered. This may partly be accounted for owing to the previous summer having been wet and the bulbs not ripening properly. A question arises: Should the bulbs be lifted annually or left undisturbed? Books advise their remaining in the ground for several years, but the nurseryman from whom I bought them (and one would think he ought to know) advised me to transplant them annually.—W. P., *Richmond, Surrey.*

Tomato Holmes' Supreme.—Among the many new varieties of Tomatoes introduced in recent years the above is one of the most promising and is well worth a trial either under glass or in the open air. Last year, when in the majority of cases Tomatoes outdoors generally were a failure, I saw a splendid lot of the above variety growing against a wall, and scarcely a diseased or cracked fruit could be seen. This speaks well for the disease-resisting powers of *Holmes' Supreme*, and in these days it is important that growers should select varieties possessing some disease-resisting capacity. The growth of the variety in question is sturdy and short-jointed, and the fruits are of medium size, smooth, round, and the flesh firm.—H.

Garden gossip.—The Daffodils now hold their own in garden, woodland, meadow, by river bank and purling stream, and on the show bench too, as dainty aspirants to public favour. For Daffodil is the sweet old-fashioned name for *Narcissi* of every class, its derivation being from the ancient Greek *Asphodelus*, a plant nevertheless utterly distinct from the Daffodil of to-day. The puzzle nowadays is, which of the numerous groups of *Narcissi* contains the loveliest specimen: The wild Daffodil of copse and field or its double form, the earliest of the Lent Lilies or the later which are now nodding on the lawn and under the shrubs in gay salute to the ruffling breezes? The star *Narcissi*, light and charming for decorative use, or the grander varieties *Magni-Coronati*, large crowned, heavy headed blooms, unfolding massive petals, the incomparabilis section popularly known as "Codlins and Cream" or "Butter and Eggs?" Following in this train of floral loveliness the *Poets' Narcissus*, white petalled and crowned in flame-tipped gold, with the double variety of purest white, and much less conspicuous but most exquisite in form, *Narcissus cyclamineus*, and its smaller relative the pearly hued *Angels' Tears*. The nurserymen's bulb lists are almost overwhelming in their multitude of desirabilities. One would wish to have each and all the beauties described. Only where to place them? Everywhere. On the lawn, in the rockery, under trees, or in the open sunshine, in pots of mould, or bowls of moist fibre, drained and sweetened by small pieces of charcoal, even in water and moss. These happily constituted children of the spring will thrive and brighten home and its surroundings with sweet perfume and delicate colouring. Not much is said in praise of the *Narcissus polyanthus*, yet how welcome and useful are those boxes of white and yellow bunches which come in winter at Christmas-tide and for New Year festivities from warmer climes. They are charming and of little cost, but their season is long, and so perhaps one wearies of them. Again, they are not "exhibition flowers," yet the *Soleil d'Or* with chalice of orange set in gold is lovely and effective in the garden and flower vase, associated with its more fairy-like congeners and its glaucous foliage accentuated by lighter liked-toned greenery. *Apròpos* of shows: Is there not too decided an inclination to run to stalk rather than flower? Some of the arrangements submitted

to the judges look a trifle like a flowering bundle of faggots. Let each blossom show its perfection of form and colour in a fair share of breathing space, but the blooms too far distanced from their fellows are almost pathetic; social failures, or *fleurs incomprises*.—SUFFOLKIAN.

Manchester Dahlia show.—The National Dahlia Society's Manchester show will be held this year on September 11 and 12 in the Royal Botanic Gardens, Old Trafford. Entries close September 6. Communications should be addressed to Mr. P. W. Tulloch, "Sterndale," New Church Road, Hove; or to Mr. P. Weathers, Curator of the Manchester Botanic Gardens.

The late Mr. Andrew Pettigrew. The remains of the late Mr. Andrew Pettigrew, head gardener to Lord Bute at Cardiff Castle, were interred at the Cardiff Cemetery on the 28th ult. The principal mourners were Messrs. W. W. Pettigrew, Hugh Pettigrew, and Andrew Pettigrew (sons of the deceased). Among others who attended were Sir William Thomas Lewis, the Rev. W. E. Shaw, the Rev. W. Lewis Robertson, Dr. Campbell, Messrs. W. McKenzie, Stephen Treseder, A. Treseder, Major Forrest, A. C. Macintosh (representing Caledonian Society), T. H. Thomas and J. G. Proger (representing Cardiff Naturalists' Society), Fred. Treseder, and John Julian (representing Cardiff Gardeners' Association). Representing the Cardiff Flower Show Committee were Dr. De Vere Hunt (chairman), W. Morris (vice-chairman), H. Gillett (secretary), and J. Boon (the oldest member of the society). Quite a feature were the numerous beautiful floral emblems sent as last tributes of respect. The employés at the Castle and the Sophia Gardens attended. The funeral was a very large one, and its departure from North Road was witnessed by a considerable concourse of people.

New Rose Mme. N. Levavasseur. This Continental variety, recently introduced into England and given an award of merit by the Royal Horticultural Society on the 7th ult., interested me very much on a recent visit to the Royal Nurseries, Slough. This Rose is here extensively grown, and Mr. C. Turner exhibited it when the award was given. To give your readers an adequate impression of its merits and value, it cannot be better described than by the term "dwarf *Crimson Rambler*," although it is not a rambler at all, but it resembles the former so closely in foliage and flower as to justify the comparison. It is a *Polyantha* Rose of dwarf habit only some 12 inches to 15 inches high. The flowers are semi-double, of a lighter shade of crimson than *Crimson Rambler*, and are borne in large clusters. One fault found with *Crimson Rambler* is that it only flowers once during the year and that the flowers have no perfume. This new Rose, which has unquestionably come to stay, not only blooms as freely as the older variety mentioned, but is also a perpetual bloomer, each new shoot produced being clothed with an abundance of flower-buds; moreover, it is slightly scented. As a decorative Rose for the garden this is a valuable and important addition to our list of dwarf varieties. Whether planted in masses in the flower garden, as a margin to the shrubbery, or grown in pots and forced for the decoration of the conservatory in spring and early summer, the gardener will find this Rose one of the best plants introduced for many years. As a market plant it is sure to become popular, and for window-box planting will be most serviceable and effective.—O. THOMAS.

Polemonium confertum melitum. This is surely one of our most useful and beautiful rock plants, a fact which is apparent to the casual observer beside the "alpine man." The flowers are creamy white with orange anthers, and are borne in graceful, half pendulous clusters at the ends of the stems, which rise to the height of about 8 inches. Considering the stature of the plant the flowers are large and showy, being individually more than half an inch across. In a patch of a few dozen plants its flowering period is a long one, and with the simple requirements of a well drained mixture of sand and good loam in a rather dry position the plant seems to be of good constitution.—J. Wood, *Kirkstall, near Leeds.*

Golder's Hill, Hampstead.—It is much to be regretted that this truly charming suburban retreat, once the residence of that famous man the late Sir Spencer Wells, and now under the control of the London County Council, is not better known and visited by the general public. The grounds are now in their spring dress, and the fruit trees present quite a picture. It was noticeable on Easter Monday that the holiday crowd filled Hampstead Heath, but Golder's Hill was practically deserted. As a visitor well remarked, there was almost an air of cloistered seclusion about the place.—(Quo.)

Tufted Pansy Blue Tit.—There has been less progress in tufted Pansies of blue colouring than in any other shade, and the addition of any sort of more than ordinary merit calls for special notice. In this variety we have a distinct advance. It is a seedling from Blue Gown, a variety which has been all along regarded as an ideal one for border displays. In the present instance, however, marked advance has to be chronicled both in colour and form, and it is also equal to the parent plant in the profuseness of its display. The colour is rather difficult to describe, being of a pleasing shade of pale blue, with the faintest suspicion of a mauve tint. Grouped in the hardy border, or planted in a bed by itself, the effect is very striking. In Mr. William Sydenham's garden at Tamworth, on the occasion of a recent visit, this variety stood out from all others for its free and effective display, and deserves a place in all gardens where these flowers are valued. Like the parent variety, it is very dwarf and tufted, blooms profusely, and has a good constitution.—D. B. CRANE.

Value of wire netting in spring over Gooseberry bushes.—In this part of the country the small birds play such havoc with the buds on Gooseberry bushes that it well repays the cultivator in private gardens to erect a permanent protector. Some years ago we covered a large space with wire netting, using a much closer mesh than usual, as it is surprising what a small space the finch and sparrow will squeeze through. The erection must have stout posts, which are necessary with wire arranged as described, strength being needed to prevent injury from snow, which rapidly collects. The bushes are trained mostly as upright double cordons, and they crop well; indeed, so heavily that they have to be thinned very early. Grown thus it is easy to feed by liberal mulchings of manure. Gooseberries in the open cannot receive the same treatment if grown as bushes. I have referred to the heavy crops to show the value of protection, but this is not the only value received, as in such a season as we are now experiencing the wire I find has protected the tender fruit growth and the crop is saved, whereas the bushes outside the protector have suffered badly.

This is a great gain in every way, but I should add the whole structure was covered with black varnish to preserve it from the weather. Doubtless this assists in warding off frosts also. A costly structure is not necessary. I saw a very good one at Knoyle Gardens, Salisbury, Larch poles supporting the wire netting.—G. W., *Syon*.

Making a district beautiful.—The president of the St. Thomas Horticultural Society, Exeter (Mr. H. A. Willey), is desirous that the southern approaches to the city and streets of St. Thomas District be beautified by window boxes containing home cultivated plants, and also to promote a love of flowers. He offers the following prizes, to be awarded by a committee of competent judges at the end of the summer season: For the best flower-decorated window sills, a prize of £10; second prize, £5; and five prizes of £1 each. A further consolation prize of £5, to be drawn by lot, so that every competitor shall have a chance. Intending competitors should send in their names

to Mr. T. Glanfield, Raleigh Lodge, St. Thomas, Exeter, on or before the 20th inst. The boxes must be exhibited for three months, and the flowers must be grown in the competitors' houses. For rules with regard to this competition see schedule issued by the St. Thomas Horticultural Society.

The better way.—The small group of journalists on the committee of the Sweet Pea Society might have learned a lesson from the proceedings of the National Auricula and Primula Society, on the occasion of their annual exhibition, held on the 21st ult. The majority of the judges in all the classes were selected from the trade: James Douglas, Harry Turner, B. Simonite, C. Phillips, R. Dean, A. R. Brown, &c. But in the case of the Auricula Society there were no paid judgements to dispose of as in the case of the Sweet Pea Society; the services of the judges were gratuitously and cheerfully rendered. It is satisfactory to me to know that gardeners and amateurs alike who are subscribers to the society condemn this unjustifiable exclusion of the trade from the paid judgements.—R. DEAN.

Geranium cinereum album.—Among the dwarf occupants of the rock garden and such as stay at home, so to speak, this is always welcome, as it is also neat and

Rock Cross will have to give way entirely to the double form.—G. H. H.

Boronia heterophylla.—The shoot of this charming hard-wooded greenhouse plant, shown in the accompanying illustration, was sent to us by Messrs. Balchin and Son, the Brighton nurserymen who grow Boronias and other plants of this class so well. The sketch will give an idea of the number of pretty deep rose flowers produced upon a small growth. The plants shown by Messrs. Balchin at the Drill Hall recently were literally festoons of flowers.

Tufted Pansy Rose Noble.—Mr. William Sydenham, from his collection of Violas at Tamworth, has enriched our gardens with many beautiful rayless yellow Tufted Pansies, and these have attained to such a high degree of perfection, both in colour and form as well as in bedding qualities, that it seems almost impossible to improve



A SPRAY OF BORONIA
HETEROPHYLLA. (Reduced.)

upon existing ones. The variety under notice, however, can fairly lay claim to distinction, as its rich golden-yellow colour is so pure and refined, and its circular form so very pleasing and perfect, that one unhesitatingly places it in the highest position; the plant is of good habit. The standard formerly set up by exhibitors of these flowers has fortunately been ignored of late, and in its place the plant for bedding in open beds and borders is the chief aim of present raisers. The flowers

free-flowering. The neatly compact leaf-tuft, from which issues so long and profusely the white pink-lined flowers, all go to make it one of the prettiest of its race for rock garden work. The plant requires no special care, for it grows quite freely in most soils that are fairly well drained and sandy. The plant may be increased by division or by seeds, but these latter must be sought early or they will not be

found, as after the manner of their kind they are quickly carried away by a rough wind, or the ever-attendant birds may take note of them. Seeds are not usually abundant in a season such as the present, but if more stock is required some portions may be pulled from the root-stock and inserted as cuttings. Those pieces with a heel intact will form roots generally with certainty, and a few tufts grouped into a colony, so to speak, usually convey the best idea of its worth; more so, indeed, than a single plant that has remained for years without disturbance.—E. J.

Arabis albidula flore-pleno.—I should like to say a word in support of "R. D.'s" remarks on page 274 respecting the merits of the above plant. It is certainly one of the most useful hardy spring plants we have, because in addition to being attractive in the garden it is excellent for cutting. I have some in my garden now which are so fine both in spike and flower that they almost resemble white Stocks. It is quite likely that the old single

must be of distinct and pleasing shade of colour, and a tufted or creeping-like growth.—D. B. C.

Pæonia lutea.—This Pæony, which in conjunction with P. Moutan suggests numerous possibilities to the hybridist, received a first-class certificate from the Royal Horticultural Society on the 21st ult. It is as yet very rare, and flowered, I believe, for the first time in this country in the Temperate house at Kew two years ago. The great feature of this Pæony is the colour of the flowers, which is clear yellow. In size, however, they do not approach the better known ones, being under 4 inches across, but in conjunction with the forms of P. Moutan this species may give rise to a distinct break among Tree Pæonies. It is a native of the province of Yunnan in Western China, where it occurs in the mountainous districts, and was first discovered in 1882, but it has been distributed only of late years. Now it is seen in very few nurseries, and the only catalogue in which as far as I am aware it is mentioned is that of M. Lemoine, of Nancy, the price there charged being 50 francs each.

Fabiana imbricata.—If regarded solely as illustrating the great resemblance that sometimes exists between plants widely removed from each other this Fabiana would claim recognition, but when it is in addition to this a delightful flowering shrub its merits are, of course, more pronounced. It is of fairly quick growth, somewhat erect habit, and clothed with small crowded leaves, while the flowers are pure white, tubular in shape, and borne in great profusion. Interest in it is chiefly centred in the fact that while to a superficial observer it has a great resemblance to a Heath, it is really a member of the order Solanaceæ, and is thereby nearly related to our domestic Potato. The

individual flowers of the *Cestrum* (another Solanaceous genus) show the same peculiarity, but in their case the foliage and habit of the plant are not at all Heath like. As a spring or early flowering shrub the *Fabiana* is very beautiful, but it is not hardy in this country, except in especially favoured spots. In the West of England and in Ireland it is at home, as apart from the mildness of the winters, nearness to the sea and its attendant humid atmosphere are important elements in its successful culture.—T.

***Clianthus Dampieri* at Ghent.**—Much interest at the Ghent Quinquennial Show was caused by a fine exhibit of the well-known but seldom seen Australian Glory Pea (*Clianthus Dampieri*). The plants were—the majority at least—grown as standards and half-standards, the taller ones about 2 feet high, with umbrageous heads bearing clusters of characteristic vivid scarlet and black blossoms, which contrast well with the silvery white tomentose Pea-like foliage. The many difficulties attending the culture of this splendid species have evidently been quite overcome by the exhibitor, who, it may be said, attributes his success to the nature of the stock used, which he claims as his secret. *Colutea arborescens* has been used frequently for this purpose with more or less success, but the writer was distinctly informed that in this case the stock was not that of *Colutea*, the grower, however, preferring for the present not to mention the name of the stock. Whatever it may be, there can be no doubt as to its advantages. It is evidently *the* stock, and it is to be hoped that some of our clever English cultivators will now grow this splendid subject in earnest. It is possible that the grafting process may make this gorgeous plant an easy-growing perennial with us instead of the very difficult subject it now is on its own roots. Scattered about in a few of the other exhibits were well-grown plants of *Clianthus magnificus*, a form of the New Zealand *Clianthus puniceus*. Though hardly equal to *C. Dampieri* for brilliancy of colour, *C. magnificus* is nevertheless a most effective exhibition and decorative plant, with deep glossy green pinnate foliage and bunches of soft crimson blossoms, produced similarly to those of *C. Dampieri*. It has the advantage, moreover, of being more amenable to culture, and does not require grafting; it is an ideal greenhouse plant, effective and beautiful in any position.—ARGUTUS.

A beautiful bedding Delphinium.—The craze for the short lived tender bedding plant is declining, and with so many beautiful annuals to select from it is a step in the right direction. Carter's Butterfly Larkspur, or Delphinium, is a splendid bedding plant if the seed is sown early and given good culture. A few seasons ago I first saw this variety at Osterley Park, Mr. Hawkes making it a special feature in large masses, and it was most effective grouped with yellow *Calceolarias* on white foliage, its beautiful rich blue flowers, which are most lasting, making a charming contrast. It may be treated as an annual, but for early bloom it is well to sow in pans or boxes in cold frames. I have tried autumn sowing but do not advise it. The plants are dwarf, being 18 inches to 2 feet high, and last a long time if the old flowers are removed and not allowed to form seed. For mixed beds the dwarf Larkspurs are most telling. This variety received an award of merit from the Royal Horticultural Society, and is certainly an acquisition. From seed sown in April plants will be got that will bloom till cut down by frost, and for cutting it is most valuable. I do not know of any more useful bedder when its colour is taken into account, as we have so few really rich blues. This is grown so easily and quickly.—G. WYTHES.

***Kochia scoparia*.**—Few more charming plants have been added to gardens of recent years than the half-hardy foliaged annual which bears the above name. It is, indeed, a remarkable plant, and is as easy to grow as the commonest of annuals. All that it needs is the same treatment as an Aster, and if planted out at the end of May it will grow 2 feet high and present through the summer a mass of graceful greenery. Nor is the summer beauty of *Kochia scoparia* its only feature,

because in the autumn the foliage assumes a pleasing shade of crimson. Last year I tried the experiment of lifting and potting plants with great success, as for weeks they were highly effective in a conservatory. A first-class certificate was given to *Kochia scoparia* when it was exhibited before the Royal Horticultural Society, and it was richly deserved, as this is a plant that no garden should be without.—G. H. H.

THE FLOWER GARDEN.

AN INTERESTING SUGGESTION.

ON the occasion of the luncheon to the judges at the National Auricula Society's exhibition, which took place at the Hotel Windsor, and was presided over by Dr. Masters, F.L.S., the chairman suggested that more attention should be given to the crossing of the species of Primulas with a view of obtaining new breaks. There was a large number of species, but only some ten or twelve of them were in general cultivation, and he thought much might be done by cross-fertilisation. In the great Himalayan range some species could be found in every valley, and they should be dealt with by the florist who appeared to devote the whole of his attention to Primula Auricula. As far as the improvement with the latter had gone, Dr. Masters thought the Auriculas of forty years ago were as good as they are to-day, a statement which was received by the company with some amount of incredulity. Mr. James Douglas, who is known as a successful cultivator of the species, said he thought much might be done in the way of the hybridisation of the alpine, Chinese and Himalayan species. He had made some attempts in this direction, but the difficulty he had to grapple with was keeping the plants alive. Mr. J. W. Bentley, J.P., of Manchester, combated the view of the chairman that there had been no improvement in the show Auricula, and alluded to the fact that in a collection of Auriculas shown that day by Mr. C. Turner there were several of the old varieties of half a century ago, and he thought that if anyone contrasted these with the twelve shown by Mr. James Douglas in Class I. they would be compelled to admit that very substantial improvements had been effected. He also thought the Primrose had undergone great change in the direction of higher quality. To these remarks I may state it should be remembered that the great bulk of Auricula fanciers are men with limited means and limited conveniences for cultivation, and can find room only for a small number of plants. If anything is to be done in the direction suggested by Dr. Masters, botanic gardens or private establishments, where the material for fertilisation exists, are the places where such attempts should be made; time, attention, and convenience are required for such work, and it needs to be under constant supervision. It is to be hoped that the recommendation of Dr. Masters will bear fruit, meanwhile it should be borne in mind that *P. vulgaris*, *P. elatior*, *P. japonica*, *P. Sieboldi*, and *P. obconica* have undergone great improvements, and several interesting hybrids known as *P. intermedia* have been obtained between *P. Auricula* and some of the alpine species; there are double Auriculas and double Polyanthus for those who like them; the yellow Auriculas have been materially improved and increased; the hose-in-hose form is found both in the Primrose and Polyanthus, and they have their admirers.

R. DEAN.

THE TUFTED PANSY (VIOLA) AS A BEDDING PLANT.

It is a question whether in the whole range of hardy plants used for the decoration of the flower garden we have a more useful or more beautiful plant than the Tufted Pansy (*Viola*). For long blooming (if treated properly and generously in the way of cultivation) it gives a return in length of

time it is in bloom and in the quantity of flowers it produces sufficient to satisfy even the most avaricious in this respect. Coming into bloom early in April it continues to flower profusely to the end of the summer. In varieties and in shades of colour the Pansy is the most generous of plants. You may have it in all shades of blue, from the darkest to the lightest of mauve, from the richest of yellows in graduated shades to the softest of primrose. In a limited way it can be had in crimson and purple. With regard to white it can be had in all shades, from the softest of cream to the purest of white, while it is deliciously sweet and of free and easy growth. Its dwarf habit limits its use in the garden to those positions in the forefront of flower borders or shrubberies, where it will be found invaluable for broad bands or lines of colour as a margin next the turf. Where distant colour effect in beds on grass is desired, planted in bold masses in this way, no plant that I know of can give a more pleasing or beautiful effect, certainly not in the colours blue, yellow, and white. As a plant for carpeting beds as a base for taller plants to spring out of it is indispensable, and when planted in combination with silver variegated Geraniums the effect is lovely. I remember one season it was planted in this way on the East Terrace Garden at Windsor Castle. The varieties were Bright Star (silver variegated Geranium) and Pansy Bluebell. The effect was most pleasing, and no beds in the garden that season were admired so much. The foregoing are only a few of the positions the Pansy will adorn; many others will suggest themselves. From the middle of September to the middle of October is the time for propagating, and the best way is by cuttings and division. Cuttings from flowering shoots should be avoided. These will root easily enough, but the plants raised from them will be disappointing the following season. They will not give in return anything like the number of flowers which result from small cuttings emanating from the centres of the plants, and if these are not to be had in plenty from plants in the beds a few should be planted in the reserve garden and kept specially for propagating. All the flowering growths should be cut off early in August, when abundance of sturdy cuttings will result and be available at propagating time in September. It is also easily grown from seed, but the varieties cannot be depended upon to come true to name and colour in this way. The seed should be sown in April on light, well-prepared soil, with a west or eastern aspect. The young seedlings will be large enough to transplant in June about 10 inches apart. The position selected should be north or north-east, as the young plants will succeed better during summer in partial shade than when fully exposed to the sun. The young seedlings will be ready for planting in their permanent quarters any time in the autumn or following spring. By sowing the seed in heat under glass early in March plants may be had ready for planting out in May, from which a fine show may be obtained the same summer. No doubt the Tufted Pansy succeeds better in the cooler and moister atmosphere of the north than in the south, at the same time, with a little special attention, it succeeds admirably in the south. This special attention consists in planting in well-manured, well-cultivated soil, and this must not be too light, the manure should be short, well-decayed, and fairly rich; a free application of water in dry weather, and timely attention in picking dead blooms to prevent seeding, and, lastly, a light mulching of short manure and road sweepings in equal proportion applied at the time of planting.

To secure the best results in propagating the cuttings should be inserted at distances of about 2 inches apart in cold pits or frames, so that a small frame will hold a large number of plants. They are perfectly hardy, but better results are obtained with this slight protection during winter, and in case of severe frost they should be covered over with some protecting material. Of varieties there are far too many. The following I have found excellent for bedding: White—Blanche (creamy white), Seagull (pure white, rayless), White Beauty (pure white, one of the best for

bedding); yellow—Ardwell Gem, Bullion, Nellie Riding; blue—A. D. Parker (light), Councillor Waters (dark), Abbess (light), and Duncan (dark mauve). Of crimson bedders the best is Firefly.

OWEN THOMAS.

CARNATIONS IN THE GARDEN.

(Continued from page 296.)

HAVING everything ready, select the best shoots round the collar of the first plant, near the ground, and cut away the rest (these may be struck as cuttings if desired), in order to free the plant as much as possible of any growth which is not wanted for layering. It is not well to layer too many shoots round one plant, as each one, when it has formed its roots, will make considerable growth before it is ready to be removed, and it is most detrimental to the well-being of the young plants if they become too crowded, as in that case they would probably become a prey to "the spot." The number to be put down round each plant will greatly depend upon the length of the shoots. Long ones will reach out further from the main stem, and so allow a larger circle, and of course permit of a greater number being layered. I have, when layering some seedlings, from which I wished to get as many plants as possible, after forming a circle some distance from the main stem, layered a few more shoots inside that circle but I have only

done this in exceptional cases, and there are not many plants that would lend themselves to such treatment. Do not layer any shoot that shows signs of throwing out a flower-stem. Now take each shoot separately and strip off the leaves, beginning at the bottom and taking all off until the third or fourth joint from the top is reached. Use a knife or pair of scissors for this if the leaves are very firmly fixed to the shoot, for there would then be a danger of breaking the shoot in pulling them off, otherwise I should pull them off, holding the stem in one hand and giving them a sharp twist sideways with the other. Next, with fork or trowel, loosen and break up the surface soil round the plant, taking care not to injure the roots, and mix with it a handful or two of the prepared soil, forming a slight mound where the layers are to be pegged down. Now with a knife make a cut halfway (or, perhaps, rather more) through, and at right angles to and on the underside of the middle of the joint next below the one from which the leaves are stripped off, and with a turn of the blade continue the cut in an upward direction until the next joint is reached, thus forming a tongue. Bend the shoot down so that the cut is opened, and fix it firmly in the loose soil with a layering pin to hold it in place, burying the shoot in the ground as far as the joint to which you have stripped off the leaves. The sketch (see THE GARDEN of the 2nd inst.) will

show more clearly than words can describe how this should be done. Repeat this operation with each shoot until the circle is complete. Then water them well with a fine rose, and never let them get dry. They should all be well rooted and ready to be taken up about the end of September or beginning of October in a favourable season, but some varieties make roots far more readily than others. Last season was a very late one, and I did not get some of my plants layered until nearly the middle of September, and they were hardly rooted when the winter set in.

Having now layered all the plants required there will be little work to do amongst them, except watering and pressing them down, in case they get loosened by the wind, until the planting season arrives. In the meantime, prepare beds for them, and see that this is done in good time, in the manner advised in my previous article, so that the ground may settle down.

There will be a considerable time after layering is finished and before

planting time comes during which the plants will be in bloom, and in this respect there was some compensation in the much-abused season of 1902, in that the flowering season was so prolonged during the autumn. Some of my plants were bearing quite a respectable number of good blooms even in November, a few layers from a dark claret-coloured seedling especially were covered with flowers through the months of August, September, October, and the first week in November.

Planting is a busy time. Have labels prepared ready if you wish to keep the names of the plants, which, I think, should always be done, as when the names are lost a considerable part of the interest has gone.

Cut off the layers from the parent plant with a sharp knife, cutting downwards into the ground. Never cut upwards, for if this is done the stem between the layer and the old plant will almost certainly break off where it joins the young layer, and so injure it considerably. Raise the layers carefully with a trowel, leaving as much soil as possible adhering to the roots. Then trim off the piece which connected it with the old plant at the joint in which you made the cut when layering. Some varieties I find throw out roots freely in the following spring from these stumps, and roots always form much more readily if the cut is made through a joint than at any other place. Now plant out the layers in the beds prepared for them, taking care that they are not out of the ground longer than is absolutely necessary, as the small fibrous roots will soon shrivel up if exposed to the air. For the mode of planting I must refer the reader to my remarks on this subject in a previous article. These layers will the succeeding summer form strong plants, and will stand the winter much better than older plants, as the long growth of the latter gets blown about and damaged by the storms.

Bronwyllfa, St. Asaph. W. A. WATTS.

(To be continued.)

TREES AND SHRUBS.

OLEARIA GUNNII.

WE are able to illustrate this Tasmanian shrub, one of the prettiest of the so-called Daisy Bushes, which was referred to at length by Mr. S. W. Fitzherbert in THE GARDEN of the 25th ult. (page 280). He there says of it: "Though not so hardy as its New Zealand relative, *O. Haastii*, it is not exceptionally tender, and I have seen good bushes in flower in Herefordshire. *O. stellata* was for some years considered a distinct species, but is now only recognised in horticultural dictionaries as a variety of *O. Gunnii*. Many nurserymen, however, catalogue the two, and that sold as *O. stellulata* appears to have larger flowers, the petals of which are a trifle more separated than in the case of *O. Gunnii*. The foliage of the two, however, is identical. This species flowers considerably earlier than *O. Haastii*, and is generally at its best in the south-west in May.

It succeeds best in a sunny position, and is not particular as regards soil. Large specimens 6 feet or so in height make charming pictures when white with countless blossoms, and although *O. Gunnii* cannot excel *O. Haastii* in the number of its flowers it has a far more graceful habit, which renders it more ornamental as a garden tree.



OLEARIA GUNNII IN A SOUTHERN GARDEN.

HYBRID CYTISUS.

REMARKABLE for the large number of ornamental species of which it is composed, as also for the few hybrids which have been raised between the various species, is the *Cytisus* family. The hybrids which do exist, however, are worth including in a select list of the best flowering shrubs. In the "Kew Hand List" of trees and shrubs three hybrids are mentioned, these being *C. Beanii*, *C. kewensis*, and *C. præcox*. The first of these originated at Kew a few years ago, and was named after the present assistant curator, Mr. Bean. It is a cross between *C. Ardoini* and *C. biflorus*, and partakes of the characters of both. In habit it is dwarf, making long prostrate shoots, which are thinner than those of *C. biflorus*, and much longer and somewhat thicker than those of the other parent. The flowers are yellow and very similar in size and appearance to those of *C. biflorus*. The second hybrid, *C. kewensis*, originated at Kew also about ten years ago. Like the foregoing, it claims *C. Ardoini* as one of its parents, the other being *C. albus*. It is a lovely little prostrate-growing shrub, rarely more than 6 inches high, sparingly clothed with small ternate leaves, and during April smothered with pretty cream-coloured flowers. At Kew it is grown in a mass with a few stones placed here and there beneath the branches to lift them and break up the even surface of the bed. For growing on rockwork it is also admirable, as the branches fall about gracefully over rocks and large stones, and are very effective when in full flower. Grafted on stems of the common *Laburnum* it makes a useful subject for growing in pots and forcing. *C. præcox*, the last of the three hybrids, has been in gardens much longer than the other two, and is a fairly common plant. It is extremely hardy, and the flowers are not injured by frost so easily as those of many early-flowering plants. It is a hybrid between the sturdy *C. purgans* and the white Spanish Broom *C. albus*. It is intermediate in habit between the two parents, is extremely free flowering, and will grow in most soils. The colour of the flowers is sulphur, and they open early in April and continue until May. The perfume of the flowers is unpleasant to some, consequently it is a plant which should not be planted close to windows which are often kept open. W. D.

THE DOUBLE GORSE.

WHERE half-wild tracts of ground have to be planted with a neat-growing shrub the double-flowered form of the common Gorse is a very good thing to use, for it flowers well, gives little trouble, and when not in bloom makes a good green mass. Even in the park or garden it is not out of place, for it forms an excellent subject for a low-growing informal hedge, and is even worth growing for a bed. In places, too, where a spiny bush is required to keep out dogs or other animals, if planted thickly, it is excellent, for when planted close together it is almost impossible to get through a mass of it. When planting give poor rather than rich ground, for in poor soil the shoots are short and sturdy, while plants in rich soil are much looser and taller. Plants in poor soil, too, flower more freely than those in rich ground, and for this reason alone poor soil is an advantage. A stock of double Gorse can be raised from cuttings with little trouble, the cuttings being taken in July or August and inserted in sandy soil in a close but cold frame. The cuttings will be well rooted by the following April, and should then be potted singly into 3-inch pots. When planting out the plants should be put straight from pots into their permanent positions, as they do not shift well from the open. W. DALLMORE.

PALM HOUSE AT GLASNEVIN.

THE illustration shows a walk in the beautiful Palm house in the Glasnevin Botanic Gardens. It reminds one of the still larger Palm house at Kew, and contains many interesting and rare plants. As a full description of Glasnevin was

given in THE GARDEN of the 4th ult. it is unnecessary to refer further to this famous establishment in the present notes.

WALL GARDENING.

WALL GARDEN-MAKING.

VIII.—PREPARING AN OLD MASONRY WALL FOR SEEDS AND PLANTS.

IN preparing a wall of masonry for either sowing or planting the utmost care and consideration are required. In the first place it will be necessary to clear the wall of weeds. Such wild plants as Primroses, *Linaria cymbalaria*, small Ferns, &c., are best left undisturbed. There could be no objection to them; but the coarser weeds must be cleared and their roots pulled up. This is best done by using a long chisel or short crowbar. Where we wish to have plants the joints between the stones or bricks may be "raked out," removing as much of the mortar as can be done with safety. Sometimes a small stone or brick might even be removed altogether, provided the stability of the wall was not endangered by such a proceeding. In other places an iron pin may be used, driving it in repeatedly until quite a deep hole is made. When the old wall is already covered with Moss and Lichens it would not be advisable to clear away more of this than can possibly be helped. Moss and Lichens, either decayed or growing, are, as I have shown above, Nature's first steps towards clothing a wall with vegetation. To remove mortar from the joints in such a way as to destroy also the Moss or Lichens adhering thereto would, I think, be a very grave mistake. Where joints are so covered it would be best not to remove any mortar at all by means of chisel or crowbar, but simply to make narrow but deep holes by driving in the iron pin referred to till a depth of 6 inches or so has been secured. These holes, which need not be more than half an inch or 1 inch in diameter should then be filled with a mixture of chopped sphagnum moss and soil, which by means of a small stick should be rammed in firmly without disturbing the natural Moss, &c., outside.

In the same way the larger spaces, where more of the mortar was removed and where deeper holes were cut, should be filled in with good soil and sphagnum moss, but here it will be necessary to make provision for preventing the soil thus introduced from washing out again with the first shower of rain. For this purpose small wedge-shaped bits of stones, brickbats, or even bits of slate are driven into the joints both before and after sowing or planting. It is essential that some of these tiny stones, &c., should slightly project and be tilted backwards. By this means moisture is assured. The little projections need not extend more than half an inch or so, but even this will suffice to collect drops of water flowing or trickling over the surface of the wall either during rain or condensed during fog or mist. The backward tilt of these fragments of stones, &c., will convey water thus collected to the interior of the wall, and will help considerably in feeding the plants.

SOWING AND PLANTING.

Having duly prepared our masonry for sowing and planting in the manner described, our next care will be the adornment. I have already dealt with grouping and general arrangement of plants when discussing walls built purposely for wall gardens, and as some future chapters will be entirely devoted to the choice of plants and

their arrangement, I will here consider only the actual work itself. Putting large plants in a masonry wall is not practical, and in ninety-nine cases out of a hundred would only result in failure. The best way, therefore, would be to raise plants from seeds, sowing them in boxes, &c., and then pricking off the young seedlings into the prepared wall, taking care that each tiny plant is properly placed, and that the little bits of stone, which should be pressed in around the plant, are so secured that neither stones nor soil can be washed out of the joints. It is necessary also to see that the wall is kept thoroughly moist until the tiny plants can take care of themselves.

SEEDS ARE THE SAFEST

means for ensuring the successful clothing of a masonry wall. The operation of sowing must vary according to circumstances. If the wall is already partly covered with Moss, &c., which would allow the seeds to adhere, we might form a kind of paste consisting of a little old cow manure and loam mixed with the seeds, and thinned with water as required. This paste, by means of a small stick, is worked into the Moss or between the Lichens, and if kept moist and slightly shaded will soon germinate.

In the case of very narrow joints or holes made with an iron pin and then filled with soil, as above described, the best way of introducing the seed would be in the shape of a "pill." Seeds, sphagnum moss, and loam are mixed together and then rolled into "pills," which are poked into the prepared joints or holes and secured by small fragments of stone. Larger joints or larger holes are differently treated. In this case it is best to make a sort of general mixture of seeds, Moss, and loam, and then with a stick to ram it gently into the previously prepared places, again finishing off with small stones, &c., hammered firmly into the joints. April is an excellent time for this operation.

When the seeds have germinated and the young plants appear it is best not to do much in the way of thinning out, as by pulling up some of the plants others might be endangered, and the small stones which we drove in so carefully would be



GLASNEVIN BOTANIC GARDENS: IN THE PALM HOUSE.

disturbed. It is far better to mix the seeds but thinly with the soil or sphagnum moss in the first place. It goes without saying that walls so treated will require constant attention until the plants have become established, but on the whole it will be found the only really satisfactory way of adapting masonry walls to wall gardening. In concluding this chapter I will say just a few words on

NEW MASONRY WALLS.

How to build walls of masonry with a view to wall gardening has already been mentioned; but it sometimes happens that new walls are built in the ordinary way, and that the idea of adapting them for wall gardening is an afterthought. I may say at once that wall gardening under such circumstances is difficult, to say the least of it. Much depends, of course, on the wall and the purpose for which it was built. If it is in itself an architectural feature in keeping with the design of the house, it would almost amount to an act of vandalism to knock holes into such a wall. Wall gardening is excellent in its way, but like everything else it must have its limits, and cannot be applied successfully to every wall. Apart from the difficulties for growing plants in a new wall, it would often have been far better to leave such a wall alone or to cover it with such creepers as would not interfere with its architectural design. Walls, on the other hand, which are in themselves of no ornamental value—perhaps even ugly and obtrusive—would gain immensely in appearance by being used for wall gardening. In adapting such new walls for that purpose, much that has been said about the preparation of old walls would apply to the new. There are some differences, however. One of them is the utter absence of Moss, Lichens, or other material which in the case of an old wall would facilitate the germination of seeds or favour the young plants in becoming established. Another difference is that the mortar would be soft instead of hard. In one sense this would be an advantage, inasmuch that portions of it could be removed with greater ease in those places which we wish to plant; but, on the other hand, the removal of too much mortar in a new wall might endanger the stability of the latter, and plants resent newly-slacked lime or fresh cement.

If such a wall is to be used for wall gardening, the best treatment would be to make the holes as large as can be done with safety, filling them with good soil, secured by small stones, as described in connexion with old walls. Putting plants into such walls is out of the question. As a rule it would only prove waste of time, but by using seeds only in the way I pointed out when speaking of old walls will in most cases be successful, provided the young seedlings receive the necessary care in the way of watering and partial shading.

Elmside, Exeter.

F. W. MEYER.

(To be continued.)



A SPRING PICTURE: DAFFODILS, WOOD SORREL, AND WHITE VIOLETS ON ROCKY BANK.

bloom. The ground all round is carpeted with Wood Sorrel and white Violets, which still further enhance the quiet beauty of the picture. It is a simple yet charming combination, and one which may be commended to the notice of those who wish to beautify a half-wild spot such as is portrayed in the illustration.

Worcestershire.

ARTHUR R. GOODWIN.

FRITILLARIA PERSICA.

This Fritillary has the merit of being one of the easiest to grow of the whole race, which is, as a rule, by no means adapted to ordinary border culture. The stately Crown Imperial (*F. imperialis*) is certainly, in common with the subject of this note, by no means exacting in its requirements, and grows vigorously in the herbaceous border, where its large pendent bell-shaped flowers, clear yellow or orange-red in hue, give a welcome spot of colour in the early spring. *F. persica*, though admittedly inferior to the Crown Imperial in brightness of colouring, is an interesting and attractive plant of graceful habit, but seldom seen in gardens. Its sober tinted blossoms remind one somewhat of the colouring of the flowers of *Iris tuberosa*. I have recently measured a plant in my garden, and find the flower-stem is slightly over 3 feet 6 inches in height, and bears twenty-five blooms. These are of shallow bell-shape, drooping, and nearly an inch in diameter, the petals being the colour of a Black Hamburg Grape and carrying a Grape-like bloom, while, on turning up the flower, the yellow anthers are thrown into high relief by the dark cup. I have found this Fritillary flourishing in heavy and light soil, and in sunny as well as partially shaded positions, while moisture, which is indispensable in the case of some species, is not necessary, since the plant may be seen making good growth and flowering well in dry borders. A bulb once planted generally makes good progress, the flower-spikes increasing in number and size as the years pass. It is a plant perfectly hardy in the southern counties.

GLADIOLUS TRISTIS VAR. SULPHUREUS.

This lovely flower is in full bloom in mid-April, and is valuable not only for the beauty of its sulphur-white blossoms, but from the fact that

it is the earliest by far of the *Gladiolus* family to flower in the open garden. The subject of this note does not in the least agree with the description of *G. tristis* given in Nicholson's "Dictionary of Horticulture," where the three upper segments of the flower are said to be spotted with minute reddish brown dots, and where the height is given as 1 foot. I have never seen this form of *G. tristis*, but one that I do know is that illustrated from a photograph sent by Mr. Greenwood Pim in vol. lii., page 301. In this form there is a hand of purplish black stretching up the centre of each of the three higher petals. This is, I believe, the form invariably sent out when *G. tristis* is ordered, but it cannot compare for attractiveness with the pale yellow variety entirely destitute of markings I here allude to. A coloured plate of this appeared in vol. xxxviii., page 58 of THE GARDEN, which, while giving a good representation of the individual flowers, depicts only two on a scape, whereas four or five blossoms, all of which are expanded at the same time, are carried on strong flower-stems that attain a height of 3 feet 6 inches. The individual blooms measure $3\frac{1}{2}$ inches across, and in the evening become deliciously fragrant, a group of twenty or thirty flower scapes scenting the night air, while a few brought indoors perfume a room. The leaves are rush-like, and when cut horizontally show a section like a cross in form. *G. tristis* is said to be a native of Natal, but appears to be perfectly hardy in the south-west in the severest frosts, even when planted only 3 inches below the surface and entirely unprotected. The corms increase very rapidly from offsets. It is very rarely seen in gardens, and is, I imagine, difficult to procure, since all those I have advised to purchase *G. tristis* have been supplied with the black-striped form.

CHIONODOXA GRANDIFLORA.

ACCORDING to my experience this species and *C. Alleni* are inferior for effect to the commoner *C. Luciliae* and *C. sardensis*. I have grown the subject of this note in my present garden for three years, having planted 100 bulbs, but the flower-spikes are poor and for the most part carry but one bloom, though some bear two, and in one case three have been produced. In other neighbouring gardens, where the bulbs have been in position for some years, the result in the case of *C. grandiflora*

NOTES ON HARDY PLANTS

DAFFODILS IN ROCKY GROUND.

ANY are the beautiful ways of growing Daffodils, and amongst the joys of a garden at this period of the year is that of watching the flowers expand. Several years ago I planted a rocky bank with *Narcissus Barri* conspicuus, and at the same time some roots of the elegant *Dicentra eximia*. Though the soil is very poor and sandy, this planting has proved most successful. The pleasing glaucous green of the *Dicentra* foliage is in exquisite contrast to the graceful blossoms of the *Narcissi*, and before they have faded the *Dicentra* has almost attained its full stature and begun to

and *C. Alleni* has been no better, and I confess to being disappointed with them, for I had expected that they would excel, or at least equal, *C. Lucilia* and *C. sardensis* in stature and floriferousness. The former I have known with scapes 10 inches in height bearing ten flowers, and the latter 8 inches high with twelve flowers. *C. sardensis* is to my mind the best for effect, the blossoms being of a deeper blue. It also seeds itself very freely, and self-sown seedlings spring up in hundreds in the soil and paths adjacent to the parent colony. I should be much interested to hear if other cultivators of this *Glory of the Snow* have been able to induce it to throw up strong and many-flowered bloom-spikes. The flowers are certainly a trifle larger than those of *C. Lucilia*, but are so sparsely borne and on such puny stems that a patch bears no comparison to an equal-sized group of *C. sardensis* or *C. Lucilia* as far as my personal experience goes.

S. W. FITZHERBERT.

SPRING FLOWERS AT BATH.

NOTHING could better show the right use of free-growing spring-flowering plants that are so often planted in flat uninteresting lines, or appear as startling patches of bloom in an otherwise empty border, than the accompanying illustration of a rockery in the Botanic Garden, Bath. Here we have them grouped on a boldly designed rocky bank, growing in a way that is in perfect sympathy with their nature. Some years ago botanic gardens were full of stiff straight beds, most unattractive, but they are now becoming places of beauty and delight. Such an example as that shown in the illustration proves how the *Arabis* may be grown in a way that is altogether delightful. For this and much other tasteful and intelligent arrangement the public in and around Bath may well thank Mr. Milburn, to whom the botanic garden there owes many of its beautiful features.

H. T.

PLANT LIFE IN THE SANATORIUM.

It is impossible to spend three months of the depth of winter among the inmates of a sanatorium without learning a good many things that are surprising. In the garden world we are well aware that there is such a thing as "hardening off," but it amazes us to find how successfully the method works with human creatures. In December the new comer is startled to see young girls and

men, wandering hatless and almost wrapless, along the sandy lanes, across the breezy golf links, or through the paths of the Pine wood. Stepping out of rooms that, though warmed by fires and pipes, are always open to the air on one side (very often on two) there is not much difference between "outdoors" and "in," and the change of temperature that gives cold is avoided.

cold, in spite of fires and pipes, as the verandah that adjoins it. Sometimes on windy days it is almost an impossibility to open and shut doors; to do so is a struggle and a slam. On Sundays, when service is held here, if there is anything of a breeze, the white surplices of the officiating clergy stream out behind them, like angels wings, while the dry rustling of the Palm leaves makes music



A BANK OF SPRING FLOWERS IN THE BOTANIC GARDENS, BATH.

But it is not of the rosy-faced, plump-cheeked patients we want to speak, it is of the open-air treatment as applied to our other living inmates, the plants. I confess that with regard to Palms and Ferns, the way they stand the sanatorium cold is a never-ceasing wonder. At home they would be given the cosiest corners, the warmest places, and above all would be kept most religiously out of draughts. How do they fare here? One tall Palm that graces the sanatorium drawing-room has the cosiest corner, it is true, but there is not much warmth to be found in it, and the smaller plants are not put in a corner at all, they stand about just anywhere and take their chance. And the drawing-room itself is nothing but open window all along the south side, and is nearly as

spent in shelters or in the open to love nature and its wonders as they never did before. It has sometimes struck me that we in England as a rule coddle our plants too much. Fresh air prophets are as much needed in plantdom as among the humanity of our poorer classes. The same uneducated man who air starves his children by putting six of them to sleep in one room with the window shut is sure to starve his flowers in the same way, and if he happens to be our gardener we must look after him or our plants will suffer as his children do. A great number of plants could, I think, be acclimatised successfully and persuaded to do well in a lower temperature than is generally supposed to belong to them if only a little trouble were taken.

almost loud enough to drown the sighing from the Pine trees and the shrill scream of flying seagulls who always come inland in stormy weather. To say the plants are in a draught does not express the idea; they are, they live, as often as the wind blows (which is very often) in what sanatorium people call a "flush of air." Amongst us the word "draught" is disused, despised—we have left it behind us in the outside world—but whether we prefer to call the breeze that stirs our hair and fills our lungs a "flush," a "current," or a "draught," it does not matter. The point is that the plants appear to like it, and to extract from it the same benefit that we do.

Both Palms and Ferns are, of course, kept very dry. They keep clean almost of themselves, for dust is not allowed in a sanatorium. These two factors, dryness and cleanliness, no doubt assist greatly in the maintenance of their well-being; for the rest I suppose they, like the patients, adapt themselves to their environment, and are so well air-fed that they are able to withstand the cold. We know how the best of food, and plenty of it, enables the human body to retain its proper temperature and the law of dietetics, in the matter of health, may apply to plants as well as people. Anyway it is fortunate indeed that plants and their owners should flourish under the same conditions. Most invalids have a great love for the green and growing things of the earth, and gardening is one of the recreations that can be enjoyed alike both by the robust and delicate; it is truly a boon to the consumptive, many of whom learn during long hours

Many a so-called greenhouse Fern is living happily enough in my own outdoor fernery, and do we not hear nowadays of Camellias, formerly considered delicate hot house beauties, being successfully cultivated in the open border? At Kew, what a fine thing it would be and what a stroke of economy to harden off the tropical plants and Palms, giving them a gradually increasing license as to the entrance of the outer air. Anyone accustomed to the absolutely pure, fresh atmosphere of the sanatorium would feel suffocated in an ordinary Palm house, not only from its heat but also from its stuffiness. Air is, after all, the thing most craved, most vitally necessary to the existence of every living creature, animal or plant. The new movement in favour of the cool greenhouse is excellent, and may be expected to show grand results, especially if, besides the shelter, enough stress is laid on the importance of giving a good air supply. Air, air, that is the crying need both of plants and people, and I am convinced that more plants, captive plants I mean, are killed by want of air than by having too much of it. Here is a motto for a "plant sanatorium" by Browning, the poet of fresh air. He did not mean it for that purpose, but his words may fairly be adopted:

"Air, air, fresh life-blood, thin and searching air,
Water is beautiful, but not like air."

F. A. B.

AN ARTIST'S NOTE-BOOK.

REHMANNIA ANGULATA

CENTRAL CHINA is the habitat of this new plant, which was exhibited by Messrs. James Veitch and Sons, Limited, Chelsea, on the 21st ult., and given an award of merit by the Floral Committee of the Royal Horticultural Society. The drooping tubular Bignonia-like purplish flowers are produced singly in the axils of the leaves upon a stem some 2 feet long. The plants shown were grown in quite a cold house, so there would seem to be no doubt as to its perfect hardiness. This *Rehmannia* is a true herbaceous perennial, and hardy plant lovers will doubtless be glad to add it to their collections of good garden plants. It is one of many for which we are indebted to the enterprise of Messrs. James Veitch and their collector in Central China.

THE ROCK GARDEN.

PLANTS NOW IN FLOWER.

IN spite of a sudden spell of cold, dry weather, and even sharp frost just after Easter, flowers in abundance have appeared in various rock gardens, and are at the time of writing (April 20) in full bloom. Turning our attention first of all to such plants as might fittingly grace the

SELECT PART OF A ROCK GARDEN,

we shall find among the number now blooming a few new members of the genus

Androsace.—Brightest among these is undoubtedly the charming *Androsace Chumbyi*. Though a form of *Androsace sarmentosa*, the latter is not yet in bloom, whilst *A. Chumbyi* is flowering profusely. It is a first-class plant for the rock garden, where its bright clusters of rosy purple flowers form a fine contrast to the white flowers of *Androsace villosa*, also now fully expanded. The bright rose-coloured *Androsace Laggeri* now blooming must also be mentioned. While *A. villosa* and *A. Chumbyi* succeed best in abruptly sloping stony ground, *A. Laggeri* prefers a flat or level plateau among the rocks.

Primulas.—In Devon and Cornwall *Primula rosea* has in most places finished blooming, but

Primula Sieboldi in various forms is just opening. Others flowering not only in the west but also in Surrey, Middlesex, and other counties, include the rosy crimson *Primula cortusoides*, *P. pedemontana* var. *rosea*, also *P. viscosa* with rosy purple flowers, *P. Forbesii* bearing lilac flowers with yellow throat, *P. calycina* with purple flowers, *Primula pubescens*, its white variety, and other well-known forms.

Saxifrages.—Though the earliest forms have finished flowering almost everywhere, there are plenty of new arrivals, amongst them being *Saxifraga Elizabethæ*, which resembles *S. burseriana* in shape but has yellow flowers, *S. rocheliana* var. *coriophylla* with very compact habit and bearing white flowers, *S. Rhei* forming carpets of delicate pink flowers, and the white flowering varieties *S. cæspitosa*, *S. decipiens*, and *S. Wallacei*.

Synthyris ruiformis has been flowering at Torquay since the last week in March and is still in

flower, with pale lilac standards and purplish brown falls.

Other bulbous plants suitable for the rock garden I may mention are *Tulipa Greigii*, *T. triphylla*, *T. elegans*, *Erythronium citrinum*, *E. Hendersoni*, *E. Hartwegi*, *E. revolutum*, *Muscari*, *Fritillaria tulipifolia*, *F. aurea*, and *F. Meleagris*, all of which are now blooming in Surrey.

ROCK PLANTS OF ROBUST GROWTH.

Under this heading I will briefly deal with such rock plants as would, owing to their more rapid growth, be unfit companions to plants of the smallest type, but which are indispensable in the rock garden nevertheless, owing to their profusion of bright flowers. *Aubrietias*, *Alyssums*, and *Arabis* were mentioned under "Wall Gardening" for April, but they are equally welcome in the rock garden if care is taken that they are not planted too close

to the smaller things. To the *Alyssums* mentioned I would add *Alyssum saxatile citrinum*, with pale lemon-coloured flowers, and *Alyssum saxatile flore pleno*, with neat double yellow flowers. To *Arabis* I would add the neat *Arabis aubrietoides*, with pretty pink flowers. *Wallflowers* are suitable



REHMANNIA ANGULATA: A NEW PLANT FROM CENTRAL CHINA.

(Shown by Messrs. James Veitch and Sons, Limited, before the Royal Horticultural Society on April 21, and then given an award of merit. Slightly reduced.)

bloom; its deep blue flowers have just a tinge of purple, are very handsome, and are shown to advantage by the orbicular leathery leaves.

Iris, in various dwarf forms, are very ornamental just now, for instance bright yellow *Iris Chamæiris*, various forms of *Iris obliensis* with purple, white, and yellow flowers, the handsome *Iris Chamæiris italica* with purple flowers, and the charming *Iris*

for rock gardening as well as for wall gardening if they are kept within limits. For a moist position the white *Dryas octopetala* and the yellow *Dryas Drummondii* are excellent plants, spreading soon into a carpet, while for a dry situation very few quick-growing plants succeed better than *Corydalis ochroleuca* and *C. lutea*. The so-called Russian Daisy (*Pyrethrum Tchihatchewii*) with

white flowers is also now in bloom. On account of its rapidly spreading green carpet-like foliage it may with advantage be used for carpeting rough rocky slopes where little else would grow, but it must on no account be close to alpine. For single specimens or in groups on rather flat ground the yellow *Ranunculus gramineus* is an attractive plant, and as a bright flowering marsh plant to bloom this month few things can rival the double Marsh Marigold (*Caltha palustris* fl.-pl.). In a shady nook *Anemone nemorosa rosea* with pink flowers makes an attractive display, lasting longer than that of *Anemone apennina*. Among other plants now in bloom I would mention *Valeriana arizonica*, *Dentaria digitata*, *Dentaria pinnata*, and last but not least that glorious Alpine climber *Atragene alpina*. The latter is now in full bloom at Exeter and hanging down over rocks, its bell-shaped blue flowers have a charming appearance. Rock shrubs now blooming are *Arctostaphylos Uva-ursi*, *Cydonia Maulei*, *Daphne blagayana*, *Cytisus præcox*, *Berberis dulcis nana*, *Spiraea prunifolia* fl.-pl., *Azalea amena*, several Heaths, and a large variety of *Rhododendrons*.

Elmside, Exeter.

F. W. MEYER.

GARDENING OF THE WEEK.

CHRYSANTHEMUMS.

FINAL POTTING.

VERY shortly the plants will require moving into their flowering pots. Little is gained by being in too great haste as to this, providing the plants are not crowded and every attention is paid them.

It is always well to prepare and thoroughly mix the soil some days before using, placing it in an open shed and turning it, say, every other day. Too much care can hardly be taken in getting together the various ingredients, which should be of the best. On no account should the soil be used when wet, it is better to err on the side of dryness, as in potting at this season it can hardly be made too firm. Good fibrous loam should, of course, form the principal part, that which was cut and stacked from an old pasture during last autumn for choice. This should be pulled into pieces about the size of Walnuts, and if of the best use four parts, and add a small quantity of wood ashes, half-inch bones, and Clay's or Thompson's manure, a 6-inch potful of each to every two bushels, and sufficient coarse road grit to ensure a porous soil. Much will depend on the nature of the loam as to the quantity required, if very stiff some fine mortar rubble and well decayed leaf-soil or old Mushroom bed manure may with advantage be added, with a slight dusting of fresh soot. Worms should be rigorously excluded, the whole thoroughly mixed, and, as before stated, turned several times before using.

The pots and drainage should both be used scrupulously clean and quite dry. The practice of using damp pots for any kind of potting cannot be too severely denounced, and never use new pots before they have been thoroughly soaked. The pots generally used are those 8 inches and 10 inches in diameter, though excellent blooms may be obtained from plants in 7-inch pots, especially with the weaker growing sorts and late struck plants, but a little extra care will have to be exercised in watering and feeding, especially during dry seasons. Some of the finest flowers I have grown have been in the smaller size. Drain thoroughly, placing a few half-inch bones on the top and protect with good fibre free from dust. No definite time can be stated as to when this potting should take place; very much will depend on the season and the way the plants have been previously treated, but in any case the work should be accomplished by the end of May or the first week in June. See that each plant is properly supported and tied loosely, leaving plenty of room for the shoots to grow, and after potting place them in pots in a sheltered position so that protection can be afforded if needed.

Allow no pest to impede their progress, syringe frequently during the day to keep the foliage fresh, but several days should elapse before watering. When water is required fill the pots several times to make sure of the soil being thoroughly moistened.

Aldenham House Gardens, Elstree.

E. BECKETT.

FRUIT GARDEN.

PEACHES AND NECTARINES.

THE most trying period in Peach culture is during the stoning process, which lasts about five weeks, and so great is the strain on the trees that during that time no outward change is perceptible in the size of the fruit. To have the fruit fine and well coloured low temperatures, ranging from 45° at the commencement to 38° at the finish, with a free circulation of air on all favourable occasions, are points which must have attention, and where they are neglected the mediocre fruit frequently met with will be the result. Having kept the trees regularly syringed and the houses ventilated to prevent fluctuations through the stoning period, the first sign of a move forward will denote the time for the final thinning. We find one good Peach to every square foot of trellis covered with foliage is a heavy crop for trees to carry for a number of years in succession. Pinch the points out of all growths which will be removed after the crop is gathered to throw size into the fruit. Tie down the young shoots and elevate the fruit well above the foliage, point upwards by the use of short pieces of lath placed across the trellis. Give another watering to inside borders, and mulch well to keep the surface roots moist and active during the time the fruit is ripening. If soft water cannot be obtained for syringing, water free from lime should be used, otherwise the sediment will mark the fruit and detract from its appearance when ripe. Disbud, tie down the shoots, and thin the fruit in late houses.

FIGS.

Favoured by a tolerably good season, the most forward fruits on pot trees will soon begin to ripen, when watering may be gradually reduced, but at no time must the trees suffer from want of water, neither must syringing be discontinued, otherwise red spider will speedily follow. From this time the house may be freely ventilated in favourable weather, and the temperature range from 60° to 65° at night, 70° to 75° by day, with a rise to 80° after closing on bright afternoons. Maintain a circulation of warm air through the night. Keep the young growths neatly tied down to give the ripening fruit the full benefit of light and solar heat. As ripe Figs can be kept for a few days laid on a hair sieve in a dry room, make a point of gathering all that are ready at short intervals. In succession houses, where the trees are planted out, pinch and remove the side shoots, and tie down leaders to prevent overcrowding, but do not stop the latter until they have reached the extremity of the trellis, as the Fig, unlike many other kinds of fruit trees, keeps producing a succession of ripe fruit as long as it continues to grow. Stopping should not be practised after summer or when the trees are weakened by forcing.

Madresfield Court.

W. CRUMP.

THE KITCHEN GARDEN.

RUNNER BEANS.

THE main crop should be sown about this time in trenches, and when the plants raised under glass are sufficiently strong and hardened they also may be planted out. Allow from 8 feet to 10 feet between the rows and sow the seed thinly in double line down the centre of the trench. If the seed is good it may be dibbled in triangularly 6 inches apart, and this will be found a much more profitable plan than sowing thicker.

CAULIFLOWERS.

Plants that were wintered in frames and afterwards planted out have not made much progress. As soon as they recommence growth it will be necessary to give close attention to their wants in order to impart vigour and to hasten growth. Give occasional waterings with liquid manure,

alternating this with a dusting of artificial manure round each plant. The latter should be put on in showery weather. Continue to plant out batches of Autumn Giant as the plants become large enough; these will then follow the earlier varieties closely and continuously.

LARGE ONIONS.

The planting out of those raised under glass will in most instances have been delayed owing to the continued cold winds and frosty nights. As soon as it is thought safe plant them out, and encourage them to become quickly established by watering and feeding.

LETTUCE.

Plants that have been wintered in the open garden have suffered severely, as have those that were raised under glass and planted out early. Staustead Park has withstood the late severe frosts and biting winds better than any with us. The old hardy Brown Cos has suffered severely. Sow a pinch of seed every few days to ensure an unbroken supply. To those who prefer the Cos types Paris Cos is still one of the best for general use, for they are of excellent crisp quality and require no tending.

THINNING THE CROPS.

At the time of writing the various seedling vegetables have a very yellow appearance, but they will, it is hoped, quickly recover and grow rapidly. Parsnips, Salsafy, and main crop Carrots should be thinned severely, while Onions, Beet, Turnips, and early stump-rooted Carrots may be left fairly thickly. Early Horn Carrots and early Turnips may be drawn in a small state for immediate use, thus thinning them sufficiently and utilising the thinnings at the same time.

BEANS.

Large breadths of dwarf Beans of the Canadian Wonder type may be sown on warm borders, and these will yield their crop in advance of the earliest runners. Some of the latter should be sown in boxes and placed in warmth, and when well through the soil harden off gradually preparatory to transplanting in trenches, which may be prepared in the interim in like manner to Celery trenches. Veitch's Mammoth and Best of All are excellent varieties.

Stoneleigh Abbey Gardens.

H. T. MARTIN.

INDOOR GARDEN.

BEGONIA GLOIRE DE LOIRRAINE.

WHERE specimen plants of these are desired it is advisable at once to select from the old plants of last year's growth the most promising of those that bloomed in 4½-inch pots, which, after the little rest they have already had, will, if potted on at this season, quickly start into vigorous growth, and with careful attention make fine specimens for Christmas and spring. The remaining old plants may now have the old stems removed or shortened back and the stools divided up. Carefully preserve and pot all that are showing any young growth or undeveloped buds from the base of the old stems. These, as a rule, grow more freely than those rooted from cuttings.

TUBEROUS BEGONIAS

are now growing freely, and will require to be potted on at intervals as they become too large for the pots they are in. To receive a check at any time throws these plants into a bad condition; therefore attend closely to the details of ventilation, moisture, and shade. A night temperature of 55° will be suitable. Young seedling plants that have been pricked into shallow pans may now be planted in boxes (if large enough to handle) 3 inches or 4 inches apart, and allowed to remain until they bloom, when a selection of the best forms can be made and grown on.

CALLA (RICHARDIA) AFRICANA.

Plants now passing out of flower are best potted in the month of May and plunged in cold frames. If this accommodation cannot be given, place them in a sheltered position not altogether shaded from the sun and plunge to the rim of the pot in coal ashes or spent tan. Allow them to remain

dormant by withholding water until their natural period of rest is over, and as young growth appears give them a little water, only increasing the supply as growth progresses. As space becomes available give the plants plenty of room. I have had the best results by following out this treatment.

CINERARIAS.

A first sowing of all the varieties of these should now be made; the variety *stellata* is for decorative purposes a most desirable plant. Seeds sown in shallow pans filled with a light compost of fine loam, leaf-soil, and coarse silver sand, placed in a pit with a temperature of 50°, will soon germinate. Avoid fire-heat if possible, and continue cool treatment throughout.

CHRYSANTHEMUMS.

Young plants now in 3-inch or 4-inch pots must be potted on into 6-inch pots. This should be

banks are furnished with some of the larger species of our British Ferns with their exquisite fronds half covering the rocks or bending gracefully over the water. Even where the ground is not specially suitable a hardy fernery is easily produced with the aid of hillocks and banks of soil. Many of our British Ferns are exceedingly beautiful, and there are natives of other countries which prove perfectly hardy here. All these hardy Ferns thrive well in ordinary light sandy loam, with a mixture of peat and well-decayed mould, and if some freestone chip can be mixed in they retain moisture, and the roots of Ferns delight to cling around them. Many of our hardy Ferns are starting into growth, so should now be planted.

THE RESERVE GARDEN

should now be ready to receive these plants. Nothing is more objectionable than the manner in which they are often treated to make way for the summer occupants. Tulips and Hyacinths are often regarded as worthless if cleared off in time to make room for summer bedding plants. This is a great mistake. All they need to make them serve again is careful lifting and replanting. If planted in lines in the reserve garden and given a year's rest many of them will then be equal to imported bulbs.

DOUBLE PRIMROSES.

These must be increased by division, choosing a moist shaded site not overhung with trees. A north border is the best position for them. For the single-flowered type of bunch Primroses no method of division will equal the stock raised annually from seed. Seeds of these should be sown now so that they may become strong by the time they are wanted for planting out.

AUBRIETIAS

should be split up into small pieces and planted firmly in rows, and if well looked after will make nice plants for refilling the beds in autumn. The yellow Alyssum (*A. saxatile*) is a most useful plant for spring flowering, but it has a tendency to die if allowed to become old. These may be readily renewed by cuttings taken off and dibbled into sandy soil. The white Arabis, both the

double and single variety ought also to be kept up by propagating young stock yearly.

THE WALLFLOWER.

A sowing should now be made, and the open border is the best possible seed-bed. To plant them out as soon as they are large enough to handle is an important matter, for if they remain crowded in one seed-bed they become attenuated and comparatively worthless.

THE YUCCA.

This plant produces a most imposing effect when planted singly on the open lawn or in groups, the taller ones occupying the centre. Although Yuccas thrive well in a deep peaty soil, they nevertheless (especially *Y. gloriosa*) do so in an extraordinary degree when grown in strong deep

clay. The American species, as well as those from other countries, are increased by suckers, which sometimes arise from the roots and by young shoots which branch from the stems. The best way, however, is to bare the roots carefully and remove the knotty protuberances which are found on the stem underground and also on the larger roots. These, if removed carefully and potted and set in a mild bottom heat, produce roots, and afterwards leaves and stems, and in time perfect plants.

T. B. FIELD.

Ashwellthorpe Gardens, Norfolk.

THE KITCHEN GARDEN.

STAKING RUNNER BEANS.

IT is of the utmost importance to properly stake and to thoroughly secure Beans, viewed either from appearance (and what is more beautiful when laden with a wealth of scarlet and white bloom?) or productiveness, so that a few notes at this season may be serviceable. Generally speaking, the stakes employed are not sufficiently long to enable the plants to do themselves justice, as I have proved over and over again the yield will be surprisingly large when a good height of support is given compared with those staked in the ordinary way. Light and air are most essential to this crop. Stakes from 9 feet to 15 feet will be found none too long, and, though it will necessitate most of the Beans being picked with the aid of steps, one will be well repaid. To bear out what I say, we have picked from one row 16 feet long no less than four bushels at once, and this has been repeated twice weekly.

Having procured the longest stakes possible, these should be inserted securely in an upright position in the ground, and at every eight or ten yards place two strong poles, well driven in, close to the sticks on either side, selecting the strongest for each end of the row. Stout tarred cord should be stretched along from pole to pole. After all has been properly fastened, the twiggly ends of the sticks should be cut off with the shears, and when the young growths have reached the top the points of these should be nipped out also, and these will occasion very little further trouble until the frost puts an end to their existence. Of course, as I have before pointed out, it is necessary to prepare a good deep rich medium for the roots, and the surface should be well mulched during summer with long stable litter.

E. BECKETT.

CABBAGE SUTTON'S FAVOURITE.

This is a remarkable Cabbage, dwarf, and one of the most delicious of the small type; it is invaluable for autumn supplies if sown at this time of year. This variety differs from others, as its season is from September or earlier to Christmas. Sown in April, May, or June there will be no lack of delicious small heads that are not infested by insect pests, the plant forming a compact growth. There are few outer leaves, it shows no tendency to bolt, and is not readily injured by frosts. Autumn Cabbages may be thought of less value owing to the Colewort being in season at that date, but this variety may with advantage be sown to precede the Colewort. It is most valuable in the early autumn, when the first frost cuts up tender things, as then the Favourite Cabbage will be found useful; it will be much liked for its size and delicate flavour. A few seasons ago I used it for crossing the Rosette Colewort with the idea of securing a hardier Colewort, and, though too early to note the results, it is gratifying to find that the dwarfness of the Favourite is a great gain. There can be no question as to its value as a winter variety.

G. WYTHES.



HOW RUNNER BEANS ARE STAKED IN ALDENHAM HOUSE GARDENS.

done before the young plants become unduly rooted or they will suffer a check. A compost of a little stronger consistency may be used for this potting than was used for the previous one. Keep the plants in a cold frame until all likelihood of frost has disappeared. Ventilate the frames freely according to the weather, and prevent the tops of the plants coming into contact with the glass.

Wendover.

J. JAKUES.

THE FLOWER GARDEN.

THE HARDY FERNERY.

This department will now need attention. It may be perhaps on the north side of a wall or under the shade of spreading trees, more particularly when they grow near the margin of a stream whose

CUCUMBER ROCHFORD'S MARKET.

THE market grower is not long in noting the value of any new thing, and though Rochford's Cucumber cannot now be called new, it is not so largely grown in private gardens as its merits deserve. It crops very heavily and keeps well after being cut—two important points not to be overlooked. Some may remark that a Cucumber should not be kept, but used fresh. Growers know that if this variety is cut in a young state—I mean when not too old—and the stalk end is placed in clean water it keeps good for days, and, unlike most others, does not become soft or stale. For many years I have grown large quantities of Cucumbers, and have not found one so useful as Rochford's. I have found there are several varieties sold as Rochford's, and I have not always had the true one, which is far superior to other so-called Market Favourites. Many persons may have been in a similar position, and they will not have a very good opinion of the inferior variety. For some time I was unable to get the true form, but there is no question as to its value both for its crop, its keeping, and, the most important of all, its splendid flavour. A. C. N.

POTASH FOR TOMATOES.

IN his description of Mr. Mortimer's Tomatoes, in a recent issue of THE GARDEN, "A. D." suggests that the success of the above grower is largely due to the potash applied to the soil by means of wood ashes. This may be readily understood, because every practical gardener knows the value of wood ashes for the majority of crops, but unfortunately they are not a commercial commodity, and while few gardeners are able to get as much as they would like, many amateurs are unable to obtain any at all.

Admitting, for the sake of argument, that "A. D.'s" potash theory is correct, what artificial fertiliser of a potash-like character could be applied to Tomatoes and have the same effect as wood ashes? There is kainit, for instance, a cheap soluble salt containing about twice as much potash as wood ashes. If the latter are so valuable for Tomatoes, why not the former? There is sulphate of potash again, which is a purified kainit containing three or four times as much potash as the latter fertiliser, and said by some authorities to be the safest and best form in which to supply potash to growing crops. According to "A. D.'s" wood ash theory, sulphate of potash applied in small quantities ought to be an ideal fertiliser for Tomatoes.

Muriate of potash is a fertiliser which some fruit growers place great faith in, and amongst vegetable crops it has been used to great advantage, but in some quarters it is treated with suspicion, and for this reason muriate does not enjoy the popularity which, according to the testimony of its supporters, it deserves. It certainly has an injurious effect if placed in direct contact with the roots of certain plants, such as Strawberries for instance, and I should like to know whether any readers of THE GARDEN have used it for Tomatoes and with what effect?

According to the testimony of Mr. H. H. Cousins, in that useful little book of his called "The Chemistry of the Garden," plenty of phosphates is one of the chief rules of Tomato culture, and in support of it the author says: "It is surprising how much superphosphate a Tomato will stand without injury, but with obvious benefit." In the article referred to, "A. D." says that Tomatoes are so sappy and leafy that they need little nitrogen, and with this I fully agree; but what about phosphates? In furthering the cause of potash "A. D." makes no mention of phosphates. Is the inexperienced grower of Tomatoes to understand from this that phosphates are unnecessary? Because, if so, the theory advanced by "A. D." is opposed to that of Mr. Cousins and also the generally accepted fact that phosphates are essential for the promotion of fruitfulness. The question is one of importance, as there are hundreds of people who grow Tomatoes and are anxious to know the best and most economical way of doing it, G. H. HOLLINGWORTH.

CORRESPONDENCE.

(The Editor is not responsible for the opinions expressed by correspondents.)

FROST AND THE FRUIT CROP.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—SITuated as we are on the south coast, exceptionally well sheltered, with a gentle slope to the south, we generally expect to escape the injurious effect of late spring frosts, but I regret to say the present season is an exception, and in common with growers in all parts of the country our fruit crops, such as Pears, Plums, Cherries, Peaches, and Nectarines, trained on walls, have suffered very much, while Plums and Damsons growing in the open will be quite a failure we fear. For more than a week the frost has ranged from 7° to 11°, the latter being on the morning of the 18th ult. The days have proved equally as trying to vegetation as the low night temperatures—perhaps even worse—as the searching east winds have checked all growth and the plants present a starved appearance.

Blistered Peach foliage is troublesome more or less each season, but we fear there will be cause for greater complaint this year. It is a serious matter when the trees are badly attacked, as sometimes years must elapse before they can be properly furnished from base to summit with clean, fruitful wood. It is the gross sappy leaves on young vigorous trees that are generally deformed by harsh winds and frost, but at the present time we notice the less fleshy leaves of aged trees are curled also, and for many weeks to come close attention and generous treatment will be necessary to induce the formation of suitable well-ripened wood for next season's yield. Many may feel disheartened at the present time, not only by the loss or partial loss of the current season's supply of Peaches, but also at the miserable condition of the new growth, while others may be at a loss to know how to treat the trees and restore them to healthy growth. Some may say they will grow out of the blister as the season advances, but it is not wise to leave valuable trees to chance. The early disbudding of the branches is recommended when the growths are clean and healthy, but in dealing with those whose leaves are badly blistered we would be less ready in reducing the number of shoots, as we find there is a certain amount of protection when they are allowed to remain thick, and they are more likely to outgrow the evil than when early and severe disbudding is resorted to. There is also a better chance of selection, and those shoots not required to furnish the trees may be removed or spurred back a few at a time, so that no undue check is given by a wholesale removal of growth.

The points of many of the shoots may be so crippled that they could never form fruiting wood, while to remove them close to the old wood in the ordinary way of disbudding would leave many bare and unsightly gaps in the trees. Instead of this it is better to pinch out the points with a view of forming spurs. In all probability a second growth will start from the base. In the meantime all curled leaves should be removed, as these would never become perfect in size or shape, and only encourage the presence of green fly, which it is impossible to dislodge with the syringe. Advantage should be taken of warm afternoons to syringe the trees freely with some wash in a tepid state, doing the work sufficiently early, so that the foliage becomes dry before sunset. Neither should the roots be neglected. It is seldom that the borders are sufficiently moist at this season, especially near the brickwork. A thorough soaking should be given, but trees which are not carrying a crop of fruit must not have much manure in any form until growth is practically finished.

Goodwood, Sussex.

RICHARD PARKER.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—IT is comforting to read such cheering news from your correspondent "G. H. H." in THE GARDEN, on page 272, and I trust his opinion will

be confirmed in other parts of the country. Anyone at all experienced in fruit culture can soon determine the serious amount of damage done to nearly all kinds of fruit which were not thoroughly protected. On some of our standard Plums which were laden with blossom not a single fruit can be found which has escaped, and the same applies to Pears on pyramids. "G. H. H." states that certain fruits were not in bloom and cannot have suffered. Is he sure of this? Many I fear will be very disappointed in this respect, for on close examination even Apples which were quite in small bud were frozen through and spoilt. The same with the Strawberries, which "G. H. H." says are safe as the blooms had not opened, but on close inspection where the trusses were visible the centres in nearly all cases are blackened. True, as he says, the damage done is not so great as it might have been, and I am sure none of us are anxious to make things appear worse than they really are, but it is only too apparent to the close observer that serious havoc has been wrought to the fruit crop, which will be felt for many months. I am well within the mark by saying that fully 90 per cent. of most kinds are killed.

Elstree.

E. BECKETT.

FLORAL AWARDS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I have read with much interest "A. D.'s" criticism in your issue of the 25th ult. upon the distribution of floral awards to Dahlias. A somewhat similar criticism is also applicable to the Narcissus committee of the Royal Horticultural Society. One notices that it is not unusual for members to sit upon this committee on the same day that they themselves submit flowers. I do not suppose that they vote upon their own flowers, but other members must know to whom these flowers belong when they are submitted, and run the risk of being unconsciously partial to them. It would therefore be more satisfactory to outsiders if they could feel the committee consisted entirely of people quite disinterested. Doubtless there would be a difficulty in getting a large committee of sound judges who do not submit flowers, but I maintain a smaller committee could do the work. With the large influx of new seedling Narcissi that will have to be dealt with in the next few years it is probable that some fresh lines as to the distribution of awards will have to be adopted, and these points might be dealt with at the same time. BEDFORD.

SOME CONTINENTAL NURSERIES.

MESSRS. SANDER & SONS, BRUGES, BELGIUM.

BELGIUM has an enviable reputation for plant culture, more particularly Azaleas, Palms, Orchids, stove plants, hard-wooded plants, Bay and Orange trees, in fact in and around the town of Ghent the cultivation of these, and particularly Palms and Azaleas, is a most important industry. In the immediate vicinity of Ghent glass houses are commoner than fields, and the suburbs may truthfully be described as gardens under glass. The many nurseries resemble each other very closely, as in most of them the same plants are grown, and all about equally well. Nevertheless, it is interesting to see how well and how extensively the few specialities of the Belgian nurserymen are grown. Climate undoubtedly has something to do with their success with Odontoglossums, but probably affects but slightly the various other plants mentioned.

Messrs. Sander and Sons, whose nursery at St. Albans, Herts, is well known, have also been established at Bruges for some years, and there extensively cultivate Bay trees, Palms, Azaleas, Orchids, &c. Their nursery is situated a mile or so outside the old-fashioned town of Bruges, and

covers some thirty-five acres of ground. Houses for the cultivation of Palms, Azaleas, and Orchids occupy a considerable portion of the nursery, and they are still being added to. If the rate of progress of the past few years is maintained, the whole nursery will soon be covered with glass houses. The vacant land is largely filled with Azaleas and Bays during the summer time. An excellent system of water supply, and one that saves much labour in watering, is in vogue here. An open tank some 2 yards wide, into which the water is pumped by means of a windmill, runs down the centre of the ground occupied during summer by the Azaleas, &c., so that no matter where the workman may be he is never far from water. If these thousands of plants, which in summer require large quantities of water, had to be supplied by means of water barrels, the labour required would be enormous. The men work with two water-cans at the same time, one in either hand. These are large, yet light, and have curved handles, so that as the can empties, which it very quickly does, the hand may be slipped towards the back of the can and thus still keep a firm hold of it. For convenient and economical working, where larger quantities of water are required (as for instance Strawberries in pots or Chrysanthemums), this method appears to enjoy advantages over that usually practised in this country. Soon after entering Messrs. Sander's nursery one passes down a long drive, bordered on either side by Bay trees of different sizes, and variously formed, in tubs. Some are standards with several feet of clear stem, while others are pyramidal, yet differing in shape. The Bay trees vary in height from 3 feet and 4 feet to 15 feet and 20 feet, and in age from two or three years to twenty. A few huge specimens we were informed were sixty years old. Many of these trees are exported to America and Russia as well as to England, and they are most elaborately packed so as to ensure safe transit. Some

100,000 BAY TREES

are raised from cuttings every year by Messrs. Sander, so some idea may be had of the extent of their cultivation of Bay trees alone. During summer these plants are placed out of doors, and in winter are packed closely together in a large shed for protection from frost.

AZALEAS,

which with Palms are perhaps the most important features in this Bruges nursery, are grown in immense quantities. No less than 100,000 are grafted every year, and although, of course, these do not all live, a large percentage of them do. One sees house after house of them in all sizes and in various form—bushes, standards, half standards, pyramids, &c. In many of the houses the older plants fill the floor space, while upon shelves near the glass are boxes filled with countless small ones in various stages of growth. As may be seen in many nurseries nowadays, several houses are joined together, that is to say, one wall supports two roofs, and instead of solid walls between each house there are pillars only, so that one is able to get an uninterrupted view from one end of the block of houses of all the plants grown therein. Imagine some six or seven large span-roofed houses thus joined together and filled with plants and some idea will be had of the manner in which Messrs. Sander cultivate Azalea indica. At the time of our visit many plants were in flower, and added brilliant colouring to the forest of green. The profusion of flowers borne by Azalea indica as grown in Belgium is remarkable; one can hardly see the leaves for flowers. This does not occur in isolated instances, but almost every plant flowers as well as its neighbour. The Ghent nurserymen have long prided themselves upon their culture of Azalea indica, and are said to have boasted that their plants were unsurpassed. In one of the principal classes for Azaleas at the recent Ghent Quinquennial Show, however, Messrs. Sander carried off the first prize with, needless to say, superb plants and in remarkably good varieties.

PALMS,

too, are grown in such quantities as one rarely, if ever, sees in this country. House follows house,

both large and small, and everywhere one sees a mass of green. As with Azaleas, several houses are built together in one block, and upon looking from one side to the other one sees a veritable forest of Palms. They are in various stages of growth in different houses; in some the seedlings are just pushing through the soil in boxes, which often are placed beneath the stages. Palm seeds seem indifferent as to the conditions provided to secure their germination if they have sufficient heat and moisture. They are very erratic in making their appearance, however; even from the same box some may be visible within a few weeks, while others will remain dormant for a year or longer. In other houses the plants are in small pots and making rapid progress, and again one sees them still further developed and ready for sale. One is struck by the uniformity of the plants; they are alike as Peas in a pod. On glancing down a house filled with Palms it is surprising to note how apparently level is the

cultivated. A new Croton was pointed out to us as being quite distinct; the leaves are arrow-shaped, yellow in the centre, with a broad margin of green. This variety is still unnamed. The Anthuriums are, among other stove plants, well grown in Messrs. Sander's Bruges nursery.

ORCHIDS

are also cultivated on a very large scale, Cattleyas and Odontoglossums particularly, and we understood Mr. Sander to say that all are growing in leaf-soil. He finds that Orchids grow equally well in leaf-soil as in a compost of peat and sphagnum, and that it is far more practicable and convenient to use. For this reason Messrs. Sander use it largely in preference to the ordinary Orchid potting material, viz., peat and sphagnum. We were delighted to see an importation of *Vanda cœrulea*, in the opinion of many the loveliest of Orchids. The plants which have quite recently arrived were



LÆLIO-CATTLEYA DORA MAGNIFICA.

(Shown by Messrs. Charlesworth and Co. before the Royal Horticultural Society, April 21.)

surface formed by the tops of the plants. One house was filled with *Caryota urens*, a sight not often met with, while *Kentia sanderiana* made a most attractive display in several houses. This is a slender-foliaged plant, and will doubtless prove valuable for decorative purposes and a useful companion to *Cocos weddelliana*. *Phoenix canariensis* was largely represented, and by hardy, sturdy-looking plants. *Cocos weddelliana*, *C. Benetti*, with glaucous foliage, a handsome plant, and many more were to be seen. Of

MISCELLANEOUS STOVE PLANTS

Perhaps the most interesting was *Dracæna kewensis*, a new plant of sturdy habit, with broad, handsome, dark green leaves, shown by Messrs. Sander at the Ghent Show. Several houses in the Bruges nursery are filled with this plant, whose appearance would justify one in saying that it will become a favourite for the table and room decoration. *Dracæna Bruanti*, the young leaves a pretty brown-red, and *Dracæna Doucetti* are also extensively

remarkably fresh after their long journey from the East.

(To be continued.)

ORCHIDS.

LÆLIO-CATTLEYA DORA MAGNIFICA.

A N improved and richly coloured form of *Lælio-Cattleya Dora*, and the result of a cross between *Lælio-Cattleya Hippolyta Phœbe* and *Cattleya Schröderæ*. Messrs. Charlesworth and Co., Heaton, Bradford, York, exhibited this new hybrid before the Orchid committee of the Royal Horticultural Society on April 21, when it obtained an award of merit. Several rather

large flowers are borne on the raceme, and the petals and sepals are of a beautiful rich orange tinged with rose-salmon, while the lip is marked with ruby red. Messrs. Charlesworth have shown several brightly-coloured and distinct Lælio-Cattleyas, and L.-C. Dora magnifica is one of the most noteworthy.

ORCHID NOTES FROM GHENT.

THOUGH as a whole not equal to the magnificent aggregation of Orchids annually grouped at our Temple Show, the building devoted to Orchids at the Ghent Quinquennial contained comprehensive, varied, and highly meritorious collections. The premier group among the amateurs was that owned by the Marquis de Wavrin, Chateau de Ronsele, Ghent, while among nurserymen a similar position was easily obtained by M. Peeters' group.

One immense advantage our Continental confrères have over home exhibitors is ample space in which to display their plants. The overcrowding so evident but unavoidable at our Temple Show is happily quite absent at Ghent, much to the advantage of both exhibitors and sightseers.

The Marquis de Wavrin's group completely filled one end of the parallelogram devoted to Orchids, and consisted entirely of Cattleyas and their allies, Lælias and Lælio-Cattleyas. It is doubtful if such a large, varied, and choice group (confined to practically one class of Orchid) has ever before been exhibited either in Britain or on the Continent. The exhibit was all the more noteworthy, as it must be remembered that the majority of Cattleyas, &c., do not flower until later, with the exception of *Cattleya Schröderæ*, of which the Marquis staged a wonderful variety, ranging from forms nearly as highly coloured as *Cattleya Trianae* to a splendid plant of *Cattleya Schröderæ alba*, a beautifully frilled broad-petalled form of dazzling whiteness. Lælio-Cattleya Kerchovæ, a new handsome hybrid between *Lælia anceps alba* and *Cattleya Trianae alba* occupied a prominent position, and from its pure whiteness attracted considerable attention. The flowers are very much larger than those of the typical cross L.-C. Frederick Boyle, and, except for a considerable area of chrome-yellow in the throat, are entirely pure white. Early though it was in the season, the Marquis had a number of beautiful *Cattleya Mendelii* in his group, and was not only able to show a number of superbly coloured forms, but also a well-shaped bold-flowered form of *Cattleya Mendelii alba*, in juxtaposition being an equally good form of *Cattleya Trianae alba*, together with two very large rich-tinted varieties known as C. T. amplissima and C. T. maxima gigantea.

Contrasting with white Orchids, which formed the main feature of this fine exhibit, and intensifying its own and their colouring by the contrast, was a wonderful form of Lælio-Cattleya callistoglossa, a form which, writing from memory, certainly equalled the magnificent variety excelsa, shown by Messrs. Sander and Sons in their notable group at the Temple Show two years ago. The lip of the form under mention was apparently faultless in shape and rich carmine-crimson in colour.

Cattleya Mendelii S. de Hemptine (a noble white form), *C. intermedia alba*, and *C. intermedia Putzeysii* are also worthy of mention, as is a fine form of *Cattleya* × *Parthenia*, known as C. P. gratissima (C. fimbriata × C. Mossiæ). The finely-shaped blossoms are most delicately tinted, the mauve and white colouring on the lip being daintily broken and blended. A form of the rare natural hybrid L.-C. pittiana (presumably

between L. grandis and C. amethystoglossa) was also included in the group, differing from the type chiefly by the sparsity of the spotting on the sepals and petals. A well-flowered plant of L.-C. choletiana (L. superbiens × C. Mossiæ) proved the utility of this hybrid for exhibition. The tall arching spike, surmounted by large rosy mauve, crimson flaked flowers, attracted much attention. Lælio-Cattleya eximia, though a comparatively old hybrid, as shown in the Marquis's group, must still be considered as ranking in the front, the rich colouring of the lip, combined with broad, deep rose sepals and petals, rendering it well worthy of a place in every collection.

Taken as a whole, this exhibit was one of the most praiseworthy and interesting in the show, the more so as it came from an amateur's collection, who naturally has not so great a number of Orchid houses as our large traders.

ARGUTUS.

CYPRIPEDIUM LAWRENCEANUM IN M. LINDEN'S NURSERY.

NEVER have I seen this Orchid so finely grown as in the nursery of M. Linden, at Moortebeke, near Brussels. A small span-roofed house was almost full of them, and although few were in flower, the foliage was so remarkably well coloured and handsome that one hardly thought of them as flowering plants. Probably local climatic conditions have something to do with the unique development of this *Cypripedium*, for in England I have neither seen the plants so vigorous nor the leaves so finely coloured. When grown to such perfection as in M. Linden's nursery, *C. lawrenceanum* manifests its value as a foliage plant alone. Some of the flower spikes were 2 feet and 2½ feet high and of astonishing vigour. This cultural success cannot be put down to the use of leaf soil for potting purposes, for M. Linden does not make use of it; he still prefers the old-fashioned compost of peat and sphagnum.

DENDROBIUM NOBILE VAR. CATTLEYA.

THIS is the largest variety of *Dendrobium nobile* that I have seen. This also was in flower in M. Linden's Moortebeke establishment. It is very appropriately named, for it reminds one forcibly of a small *Cattleya*; from tip to tip of the outstretched petals the distance was between 3 inches and 4 inches. The predominating colour is, perhaps, best described as reddish purple, but there is nothing remarkably distinct in the colouring of the flower; it is its unusual size that attracts attention.

VANDA TERES.

DOES *Vanda teres* thrive best when grown in pots or when in a bed of sphagnum moss? The best results that I remember to have seen were from plants cultivated in the latter way, and this was in a large garden near Paris, where Orchids are extensively grown. They filled both the centre and the sides of the house, were planted closely together, and when in flower made a very pretty display. The rosy purple obovate petals, large, broad throat lined with rosy brown, and the purple lip make up a flower that individually is very attractive, and when one sees a house full of plants, each of which is flowering well, the picture is a bright one. In the Orchid house at Kew, where a few plants of many rather than many of a few Orchids is the rule, *Vanda teres* is doing well in pots.

RODRIGUEZIA FRAGRANS.

A PLANT of this Brazilian Orchid in flower growing in a basket is one of the prettiest things in the Kew collection. The flowers have been open for several weeks, and are still fairly fresh. They are produced in pendent racemes of about ten blooms each, and are pure white except for yellow

markings from beneath the column to the centre of the lip. The flowers have a very delicate appearance; the petals and sepals are so thin as to be almost transparent.

EPIDENDRUM CILIARE.

THE flowers of this West Indian Orchid have long, narrow, acuminate sepals and petals of an uniform pale green colour; the lip is three-lobed and white. The central lobe is long and narrow, while the side lobes are deeply cut, much resembling small feathers. The flowers are on long stalks about six together and in racemes produced from the apex of the pseudo-bulb. Although not handsome, this *Epidendrum* grows and flowers freely, and is now very attractive in the warm Orchid house. P.

NOTES FROM SCOTLAND.

MALMAISON CARNATIONS ALL THE YEAR ROUND.

IN various parts of Scotland a new phase of Malmaison cultivation is attracting those who love the flower. Generally they have been satisfied with a supply of cut bloom during the summer season, but the system of flowering plants at all seasons as it is becoming better known is extending to those who have not attempted it in the past. There are two methods by which it is possible to attain this end. One is to propagate plants at varying times in order to produce flowers out of season. The other is to keep plants propagated in early autumn growing on instead of letting them rest after flowering at the usual period. It is not necessary to lose the summer bloom to ensure this, though pinching is also resorted to. One thing is, however, essential, namely, that the roots are kept growing by means of a liberal shift early in the year, or by shifting on plants in the usual 6-inch pots into larger ones before they become potbound in the former. As a result the side shoots usually layered in autumn push on and produce buds, which require a temperature of about 55° to expand in winter and spring. The plants thus forced are, of course, ruined.

THE ARUM LILY.

The season just closed has been one of the worst known for the Arum Lily, growers who cultivate on the summer-resting principle having had scarcely any flowers, and those who plant out stock in summer being less successful than usual. The bad results, however, ought to lead to the general adaptation of summer planting, which is plainly the system best fitted to our cold climate. It is pursued not only by gardeners who have given both systems a trial, but also by market growers, and particularly by the two largest trade growers in Scotland, who are able to cut every day in the year.

HYDRANGEAS,

too, have been less good than usual. These are cultivated on two systems, the chief point in the one being to dry off the plants in autumn, the other to preserve the soil moist. Splendid results have been secured by the latter method, but the unkindly season of 1902 would appear to have broken down the record completely, and while those on the resting system are less good, the others have failed to bloom at all. Plants, it may be added, are generally propagated in spring. Never before have the east

PRINCES STREET GARDENS,

Edinburgh, been so gay as they are at present. The series of flower beds alongside Princes Street are bright with Tulips, Hyacinths, and Wallflowers, though the two last-named have suffered somewhat from the abnormally cold weather during April. Tens of thousands of Daffodils are nodding on banks and under trees on the northern slope, brightening up the grey old city in a wonderful manner. Another step in the right direction is being carried out in laying down in grass the bare ground under clumps of trees in the various parks, these having hitherto been worked by the spade and hoe. I believe it is in contemplation to introduce suitable flowering subjects in these clumps.

A party of forty to fifty members of

THE SCOTTISH HORTICULTURAL ASSOCIATION

paid a flying visit to Dalhousie Castle on the 25th ult. to inspect the collection of Daffodils formed by Mr. C. W. Cowan. In addition to the best of the older forms, the collection includes all the new varieties in commerce, such fine forms as Torch, Golden Bell, Big Ben, White Lady, Dorothy Kingsmill, White Queen, Prince Alfred, Lady Margaret Boscawen, Strongbow, and Flambeau being a few of the more prominent sorts that attracted the attention of the visitors. In the general collection Weardale Perfection, Mme. Plomp, Duchess of Westminster, Sensation, Lulworth, Mme. de Graaff, Maximus, and Emperor were conspicuously fine where all were worthy of

mind giving them a trial. Of course, the first severe winter will destroy or cripple the whole, but as we do not turn our backs on the common Laurels when cut to the ground by a more than usually severe and lengthened period of frost, so let us hope the more beautiful shrubs equally as hardy as the Laurel will also not be cast aside. There are other shrubs and low trees quite hardy, however, that one hardly ever sees. *Mespilus canadensis* for instance year after year with unflinching regularity is smothered with its pretty white blossom.

The other day I was much struck with the good effect of the light brown or buff young foliage in combination with the flowers just then passing off. Less to be depended on is *Viburnum Tinus*, but the present year it has all through the

Alpine Flowers for Gardens.*—

We have only one fault to find with Mr. Robinson with regard to this book, and that is the third edition should have been published years ago. The second impression appeared in 1875, and though long out of print, we have only just received the long-expected third edition, which is necessarily different to those that have already appeared. It is, of course, a matter of opinion, but we have always regarded "Alpine Flowers for Gardens" as the author's best work. Mr. Robinson has a full knowledge of the plants described, and also of the many and beautiful ways of using them in rock garden, wall, or marsh. It is pleasantly written, practical, well illustrated, clearly printed, and in every way a work for the garden library. The man who owns a garden has a perfect right to



WATER LILY POND AND BAMBOO GARDEN IN COOMBE WOOD NURSERY.

praise. In addition to Daffodils, well-grown Mignonette, Malmaison Carnations, Maréchal Neil Roses and greenhouse Rhododendrons were evidences of the skill and care of Mr. Pirie the gardener at Dalhousie Castle. A pergola had just been finished and furnished, and all the fruit trees in the garden have on account of age been destroyed and replaced with young ones in the best modern varieties.

TENDER SHRUBS IN SCOTLAND.

While I write the first flowers of *Choisya ternata* are on the point of opening, grown on a warm border, others less happily situated being much later.

It is pleasing to know that the success attending the cultivation of this and other somewhat tender shrubs is leading to those of a doubtful

winter produced abundance of trusses of its pretty flowers. It well deserves a warm exposure.

B. R. P.

BOOKS.

The Veitchian Nurseries.—Messrs. Veitch and Sons have just issued a book which contains not only a history of their several nurseries, but many illustrations also. The book or booklet, whichever one is pleased to call it, is of much interest, and one of the illustrations given in it we reproduce. It is by Mr. J. H. Veitch.

The Century Book of Gardening. We have received parts three and four of the reissue of this book. They are being issued weekly, 6d. each part.

manage it in his own way, but the following paragraph from the preface to the new edition may lead those who know not the pleasure of growing alpines to think less of plants that need hot houses and other conveniences for their successful cultivation. "Amateurs who cultivate numerous hot house plants, and who generally have not a dozen of the equally beautiful flowers of northern and temperate regions in their gardens, might grow an abundance of them at a tithe of the expense required to fill a glass house with costly Mexican or Indian Orchids. Our botanical and great public gardens, in which alpines plants are too often found in obscure corners, might each exhibit a beautiful rock garden at half the expense

* "Alpine Flowers for Gardens." By W. Robinson. Price 10s. 6d. Published by John Murray Albemarle Street, London.

now bestowed on some tropical family displayed in a glass shed, and there is not a garden, even in the suburbs of our great cities, in which the flowers of Alpine lands might not be enjoyed." Or take this about

"WALL PLANTS FROM SEED."

"A good way to establish rock plants on walls is by seed. The Cheddar Pink, for example, grows on walls at Oxford much better than on the level ground, on which it often dies. A few seeds of this plant, sown in a mossy or earthy chink, or even covered with a little fine soil, would soon take root and grow, living, moreover, for years in a healthy state. So it is with most of the plants enumerated, the seedling roots vigorously into the chinks, and gets a hold which it rarely relaxes. But of some plants seeds are not to be had, and therefore it will be often necessary to use plants. In all cases young plants should be selected, and as they will have been used to growing in fertile ground, or good soil in pots, and have all their little feeding roots compactly gathered up near the surface, they must be placed in a chink with a little moist soil, which will enable them to exist until they have struck root into the interstices of the wall. In this way several interesting species of Ferns are established, and also the silvery Rock-foils, and the appearance of the starry rosettes of these little rock plants (the kinds with encrusted leaves, like *S. longifolia* and *S. lingulata*) growing flat against the wall is strikingly beautiful.

"While few have ruins and walls on which to grow alpine plants, all may succeed with many kinds by building a rough stone wall, and packing the intervals as firmly as possible with soil. A host of brilliant plants may thus be grown with little attention, the materials of the walls affording precisely the conditions required by the plants. To many species the wall would prove a more congenial home than any but the best constructed rock garden. In very moist places, natives of wet rocks and trailing plants, like the *Linnaea*, might be interspersed here and there among the other alpine; in dry ones it would be desirable to plant chiefly the Saxifrage, Sedums, small Campanulas, Linarias, and plants that, even in hotter countries than ours, find a home on the sunniest and barest crags. The chief care in the management of this wall of alpine flowers would be in preventing weeds or coarse plants from taking root and overrunning the usually dwarf rock plants. When these intruders are once observed they can be easily prevented from making any further progress by continually cutting off their shoots as they appear; it would never be necessary to disturb the wall, even in the case of a thriving *Convolvulus*. The wall of alpine plants may be placed in any convenient position in or near the garden. There is no reason why a portion of the walls usually devoted to climbers should not be prepared as described. The boundary walls of multitudes of small gardens would look better if graced by alpine flowers, than bare as they usually are." The mountain shrubs have been added to this edition, and the book is thus made more complete.

Alpine Flora.—This is a helpful book for tourists and others who wish in a ready way to know the flowers of alpine meadows. It is by Dr. Hoffmann, and translated by E. S. Barton. There are forty plates containing 200 figures from water-colour sketches by Hermann Friese. These are very well reproduced, and constitute of course the chief feature of the book, as without coloured representations of the flowers the book would possess no greater value than similar treatises and works upon the same subject. The plate of *Gentians* is excellent.

The Forest Flora of New South Wales.—The second part of this most promising work deals with *Eucalyptus longifolia* (Link), *Alphitonia excelsa* (Reisseh), the Red Ash, *Doryphora sassafras*, the New South Wales *Sassafras*, and *Alstonia constricta*, the "Bitter Bark." The illustrations are clear and explanatory. It is a work of importance to those interested in the forest flora of that country. The descriptions

by Mr. Maiden, who is the director of the Botanic Gardens, Sydney, are minute, and there are full historical and other notes about each species. It is issued at 1s. a part or 10s. a dozen parts, payable in advance, and is published by "the Forest Department of New South Wales under authority of the Honourable the Secretary for Lands."

SOCIETIES.

READING AND DISTRICT GARDENERS' ASSOCIATION.

The last meeting of the winter session in connexion with this association was held on the 26th ult. Mr. J. T. Powell presided over a large attendance. The subject for the evening was "Tropical Plant Life," by Mr. F. Keeble, of the Reading College, and although dealt with in a scientific manner, yet it proved a very instructive and interesting lecture. His remarks were based chiefly upon the plant life in Ceylon, divided into three sections, viz.: Plant life in the desert region, in the part where wet and dry seasons are experienced, and where there is a continuous moist atmosphere. The discussion which followed turned chiefly to the cultivation of plants in "tropical" houses in England. As it was known as "hospital" night, a departure which might with advantage be followed by other kindred associations, the exhibits consisted exclusively of cut flowers arranged in bunches, which were forwarded on the following morning to the patients of the Royal Berkshire Hospital. Over one hundred bunches were staged, consisting of *Liliums*, *Arum Lilies*, *Lily of the Valley*, *Wallflowers*, *Daffodils*, *Tulips*, *Geraniums*, *Spiraeas*, *Doronicus*, *Polyanthus*, *Lilac*, *Mignonette*, *Auriculas*, *Primula obconica*, *Star Cinerarias*, *Schizanthus*, *Primroses*, *Ageratum*, *Iberis*, *Jonquils*, &c. Those contributing were Messrs. Powell, T. Nash, D. Dore, W. Townsend, Lever, Durrant, Butcher, E. J. Dore, Bailey, Hinton, Hatton, W. F. Dore, Alexander, Exler, Godwin, Judd, Murby, Viner, Clinch, Wilson, Fry, &c. A hearty vote of thanks was given to Mr. Keeble, and to those members who had contributed to such a splendid display of cut flowers.

HORTICULTURAL SOCIETIES' SCHEDULES AND REPORTS.

STOCKPORT AND DISTRICT.

The sixteenth annual exhibition of Chrysanthemums, plants, fruit, and vegetables will be held in the Volunteer Armory, Greek Street, Stockport, on Friday and Saturday, November 13 and 14. Entries close November 8. Exhibitors should write to the hon. secretary, Mr. W. Riphs, St. Peter's Square, Stockport.

HIGHGATE AND DISTRICT.

The nineteenth annual exhibition will be held at the Alexandra Palace, Muswell Hill, N., on Wednesday, Thursday, and Friday, November 4, 5, and 6. This is one of the finest flower shows of the year in North Middlesex and district. Mr. W. E. Boyce, 20, Holmesdale Road, Highgate, N., is the secretary.

NATIONAL CARNATION AND PICOTEE SOCIETY.

The exhibition for 1903 of the southern section of this society will take place on Tuesday, July 21, in the Drill Hall, Buckingham Gate, Westminster. The Council of the Royal Horticultural Society contribute £10 towards the prize fund, and free passes to the members. At the annual general meeting it was unanimously resolved that in future the floral committee be vested with the power of granting certificates at the exhibitions to such new varieties of Carnations or Picotees they may deem worthy of such distinction, and that at the same time they shall classify such flowers.

ROYAL HORTICULTURAL SOCIETY.

SCIENTIFIC COMMITTEE.

PRESENT: Dr. M. T. Masters (in the chair), Messrs. Odell, Holmes, Saunders, Masee, Chittenden, Drs. Cooke and Rendle, Professor Boulger, Revs. Wilks and Heuslow, hon. secretary.

Aroids, coloured foliage.—Sir T. Lawrence and Mr. Odell exhibited examples of yellow-spotted *Richardias* with leaves half yellow. As the upper half of the leaf was spotted, it was suggestive of a possible dissociation of hybrid characters. Sir Trevor also sent a specimen of *Anthurium scherzerianum* with a leaf half crimson and half green.

Argott's Botanic Gardens, Malta.—Dr. Debono sent an account of numerous additions, &c., to these gardens, which will form a supplement to the paper upon Malta in the "Journal" of the society.

Narcissus with second corona.—Flowers were sent to the last meeting by Mr. R. O. Backhouse, Sutton Court, near Hereford, upon which Dr. Masters reported as follows: "The flowers show a series of outgrowths from the outer surface of the cup or corona. They resemble those of the 'frilled' Daffodils; but in this case the supplementary growths are at the base only, and are tubular or trumpet shaped, the mouth of the trumpet being directed outwards. In some cases the outgrowths are so numerous and so regular that they constitute a second corona on the outside of the normal cup, thus resembling the 'cata-corolla' of some *Gloxinias*."

Cane fly grubs.—Grubs were sent by Mr. Millburn from Bath, also known as those of "daddy long-legs." Mr. Sanders observed that "they are sometimes known as 'leather-jackets,' from the toughness of the skin, which prevents insecticides from affecting them. A strong solution of common salt or nitrate of soda is distasteful to them, and helps the plants they are attacking. These grubs often come to the surface at night, and subsequently take shelter

under turf, boards, &c. If slates and tiles be laid about, they should be turned over in the morning. Various birds—e.g., rooks, starlings, plovers, partridges, and pheasants—devour them. Towards autumn, when the insects are about, rolling the grass will kill numbers of the flies."

DRILL HALL MEETING.—ORCHID COMMITTEE.

Present: Harry J. Veitch, Esq. (chairman), Messrs. James O'Brien, H. M. Pollett, H. Ballantine, Walter Cobb, James Douglas, Francis Wellesley, W. A. Binley, Frank A. Rehder, H. T. Pitt, J. Charlesworth, A. A. McBean, F. W. Ashton, W. H. White, M. Gleeson, W. Boxall, W. H. Young, H. A. Tracy, Jeremiah Colman, J. Wilson Potter, H. Little, J. G. Fowler, and R. Brooman-White.

Captain Holford, C.I.E., Westonbirt, Tetbury, Gloucester (Orchid grower, Mr. Alexander), showed an attractive group of Orchids that consisted largely of *Odontoglossum* good forms of *O. crispum* chiefly. *Cypripedium Chapmani magnificum*, a splendidly grown plant, bearing one magnificent open flower and one bud; L.-C. G. S. Ball, *Laelia Latona*, *Cattleya Mendelii* Duchess of Fife, *Masdevallia veitchiana grandiflora*, and others were also included. Silver Flora medal.

Messrs. James Veitch and Sons, Limited, Chelsea, contributed an attractive display of well-flowered Orchids in variety. *Oncidium marshallianum* was very good. *Cypripedium lawrenceanum*, *C. ciliolare*, *Masdevallia veitchiana*, *Cattleya Schroderae*, *C. Mossiae* var. *Leonata* (C. *Dowiana aurea* × *C. Mossiae*), *C. Empress Frederick*, *Miltonia vexillaria*, *Laelia Latona*, *L. purpurata*, *Cypripedium* × *Olga*, and *Cattleya intermedia alta* were among the best. Silver Flora medal.

A silver-gilt Flora medal was awarded to a plant of *Odontoglossum triumphans* Lionel Crawshaw, a form with broad, rounded sepals and petals, heavily marked with chocolate-brown, the rich yellow ground colour showing more on the petals than the sepals. Nine open flowers and two buds were on the raceme of the plant shown by Dr. B. Crawshaw, Esq., Rosefield, Sevenoaks (gardener, Mr. Stables). The lip and each sepal and petal were quite 1 inch in width.

Messrs. Charlesworth and Co., Heaton, Bradford, Yorks, were given a silver Banksian medal for a group of Orchids, in which the most striking plants were *Laelio-Cattleya G. S. Ball*, a lovely rich apricot-orange flower; L.-C. *Adolphus* (L. *cinnabarina* × *C. Acklandiae*), *Epi-Laelia Aspasia* (L. *cinnabarina* × *E. cooperianum*), L.-C. *Dora*, *Odontoglossum haryana-triumphans*, several very good forms of *O. Adriane* and *O. crispum*, and *Cypripedium Violetta* (C. *chamberlainianum* × *C. nitens*). Silver Banksian medal.

Sir Frederick Wigan, Bart., Clare Lawn, East Sheen (Orchid grower, Mr. W. H. Young), was given a silver Flora medal for an excellent group of Orchids. In the centre were *Cypripedium* of the *bellatulum* group, which Mr. Young grows so well. *C. bellatulum*, *C. album*, *C. Godefroyae*, *C. G. leucociliatum*, and *C. niveum* were all finely represented. *Laelio-Cattleya highbyensis* was splendidly shown, one plant bearing some fifteen flowers in two racemes. *Trichopilia snavis*, *Miltonias*, *Laelia purpurata* var. *Ethel Gray*, and several *Odontoglossum* were included. Silver Flora medal.

Messrs. Sander and Sons, St. Albans, in their group of Orchids showed *Sobralia luminosa* (S. *Hoffordii* × S. *Wilsoni*, rich purple), *S. mirabilis* (S. *Veitchii* × *S. macrantha* var. *kenastiana*), bluish *Zygopetalum crinitum*, *Coleba jocosus*, *Laelia purpurata*, L.-C. *bletchleyensis* (L. *tenax* × *C. Warscewiczii*), *Cypripedium lawrenceanum excelsum*, *Spargoclotium aureo-Vielandii* var. *Wigan's*, *L. purpurata* Duke of Marlborough, &c.

H. T. Pitt, Esq., Stamford Hill, N. (gardener, Mr. F. W. Thurgood), exhibited a very bright group of miscellaneous Orchids. Most noticeable were *Odontoglossum polyanthum*, *O. cordatum*, *Cypripedium bellatulum*, *C. masteriana*, *Cattleya Schroderae* *beatoniense*, *C. schilleriana* Pitt's var., *Oncidium macranthum*, *O. amplexatum*, *Laelia Latona*, *Megacanthium muschotiana* (botanical certificate), and others. Silver Flora medal.

Messrs. Linden and Co., Brussels, showed *Odontoglossum scepterum* King Edward VII., with a prettily fringed large lip; *O. scepterum* Queen Alexandra, heavily marked with shining brown on bright greenish yellow; and a hybrid *Cypripedium*.

Odontoglossum Adriane beardwoodiense was shown by J. Rutherford, Esq. The flowers were prettily marked with pale red, and the sepals had a green tinge.

Cypripedium Godefroyae leucociliatum was shown by Roger H. Cross, Esq., Lydwicke, Slindoff, Sussex.

Messrs. Hugh Low and Co., Bush Hill Park, Enfield, sent *Odontoglossum wellandianum*.

Captain J. C. Stringer, Park Hill, Kenilworth (gardener, Mr. G. Holland), showed *Miltonia vexillaria* Park Hill var., a good rich rose variety. The plant bore three racemes and some eighteen flowers.

Cypripedium polito-Sallieri was shown by Messrs. B. S. Williams and Son., Upper Holloway.

CERTIFICATED ORCHIDS.

Odontoglossum cirrhosum Pitt's var.—A large and distinct form of this well-known *Odontoglossum*. The petals are broad and white, lightly spotted with chocolate-red, while the long, tapering sepals are more heavily marked with the same colour. The broadly expanded lip is greenish yellow, with tapering front, white, spotted with chocolate. From H. T. Pitt, Esq., Stamford Hill, N. (gardener, Mr. Thurgood). Award of merit.

Odontoglossum Queen Alexandra.—A handsome flower, the result of a cross between *O. rutherfordianum haryana* and *O. excelsum*. The ends of the sepals and petals are rich yellow, the remaining portions being heavily barred with chocolate-brown. The oblong lip is large, the lower half white, the upper half marked with dull crimson. From J. Rutherford, Esq., M.P., Beardwood, Blackburn.

FRUIT AND VEGETABLE COMMITTEE.

Present: Jos. Cheal, Esq. (chairman), Messrs. Edwin Beckett, S. Mortimer, Alex. Dean, Wm. Pope Horace J.

Wright, R. Lewis Castle, H. Markham, J. Jaques, F. L. Lane, Geo. T. Miles, J. Willard, G. Norman, James H. Veitch, A. H. Pearson, Owen Thomas, Henry Eling, and G. Reynolds.

Mr. James Epps, jun., Beulah Hill, Upper Norwood, was given a silver Banksian medal for three fine fruits of the Cocoa Tree (*Theobroma cacao*). Two were ripe and of a dark brown colour, one, not so ripe, being yellow. They were some 7 inches or 8 inches long and 3 inches across. They were from trees eight years old. The pods were on the trees about seven months. One tree this year bore nine pods, and a second tree six, but they ripened when about 12 inches long. The temperature of the house does not fall below 70°, with a humid atmosphere.

A silver Banksian medal was given to Mr. C. Sutton, gardener to Earl Stanhope, Chevening Park, Sevenoaks, for several remarkably well-preserved bunches of Lady Downe's Grape.

J. G. Bulteel, Esq., Sefton Park, Stoke Poges, Bucks, showed some good fruits of Strawberry Royal Sovereign. Vote of thanks.

Messrs. Cannell and Sons, Swanley, Kent, were given a silver Banksian medal for a collection of vegetables, which included fine Cabbage Cannell's Deliance, Pea King Edward VII., Broccoli May Flower, and Onion Lullingstone Park Hero.

Messrs. Sutton and Sons, Reading, were given a cultural commendation for two baskets of Peas Sutton's Early Giant, firm, well-filled pods of uniform good quality of which were shown.

NARCISSESS COMMITTEE.

Present: Henry May, Esq. (chairman), Messrs. Charles H. Curtis, W. Pourpart, Jan de Graaff, Robert W. Wallace, Walter T. Ware, G. Reuthe, Charles T. Digby, James Walker, J. T. Bennett-Poe, W. Goldring, P. Rudolph Barr, Charles MacMichael, W. F. M. Copeland, the Rev. G. H. Engleheart, and Miss Willmott.

CERTIFICATED PLANTS.

The following received an award of merit:—
Narcissus Caroline Carver.—A probable Leedsii sort, with white segments to the perianth and an intensely rich-coloured spreading cup. Exhibited by Miss R. Spurrell, Hanworth, Norfolk.

Narcissus Count Visconti.—Quite a remarkable flower in size and stature. It is a gigantic Queen of Spain, though of a more uniform yellow tone, and a crown say three times larger. Miss Willmott, who is the exhibitor, considers this the finest in her really fine collection.

Narcissus Countess Visconti.—The briefest description we can give of this is to call it a paler form of the above, though less large generally. It is, however, a finely-formed and nicely-balanced flower. The purity of the perianth is a great gain.

Narcissus Occident.—An incomparabilis flower of lemon tone, with a sharply-set well-defined cup of intense fiery crimson, much deeper than is usual. It is not large, but its merit is undeniable.

Narcissus Valeria.—We have no description for this except that it is a giant poeticus grandiflorus, after which in size only it takes the purer colour, the fine substantial petals being a long way ahead of the one last named.

Narcissus Astradente.—A Leedsii variety with a great flat crown delicately crimped to the base as though by machinery. The crimping is very fine, and gafferage is too coarse for the delicate work here seen. This is all in a uniform orange-red tone to the base. These fine Narcissi were all exhibited by Miss E. Willmott, Wexley Place, Essex.

Tulip La Rive.—A fine bedding Tulip, with handsome flowers of a rosy buff with yellow base. Shown by Messrs. William Cutbush and Sons, Highgate.

Tulip Hageri var. nitens.—A valuable and showy sort, with an internal colouring of orange-scarlet and bronzy black centre. The plant is about 6 inches high, and expanded in the sunlight is one of the most impressive of smaller kinds. Shown by Messrs. R. W. Wallace and Co., Colchester.

FLORAL COMMITTEE.

Present: Mr. G. Paul (chairman), and Messrs. C. T. Druery, James Hudson, J. Green, Amos Perry, J. Jennings, W. Bain, C. R. Fielder, Charles Dixon, C. J. Salter, Charles Jeffries, H. J. Cutbush, J. W. Barr, R. C. Notcutt, W. P. Thomsson, E. H. Jenkins, W. J. James, G. Gordon, C. Blick, and E. T. Cook.

Hardy plants were strongly represented on this occasion, some half dozen firms showing in fine style. We were much pleased with the collections from Woking and Guildford, which were full of useful material. The collection from Messrs. Jackman, of Woking, was exceedingly good, hardy plants of the best class being set up in the finest condition. For example, we noted the beautiful group of hardy *Cypripediums* containing such as *C. aculea*, splendidly grown, with giant flowers on 9-inch stems, and others nearly 12 inches high. In addition there were *C. macranthum*, *C. spectabile*, *C. pubescens*, and others, and with *Primula rosea*, P. Munroii, *P. sikkimensis*, *P. japonica*, and others. More good things were *Incarvillea grandiflora*, *Dianthus Atkinsonii*, crimson; *Ourisia coccinea*, *Lithospermum graminifolium*, with umbels of intense Gentian blue flowers, *Androsace sarmentosa*, and many more, made this group a most interesting feature. Naturally disposed it was a miniature of the rockery in the open garden. Silver Banksian medal.

Messrs. J. Cheal and Sons, Crawley, contributed hardy plants and cut shrubs. In the latter *Magnolia stellata* was very pleasing; and quite showy such things as *Pyrus Malus* in variety, *Acers*, *Exorchordea grandiflora*, *Amelanchier*, *Cytisus*, &c. Of hardy plants alpine *Phloxes*, *Primula Sieboldii*, *Saxifragas*, and *Campanulas* were very good, with *Anemones*, *Trollius*, and such things.

Mr. H. B. May, Edmonton, showed a fine group of single and double zonals, of which *Admiration*, rose; *Miss G. Ashworth*, white; *Californie*, scarlet; *Decorator*, scarlet, semi-double; and *Lady Ichester*, pink, are the best of double sorts; of singles, *Conan Doyle*, salmon; *Candace*, crimson; *E. Bidwell*, crimson-scarlet; and *Ada Negri*,

rose-carmine with white centre, very striking, were the best, *Verberna Miss Willmott* was well shown. Silver Banksian medal.

Mr. Charles Turner, Slough, showed a group of *Caladiums* in many choice and varied forms; one variety, *Golden Queen*, seemed the most distinct novelty in this capital group.

A small group of *Schizanthus* from W. D. James, Esq., West Dean Park, Chichester (gardener, Mr. W. H. Smith), displayed the highest culture, the plants, indeed, were bushes 2 feet high. Silver Banksian medal.

Richardia elliptica, from N. L. Cohen, Esq., Englefield Green (gardener, Mr. A. Sturt), was represented by nearly 100 plants in flower; the fine spathes, rich and telling above the translucent leafage, were much admired. Silver Banksian medal.

Messrs. R. and G. Cuthbert, Southgate, had groups of *Rhododendrons* in pots, very finely done. The *Toreador*, crimson; *Constance*, pure white; *Sokoto*, light crimson, forming the principal groups, and made a most effective display. Silver Banksian medal.

Messrs. Peed and Sons, West Norwood, again exhibited small alpine in pots; *Sedums*, *Saxifragas*, *Phlox*, *Iberis*, *Ajuga*, *Alyssum*, &c., being prominent.

Messrs. W. Balchin and Son, Hassocks, Sussex, set up a most valuable exhibit of *Boronias* and *Ericas*, assisted by *Genetyllis fuchsoides*, *Aphelexis*, &c. The *Boronias* were very charming, *B. heterophylla* being fine in colour. The feature of the group, however, was in the fine lot of *Erica* prorepens with its solitary rosy bells on stalks nearly 2 inches long, rendering it a pretty feature; *E. Cavendishii* was also fine. The fine blue of *Leschenaultia biloba rosjor* was also striking in this well-grown lot of things. Silver Banksian medal.

Hardy plants came from Messrs. T. S. Ware, Limited, Feltham, in profusion. Among the rare alpine *Saxifraga aretioides* was very charming in a pan, while *Silene maritima fl.-pl.*, *Myosotis rupicola*, the double red Wallflower, *Phlox scroliana*, *Iristanax*, *Onosmatum auricum*, *Ranunculus amplexicaulis*, *Iris vsga*, and *Lithospermum purpureum coruleum* were among the choicer things. Silver Flora medal.

The Misses Hopkins, Knutsford, showed hardy flowers, principally *Primulas*, *Polyanthus*, and the like. The yellow border *Auricula Alexandra* was well shown, as also *Gentiana verna*, *G. acaulis*, &c.

Mr. G. Potten, Cranbrook, Kent, had an array of single and double *Anemones*, *St. Bridgid* strain, the colours bright, varied, and beautiful in every way. Such garden flowers deserve a high popularity.

Messrs. E. Cant and Son, Colchester, set up an admirable lot of *Roses* in pots in the cut state. In the background a long line of the *Blush Rambler* with its Apple blossom flowers was very beautiful, the tall plants profusely flowered. Of other *Roses* we noted *Fisher Holmes*, *Caroline Testout*, *Ulrich Brunner*, *Anna Olivier*, *Antoine Rivoire*, *Mrs. Cocker*, *Mrs. J. Laing*, &c. *Austrian Yellow* was very charming in the profusion of its bunches as shown, and demonstrated its value in the cut state and for general decoration. Silver Flora medal.

Messrs. F. Cant and Co., Colchester, also exhibited *Roses*, mostly novelties and others recently introduced. In this lot *Mrs. E. Mawley* was delightfully fresh and good, the flowers finely grown and well finished. *Prince de Bulgaria*, a new H.T., white, with orange centre, was grand; *Lady Roberts* and the new *Tea Rose*, *Goldquill*, were all fine. *Austrian Briar* and *W. A. Richardson* were very well shown.

Messrs. Gilbert and Son, Dyke, Lincs, had a grand lot of *Anemones*, single and double forms of *A. coronaria*, some very dazzling in colour, particularly the double *King of Scarlets*, that obtained an award of merit. The colour is most dazzling. *Anemone The Queen* is a form of fulgens of a scarlet-pink hue. The *Wood Anemone*, *A. nemorosa pl.*, also shown, is by comparison a pigmy among all these. *Fritillaria pyrenaica* and a few *Tulips* were also set up, the whole exhibit being very fine. Silver Banksian medal.

Tulips of the bedding type, single and double, were shown by Messrs. W. Bull and Son, Chelsea. These were in great variety, fully representative of the best forms of this fine class of flowers. Silver Banksian medal.

Hardy plants from Mr. Amos Perry, Winchmore Hill, made a most extensive display. *Gentiana verna* was beautiful in rich tufts, and so, too, many *Primulas*. *P. nivalis*, *P. rosea*, the many forms of *P. Sieboldii*, *Incarvillea Delavayi*, *Cypripedium Calceolus*, the double yellow *Alyssum*, *Abenome thalictroides* (very fine), *Androsace sarmentosa*, the double white *Arabis*, *Meconopsis cambrica plena*, with *Trollius*, *Tulip* species, &c., made a most effective display. Silver Banksian medal.

Messrs. W. Cutbush and Son, Highgate, showed a mixed group of hard-wooded plants, such as *Heaths*, *Azaleas*, *Boronias*, and allied plants. *Cianthus puniceus* was also largely shown in flower, and many examples of *Saxifraga pyramidalis*, together with a splendid exhibit of *Phlox canadensis* and retarded *Lily of the Valley*.

Mr. G. Mount, Canterbury, was, as usual, strong in the *Roses*; his *Ulrich Brunner*, *Mrs. J. Laing*, *Captain Hayward*, *Catherine Mermet*, *Bridesmaid*, and *Caroline Testout* were as fine as could be desired. All of the above were shown on stems nearly 2 feet long, and in this way make a most imposing array. A large number were set in boxes, and these were equally fine. A silver-gilt Flora medal was awarded.

The hardy exhibit from the Guildford Hardy Plant Nursery contained many choice things, and all were set up with taste and discretion. The *Saxifragas* were very charmingly grouped, especially those of the mossy group that include *S. Rhei*, *S. Guildford* seedling and others near *Alyssum montanum*, *Epidemium niveum*, *Primula involucrata*, and the very rare *Haberlea rhodopensis* were in splendid condition. Alpine *Phloxes* were pleasing. The most diminutive of the *Leopard's Bane* (*Boronicum Columbe*) was also shown. There were many other plants of interest and beauty, but space forbids a fuller enumeration. Silver Banksian medal.

A large grouping of *Schizanthus wistonenis* came from Messrs. James Veitch and Sons, Chelsea, the plants being models of good culture, dwarf, and abundantly flowered.

There were some six dozen fine examples shown. Other plants of interest were *Kalanchoe kewensis*, a pink-flowered hybrid 4 feet high, obtained by crossing *K. Bentii* and *K. flammula*. *K. Felthamensis* was also shown, but this is given under awards. The same firm contributed a good group of *Narcissi*. Silver Banksian medal.

Messrs. Hugh Low and Co., Bush Hill Park, set up a large group of *Schizanthus wistonenis*, the plants profusely flowered and well grown. A group of *Erica aspidica* with rose-pink flowers was also shown. Silver Banksian medal.

Messrs. Cannell and Sons, Swanley, contributed a fine lot of zonal *Pelargoniums* in the cut state, in which were many of the finest sorts in cultivation. The best of the lot, perhaps, were *Mr. T. E. Green* (a clear scarlet, fine), *Princess of Wales* (rose), *Mary Pelton* (salmon), *Duke of Norfolk* (lake), *Nicholas II.* (crimson, white eye, very large), *The Mikado* (rose-scarlet), *Niagara* (white), *Phyllis*, and *Hall Caine* (intense clear scarlet). Silver Flora medal.

From Messrs. K. Wallace and Co., Colchester, came hardy plants in variety, *Tulip* species and varieties being the leading things, *T. galatica* (yellow), *T. Hageri var. nitens*, many forms of the *Darwin Tulips*, *T. coronata*, *T. Griegi*, and *T. Lownei* being in the group. Not the least interesting was *T. viridiflora praecox*. Other plants of interest included *Ixioflora Pallasi*, *Arceuthobium echioides*, *Cypripedium montanum*, *Iris Bocharica*, and with *Acers* interspersed, made a very interesting group.

Mr. R. Anker, Baker Street, again showed his group of Cactaceous plants, miniature plants in equally small pots.

Mr. G. Reuthe, Keston, Kent, brought small alpine in pots, *Saxifragas* in many sorts, of which *S. Rhei superba*, a pinkish crimson, is the best. *S. Whitlavi compacta*, a creamy tone, *Lewisia Tweedii*, *Anemone robinsoniana*, *Gentiana verna*, *Abenome fulgens*, and *Primula Sieboldii* in variety were others shown. Bronze Banksian medal.

Messrs. R. H. Bath, Limited, Wisbech, showed *Tulips* in abundance, also *Narcissi*, the latter, for so late a date, being of exceptional merit. *Mme. de Graaft* and some others were superb. Of the *Tulips* we select *Pink Beauty* with white wide outer flame and crimson border, as very fine and distinct, certainly one of the most showy; *T. elegans* also shown, and others, including *Darwin* varieties. All were in superb condition. Silver-gilt Banksian medal.

Messrs. Barr and Sons, Covent Garden, also had *Narcissi*, and here the most imposing variety was *Mme. de Graaft*, *N. calathinus* was also very fine. In addition, we noted *Maggie* (a feast of May), *Mme. Plemp*, *Apricot*, &c. The *Tulips* were a feast alone, particularly so the *Darwin* sorts, bold, massive blooms in great variety of colour. Some of the best were *Glow*, *Psyche*, *Fairy Queen*, *Scarlet Beauty*, *Gesneriana lutea*, *Cordelia*, *Pride of Haarlem*, *Clara Butt*, *Suzan* (buff rose), *Professor M. Foster*, *Negro*, and *Zulu*, a nearly black *Tulip* of finest form. Silver-gilt Flora medal.

Messrs. Fisher, Son, and Sbray, Limited, Royal Nurseries, Handsworth, Yorks, showed *Rhododendron N. N. Sherwood*. This, which is the result of a cross between *Handsworth Early Scarlet* and *Caucasian album*, is perfectly hardy and finely coloured, and will undoubtedly prove a welcome addition to the list of early varieties, among which there is room for improvement in colour.

Messrs. Hogg and Robertson, Dublin, staged *Narcissi* in the finest form. *Cloncurry*, a red cup incomparabilis *poetarum*, *Mrs. Bettebridge*, *Grande White Wing*, *Queen of Spain*, *Nelsoni aurantium*, and *Mme. de Graaft*, excellent. *Tulips*, too, made a brave show, and among the *Darwin* varieties we noted *Early Dawn*, *Jock*, *Pride of Haarlem*, *Gustave Dore*, *W. Copeland*, &c. Silver Flora medal.

Messrs. Paul and Son, Cheshunt, showed *Austrian Briar*, *Tea Rambler*, *Soleil d'Or*, and *Snowball*, a large *Bourbon* with blush white flowers. *Gruss an Teplitz* was also shown.

*Iris*es of an intermediate class of the flag section were shown by the *Iris Plant and Bulb Company*, St. Martins, Guernsey. Many lovely shades were represented, and the chief feature is the earlier flowering.

Mr. Martin Smith, Hayes, Kent, had some fine *Carnations*, notably the salmon-coloured *Hermione*, a large flower, perfect in form, and finely-shaped petals. *Carnation Yellow Gal* is the first yellow *Malmaison*, and really good as a pioneer in this set. Another fine *Carnation* of the same type is *Sarah Bernhardt*, salmon-pink, and of a full size *Malmaison* type. This should prove a welcome addition.

CERTIFICATED PLANTS.

The following received a first-class certificate:—
Kalanchoe Felthamensis.—This fine hybrid resulted from the crossing of *K. Kirki* with *K. hammea*; the former seed parent, the latter pollen parent. The new comer is of flame-scarlet hue, thus having taken its colour from the pollen parent. The plant is 2 feet high, and the umbels of flowers make a really effective display; indeed, it is one of the finest things we have seen in this way. From Messrs. James Veitch and Sons, Limited, Chelsea.

The following received an award of merit:—
Acer palmatum linearilobum purpureum gracilis Cripps.—This distinct variety is so fully described in its numerous names that little remains to be said, except that it has proved one of the most hardy known to cultivation. It is an elegant plant, and should be valuable even for table or general decoration, quite apart from its sterling use in the garden. From Messrs. Cripps, Tunbridge Wells.

Rose Tea Rambler (climbing).—A rather pretty and free Rose, with pale pink flowers of a fair size and double. Some plants 7 feet high were shown. From Messrs. Paul and Son, Old Nurseries, Cheshunt.

Psoralea pinnata.—One of the many beautiful plants from Australia. The plant is virtually a blue-flowered Pea, with long, linear, nearly oppositely placed leaves, the flowers occurring at the tips of the shoots. There is a decided fragrance to the flowers. Shown by J. G. Bulteel, Esq., Stoke Poges.

Anemone coronaria fl.-pl. King of Scarlets.—Brilliant in colour, fully double and large. This is the finest of all the double scarlet *Anemones*, a bit of colour dazzling in the extreme. Shown by Messrs. Gilbert and Son, Dyke, Lincs.

Canna Papa Crozy.—One of the largest trusses we have

yet seen in the Canna, the fine flowers of an orange-vermilion shade, and very striking above the rich metallic as well as broad leafage. From Sir Trevor Lawrence, Dorking (gardener, Mr. W. Bain).

ROYAL GARDENERS' ORPHAN FUND.

THE annual festival dinner of this institution was held at the Hotel Cecil on Tuesday evening last. The Right Hon. the Earl Carrington, G.C.M.G., was in the chair, and was supported by Sir J. T. D. Llewelyn, Bart., Mr. W. A. Bilney, Mr. H. J. Veitch, Mr. James Douglas, Mr. Edward Sherwood, and others. About 140 sat down to dinner.

After proposing the loyal toasts, the noble chairman gave "The Royal Gardeners' Orphan Fund." He had much pleasure in doing this, for he knew this fund to be well managed and absolutely solvent. The interest on the invested funds pays all official expenses, so that any subscriptions received are applied to the benefit of the candidates. He thought that gardeners often almost formed part of the family with whom they were connected. He mentioned the names of Messrs. Shingler, Allan, sen., Allan, jun., and Goodacre, as being head gardeners to relations of his, while the name of Mr. George Miles, sen., who had been with his family for fifty years, was a household word in gardening circles. He looked upon Mr. Miles as a valued and personal friend. The noble chairman thought that horticulture was one of the most important of our industries. In the great difficulty of keeping people on the land horticulture was destined to play an important part. He congratulated the market growers (many of whom are supporters of this orphan fund) upon their work, and thought it was a most commendable thing for men to own the land they cultivate, as some of them do. The chairman then went on to mention small holdings and their great value to the working man. He hoped one day that an orphan fund would be started for allotment holders, and that it might be as well supported as that of the gardeners. He hoped the appeal for subscriptions would be well supported. Calling a spade a spade, the chairman said he trusted all promises of support would speedily be made good. He might use the words of the Dauphin of France to Joan of Arc: "Your promises are like Adonis' garden, which one day blooms and is in fruit the next." The name of Sir John T. D. Llewelyn (trustee) was coupled with this toast.

Sir John Llewelyn, in reply, said they were very grateful to Earl Carrington for presiding at the festival dinner of this charity. They had to regret the death of Mr. Barron, who was one of the founders of the Orphan Fund. They must maintain the annual subscriptions; at the present time they are not adequate to the wants of the institution. There were now ninety-eight children on the funds, and the work of the fund was being done as economically as possible. Sir John went on to say how important an industry horticulture was in this country, and trusted that the young generation would follow in the steps of Veitch, Paul, Bunyard, Douglas and others, whose names were well known in horticulture. Sir John said that two things at least should be taught to boys and girls at school, viz., that the boys should know how to grow a Potato and the girls how to cook it. There was a great opportunity for young people in the various branches of horticulture. He was anxious to see them brought up with a love of gardening. He hoped that all would do their best for the fund.

Mr. W. A. Bilney proposed "Gardeners and Gardening," to which Mr. George Paul replied. "The Visitors" was given by Mr. Arnold Moss, and the Rev. S. B. Mayall replied. Mr. H. B. May gave "The Chairman," and Earl Carrington, in replying, said how very pleased indeed he was to preside and how much he had enjoyed the evening. Mr. Harry J. Veitch proposed "The Press," to which Mr. T. W. Sanders replied.

The following were the most important subscriptions: Earl Carrington, £26 10s.; Messrs. N. M. Rothschild, £25; A. de Rothschild, Esq., £10 10s.; L. de Rothschild, Esq., £10 10s.; N. N. Sherwood, Esq., £25; A. W. Sutton, Esq., £25; Leonard Sutton, Esq., £25; Sir W. D. Pearson, Bart., £25; Covent Garden Friends, £121; Mr. George Cuthbert, £15 15s.; Mr. J. F. McLeod, £12 12s.; Mr. G. Reynolds, £18 18s.; Mr. W. Nutting, £12; Messrs. James Veitch and Sons, Limited, £10 10s.; T. F. Blackwell, Esq., £10 10s.; Mr. G. H. Richards, £10 10s.; Henry Bull, Esq., £10 10s.; Sir J. T. D. Llewelyn, Bart., £10 10s.; T. W. Sanders, Esq., £10; Mr. W. G. Head, £10; Mr. G. Caselton, £7 7s.; Messrs. Barr and Sons, £7 6s.; Thames Bank Iron Company, £7 7s.; Mr. W. Howe, £6 6s.; total, £680.

NATIONAL AURICULA SOCIETY.

THE local committee of the National Auricula Society cannot expect to be congratulated on removing their annual exhibition from the Botanical Gardens to Corporation Street. The surroundings at the former place are in keeping with a display of pretty flowers in competition for prizes, but such an exhibition in the top room of the Temperance Institute, with only the dull and commonplace environment appropriate to the lecture platform, can hardly receive that justice which it would merit under happier conditions. Apart from the locale there is nothing but praise for the show of Auriculas, which for the fourth consecutive year has been held in Birmingham under the auspices of the Midland section of the National Auricula Society. Altogether there were about 190 entries from all parts of England, a considerable increase when compared with previous years. Unfortunately two of the leading growers, Mr. J. Douglas, of Great Bookham, Surrey, and Mr. T. Lord, Tadmorden, did not see fit to enter the lists this year, and in the absence of two men so eminent in the culture of the Auricula the show was to a certain extent deprived of some of its prominence, but compensation was found in the presence of some new exhibitors, one of whom, Mr. E. Danks, of Ashton, a young local grower, achieved the great distinction of carrying off, at the first time of asking, the premium for the best Alpine in the show, and also the chief prize for pairs of Auriculas. The quality of the flowers was very good, even if it did not reach the exceptionally high standard attained

twelve months ago. The classes of course, were not so large as some of those which were associated with the London shows, but in the aggregate the show is one of the best to be found in the provinces, and in the class for four dissimilar plants the number of entries established a record.

Messrs. G. Stark and Son, Great Ryburgh, Norfolk, were awarded a certificate of merit for a new specimen yellow Viola Royal Sovereign, and certificates were also granted to Messrs. Pope and Sons, King's Norton, and Mr. F. A. Walton, Handsworth, for Daffodils.

The following is the prize list:—

AURICULAS.

Six dissimilar: First, W. H. Midgley, Halifax; second, Rev. F. D. Horner, Burton-in-Lonsdale; third, B. Simonite, Sheffield. Four dissimilar: First, R. G. Rudd, King's Norton; second, Rev. F. D. Horner; third, W. H. Midgley. Two dissimilar: First, J. W. Bentley, Castleton, Manchester; second, R. G. Rudd; third, E. Danks, Aston. Single plants, green edges: First, B. Simonite; second, W. H. Midgley; third, R. G. Rudd. Grey edges: First, R. C. Cartwright, King's Norton; second, W. H. Midgley; third, Rev. F. D. Horner. White edges: First and third, W. M. Shipman, Altrincham; second, W. H. Midgley. Selfs: First, Rev. F. D. Horner; second, J. W. Bentley; third, R. Holding, Balsall Heath. Premier stage Auriculas: B. Simonite. Seeding stage Auriculas: First and second, J. Stokes, Harborne.

ALPINE AURICULAS.

Six dissimilar: First, J. Stokes; second, J. W. Bentley; third, Pope and Sons. Four dissimilar: First, R. C. Cartwright; second, J. W. Bentley; third, J. Stokes. Two dissimilar: First, E. Danks, Aston; second, F. T. Poulson, Stafford; third, J. Clements, Harborne. Single plant, gold centre: First, H. E. Burbridge, Sparkhill; second, R. C. Cartwright; third, R. Holding. Single plant, light centre: First, H. E. Burbridge; second, R. Holding; third, A. R. Brown, Handsworth. Premier alpine: E. Danks. Pairs for maiden growers: First, no name; second, F. Herbert, Leicester; third, W. H. Thomas, Lolezels. Seeding, gold centre: First, R. Holding; second, J. W. Bentley. Seeding, light centre: First, J. W. Bentley; second, E. Danks. Four seedling alpines (local class): First, Pope and Sons; second, R. Holding.

POLYANTHUS.

Four gold-laced: First, J. W. Bentley; second, J. Stokes. Single plants: First and second, J. W. Bentley; third, J. Stokes.

GROUP OF ALPINES.

Group of Primulas, Auriculas, or other alpine plants: First, Pope and Sons; second, R. G. Rudd.

BRISTOL GARDENERS' ASSOCIATION.

IN the report of last week's meeting of the above Lieutenant-Colonel H. Cary Batten was mentioned as elected vice-president. It should read *president*.

ANSWERS TO CORRESPONDENTS.

RULES FOR CORRESPONDENTS.

Questions and Answers.—*The Editor intends to make THE GARDEN helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object will make a special feature of the "Answers to Correspondents" column. All communications should be clearly and concisely written on one side of the paper only, and addressed to the EDITOR OF THE GARDEN, 20, Tavistock Street, Covent Garden, London. Letters on business should be sent to the PUBLISHER. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper.*

Names of plants.—*A. E. II.*—The specimen sent is *Salvia splendens*, which is usually grown for flowering in the conservatory during the autumn and early winter months. For this purpose the cuttings are struck in the spring and shifted into larger pots as required. By the middle of June they may be stood out of doors and given much the same treatment as a *Chrysanthemum*. It reaches a height of 3 feet to 4 feet. Planted out with the ordinary summer bedding plants it will often flower towards the end of the summer, but so much depends upon the weather that it cannot be recommended for this purpose. The winter frost is sure to prove fatal to it.

Daffodil seedling (J. F.).—The seedling is not much good, and has all the appearance of being a very small Burbridge type, and is certainly not as good as that variety.

Peaches failing (R. W.).—The Peach trees have evidently received a severe check, such as too severe fumigation, which will frequently cause both foliage and fruit to fall, so also will ammonia arising from fresh manure placed in the house. Too much water at the roots before the trees begin to flower will also favour this, and is equally as bad or even worse than allowing the roots to become dry during winter. Are the drains perfect in this case also? Make quite certain they are at the earliest possible moment.

Hyacinths unsatisfactory (G. W.).—Hyacinths generally have not flowered so well this year owing to the cold, unless summer of last year, which affected the bulbs when completing their growth. Three of the bulbs sent are healthy, but one is diseased at base. It seems to us as if they had been kept by you too dry at the base, and consequently the bulbs have not made sufficient roots to support a flower-spike. Had you any drainage in the vases? If not, any roots made would decay.

Picea nobilis injured (W. BRAY).—You are not likely to meet with success in grafting your *Picea*, the better way being to allow nature, with a little assistance, to restore the damage done. The sturdiest and most suitable shoot of the whorl immediately below the broken leader must be depended upon to supply the omission. By means of a stake it may be brought more upright than usual, but avoid using force, as these succulent shoots are easily damaged. The shoot will gradually become more upright, and the ties may now and then be drawn a little tighter in order to assist the straightening. Should the other shoots show an upright tendency they may be weighted to hold them in position till the selected one has taken a decided lead. It will, of course, take time to efface the damage, but in a few years it will not be noticeable.

Book on birds (ROSA).—Presuming that your correspondent does not want a large and expensive work, I would recommend "Our Country's Birds," by W. J. Gordon; Messrs. Simpkin, Marshall and Co.; price, I believe, 5s. 6d., or Bowdler Sharpe's "Hand-book to the Birds of Great Britain," published by Edward Lloyd, Limited, in four volumes as the "British Birds" section of Lloyd's "Natural History." This work can now be purchased of some remainder and discount booksellers as cheaply as 1s. a volume, *i.e.*, 4s. for the four Bird volumes, which is absurdly cheap for a really valuable and fairly complete book on British Birds. Mr. Gordon's single volume is much more condensed, and the coloured plates, though they contain pictures of all the birds, are not very good; but the short paragraphs devoted to each bird are admirable as far as they go. Bowdler Sharpe's book however, is as good a book on British birds as anyone really requires.—E. K. R.

Wood ashes as manure (DRAYTON).—The ash of all wood, or of any vegetable matter, is an excellent though not a strong manure. It contains potash just in proportion as it is the ash of hard wood or of softer material. Generally it contains about one-half the quantity of proper potash found in kainit, which is the chief mineral potash manure. But wood ashes have a value in soil which kainit has not, as the latter soon dissolves, while the wood ash acts as a lightener and in part pulverises the soil, and also does not finally disappear for a few years. For that reason wood ash is of great value in assisting to make Vine or Peach or other fruit borders. It is also good to mix with any potting soil in the proportion of about one-eighth, because of its potash. The ash should until used be always kept quite dry after being made or rains would soon wash out its chief properties. The ash is specially good to mix with stiff soils as is also sifted mortar refuse.

Dendrobium nobile non flowering (A. M.).—Improper ripening of the pseudo-bulbs through lack of sunshine last year is in a great degree responsible for the scarcity of flowers. As the plants are now producing new growths from the base of the bulbs they should first be repotted. If they have overgrown their receptacles or if the compost is in a bad condition turn them carefully out. If the roots are plentiful and in a perfect state transfer to others without disturbing. If the compost is bad and the plants have but few roots shake away all soil, rinse the roots in tepid water, cut off all dead and decaying portions, and repot in fresh sphagnum moss with a little silver sand intermixed. Fern roots should be used in place of crocks and laid about two-thirds the depth of the receptacle, which should be of sufficient size to allow the plants to grow two or three years without being disturbed. After repotting water sparingly until the new growths have further advanced and the new roots taken to the fresh material. Maintain a temperature from 65° to 70° by night and 75° by day by fire-heat, allowing a rise of 10° or 15° by sun-heat. Keep the atmosphere well charged with moisture throughout the growing season, and lightly spray the plants overhead on bright days at closing time. When the new pseudo-bulbs have fully developed the object must be thoroughly to ripen them, and this is done by exposing to more sunlight, more air, a drier atmosphere, and a cooler temperature. This change must be gradually carried out, for if the plants are moved direct from a hot, moist atmosphere to a very cool, airy house it would cause spotting of the foliage and in other ways injure them. First allow them to become moderately dry at the root, then remove to a cooler temperature (taking 60° as a minimum), a slightly drier atmosphere with more air. As the plants become accustomed to their cooler quarters allow the atmosphere to become drier, increase the amount of air according to the conditions of the weather, and gradually expose the plants to full sunlight. Give them sufficient water to keep them moderately plump during the late autumn and winter months, a temperature from 55° to 60° by night and from 60° to 65° by day will be all that is needed. Little moisture at the root or in the atmosphere is required during that period to keep them healthy until the flower-buds are visible, when they should be watered and removed to a warmer temperature to expand their blooms. When young growths are produced from the eyes on the pseudo-bulbs instead of flowers it is frequently upon unhealthy plants; it is also caused by keeping the plants too warm and moist when the buds are swelling, instead of keeping them cool and dry until the buds are visible. Healthy plants with well-ripened pseudo-bulbs are less liable to produce them. They may be taken off when beginning to root and potted up if it is desired to increase the stock.

CATALOGUES RECEIVED.

Plants.—Messrs. H. Canoeil and Sons, Swanley, Kent; T. S. Ware, Limited, Feltham, Middlesex; Jules de Cock, Villa des Lauriers, Meirelbeke, Ghent.

Water Plants.—Mr. Amos Perry, Hardy Plant Farm, Winchmore Hill, N.

Seeds and Plants, Ceylon and Indian Orchids, Tropical Fruit Trees, Bulbs, Economic Plants, &c.—Messrs. J. P. William and Brothers, Tropical Seed Merchants, Henaragoda, Ceylon.

* * * *The Yearly Subscription to THE GARDEN is: Inland, 15s.; Foreign, 17s. 6d.*

THE GARDEN

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[MAY 16, 1903.

SUMMER GARDENING.

SUMMER gardening in these days is a complex affair, and it takes much thinking before we can decide upon the exact combinations of plants that will best fit in with their environment. No mere routine will satisfy the taste of the present generation, for, happily, we are being trained and educated every day in garden matters, into more simple agreement with Nature's methods, and, in a certain ordered measure, to follow in her footsteps. The death-blow was given to the old bedding-out system, not by the plants which were used, for in themselves they were beautiful, but by the commingling of crude colours entirely antagonistic and intolerably dull in their perpetual reiteration. But bedding-out must, and always will, remain an essential part of a certain type of garden, if not of all.

In artificial gardening, the great difficulty which often arises is to keep up the effect for a given length of time. Perhaps it would be better if we were sometimes content to let one bed pass out of highest beauty while another comes on, especially in the smaller sort of home-garden, where a "blaze of colour" is not a necessity. Neither is it indispensable in all cases that beds should be emptied of their occupants every season. There are some plants, indeed, that will not only go on blooming for months, but will long remain our fast friends. Now and then, for example, one sees a mass of purple Clematis pegged down and grown practically as a bedding plant, and what a fine bit of colour it gives, flowering abundantly and without a break from July till October, and increasing in strength year by year. In Perthshire years ago the beautiful *Tropæolum speciosum* might sometimes be seen used in somewhat similar fashion. Planted amongst dwarf Yew bushes, over which the slender branches clambered and trailed their wreaths of vivid carmine, the effect was remarkable. All that they needed was to be left alone, except for an occasional mulching. With a well-prepared root-run this fine plant would succeed in a damp, cool aspect, where other things might refuse to grow, and once thoroughly at home would give little trouble, though it might ask for time. To have a few beds of unusual character such as this well established would make any garden famous.

Probably we all attempt too much. Let us take simplicity as the keynote of our garden arrangements and we may succeed, where now,

too often, we fail. Nothing can be more charming, yet what more simple, than beds of the common monthly Rose pegged down and flowering profusely at a height of about 2 feet or so from the ground level. Banks and beds of these are extensively used in the Cascine at Florence, and once seen can never be forgotten. What is there to prevent such delightful everyday things doing equally well and being more long-lived in our own cooler, moister climate, and yet how seldom are they seen in mass in our English gardens?

Colour we may have and enjoy to the full. It is the juxtaposition of incongruous colour from which we pray deliverance. When therefore we have to depend, in the main, on bright-hued annuals, it becomes a matter of serious consideration which to choose, and contrasts must be arranged with the eye of an artist. We cannot go far wrong in making use in near neighbourhood of such annual plants as African Marigold, *Nasturtium*, *Coreopsis*, and the like, giving flowers of manifold shades of yellow, orange, and brown, which tone well together. But annuals may sometimes be better employed as additions to more permanent plants. For tones of crimson, shading off through pink to pure white, no better can be found than the large-flowered single Indian Pinks. A good bed can be made with a groundwork of the ordinary white or rosy double Pink, which will give a mass of pure colour in June, with strong plants of the *Dianthus* worked in between. These last will flower without ceasing till late autumn, and contrast well with the grey tufts of the double Pinks. Another combination of this sort may be made with *Erica carnea*, arranged thinly enough to admit of Tufted Pansies being planted between, and serves the double purpose of a winter as well as a summer bed. It is also one of which we should not soon grow weary, for the winter Heath is always charming, and Tufted Pansies offer many changes of colour which might be renewed or changed at pleasure.

We may think out for ourselves many combinations such as these, which would serve to make our summer bedding more simple and easy to carry out but none the less effective.

EDITOR'S TABLE.

FORCED SWEET PEAS.

I enclose some Sweet Peas grown in my greenhouse. They have been in profuse bloom for two months. I have forced them successfully for the

last four years, but this year they have bloomed quite three weeks earlier than usual. None are true to name, though I took some pains to ensure this. Following with much interest your articles and letters last year connected with the fertilisation of Sweet Peas, I carefully watched my clumps and noted that they had many constant visitors coming for honey. These were four in number. The first and most numerous visitor was a long-shaped fly with striped gauzy wings; the second as to quantity was the round, bronze-coloured fly, which attacks over-ripe fruit in summer; the third was a rich brown bee, something like a small bumble bee, but much more active and noisy, and one I have never noticed on other flowers in our garden; and the fourth visitor was the common honey bee. His mode of attack was very peculiar, at the side of the flower, where the petals make a convenient opening.—M. R. RYND, *Brasted Rectory, Kent.*

A delightfully fresh and brightly coloured bunch of Sweet Peas of much interest so early in the year.

VARIETIES OF PYRUS JAPONICA.

Mr. Beckett writes from Aldenham House Gardens: "I am sending some varieties of the above for your table. The best of all is undoubtedly *P. japonica sinica*, which is very deep red in colour, exceptionally free, and has a large number of petals. *P. japonica candidissima* is nearly white, the petals being occasionally tinged with pink, and now quite a mass of bloom. *P. j. cardinalis* and *Knap Hill Scarlet* are also good.

A beautiful set. *Sinica* has flowers of wonderful colouring and almost double.

EUPHORBIA POLYCHROMA.

This is quite the most showy plant in the borders at the present time. Though seldom seen in gardens, it is well worthy of cultivation, the bright yellow bracts being very pleasing during spring. It grows about 1½ feet high.

The rich yellow flower heads are very showy, but not in the least degree coarse.

I send a small box of flowers for the Editor's table. The branch of *Negundo californicum* was taken from a tree about 25 feet high, and, covered as it is now with its cinnamon-coloured inflorescence, it is a very pretty object. *Citrus trifoliata* is full of flower, and, provided the season is propitious, will be laden with its small, fragrant fruit in autumn. *Grevillea juniperina* var. *sulphurea* and *G. rosmarinifolia* are quite hardy, and flower well. *Rhododendron Vaseyi* does very well in peat; the small *Azalea* (*Rhododendron*) is one of a batch received from Japan. *Viburnum plicatum tomentosum* is a profuse flowerer always, and needs no particular care. The *Camellia* is a Japanese variety which has been in its present place since 1887, and never fails to bloom freely, though the flowers are often damaged by frost, but the shrub itself never suffered, even in 1893 and 1895, when temperatures of 8° and 10° were recorded. This plant faces south; some planted to the north grow well, but do not flower so freely. *Geranium atlanticum* is a delightful carpeter. *Adenocarpus decorticans* forms a most picturesque shrub; it is now fourteen years old, and is almost arboreal in habit. *Andromeda Rollisoni* is quite hardy, but apt to have its

young growth damaged by late frosts. The *Magnolia* is *M. conspicua* var. *Alexandrina*. I do not send *Choisya ternata*, as you had it last week, but it is a most delightful shrub.—B. E. C. CHAMBERS, *Crayswood Hill, Haslemere*.

A most interesting gathering of flowers. Very curious is *Citrus trifoliata*, with its strong, long spines and creamy white flowers. Among other good things were *Grevillea rosmarinifolia*, *G. juniperina* var. *sulphurea*, *Geranium atlanticum* (very pretty with its bright purple flowers), *Magnolia soulangeana*, *Andromeda Rollisoni*, the beautiful pink *Rhododendron Vaseyi*, *Camellias*, *Azalea* from Japan (a crimson flower), *Negundo californicum*, *Viburnum plicatum tomentosum*, and *Adenocarpus decorticans*.

HOSE-IN-HOSE COWSLIPS.

Would you kindly tell me if these double Cowslips are the same as "Hose-in-Hose?" I have filled up the box with coloured single Cowslips. These I send are small, but I have had some very fine flower heads, over a foot high on their stalks, but they are over now. There is nothing so sweet as a Cowslip, to my mind, among spring flowers.—KATE E. GOUGH, *Arundel*.

The flowers sent represent a strain of improved Cowslips, approaching the strain of Oxlips which have been exhibited from Dundee by Messrs. Storrie and Storrie on two or three occasions. The Hose-in-Hose varieties are not really double forms, but simply semi-duplex in that the calyx is enlarged to a second corolla; the yellow Hose-in-Hose is particularly good, both corollas being so perfect. All are richly fragrant. From the florist's point of view they are all pin-eyed, displaying the long style, the anthers hidden away below. The florist holds that the flowers are much more expressive and refined when the anthers fill up the throat or tube hiding the pistil from view.

NOTES OF THE WEEK.

FORTHCOMING EVENTS.

May 19.—National Tulip Society's Show, Drill Hall, Westminster; Royal Horticultural Society's meeting, 12 noon; Horticultural Club, 6 p.m.

May 20.—Spring Show of Royal Caledonian Horticultural Society (two days).

May 26.—Temple Flower Show of Royal Horticultural Society (three days).

May 27.—Bath and West and Southern Counties Show at Bristol (five days).

National Rose Society.—The annual report, with list of members and schedule of prizes for the shows of the present year, is to hand. It is an encouraging report, but as it was referred to in our account of the annual meeting in December last lengthy reference to it again is unnecessary. The following paragraph concerns the financial position: "Although the receipts at the last Temple Rose Show fell short of the amount taken at the previous exhibition by £150, it has only been necessary to draw upon the guarantee fund to the extent of £81 6s. That a larger sum was not required has been almost entirely owing to the large amount received this year in new subscriptions. The net gain, as in the preceding year, has been 150 members, thus bringing up the aggregate number of members to 890. The total receipts amounted to £1,248 4s. 3d., and the expenditure to £1,233 5s., leaving a balance of £14 19s. 3d. to carry forward to 1903."

Royal Horticultural Society.—The next fruit and flower show of the Royal Horticultural Society will be held on Tuesday next, in the Drill Hall, Buckingham Gate, Westminster, 1 to 5 p.m. A special exhibition of Tulips will also be held, under the auspices of the National Tulip Society, at the same time and place. A schedule of the prizes offered, with particulars as to the conditions of entry, &c., can be obtained on application to A. D. Hall, Esq., The Oast House, Harpenden. A conference on English Tulips will be held at three o'clock. At a general meeting of the Royal Horticultural Society held on Tuesday,

the 5th inst., seventy-four new Fellows were elected, among them being the Marquis Camden, the Viscountess Cranborne, the Viscountess Downe, the Lady Rayleigh, Lady Church, Lady Walker, and the Hon. A. H. T. de Montmorency, M.D., making a total of 679 elected since the beginning of the present year.

Temple Flower Show, May 26, 27, and 28.—Intending exhibitors are requested to note that entries for the above show close on Monday next, and that all entry forms should reach the office before 11 a.m. on that day. No plants can under any circumstances be entered on the day of the show, but single plants, &c., for certificate may be entered as late as Thursday, the 21st inst. Address Secretary, Royal Horticultural Society's office, 117, Victoria Street, London, S.W.

Exhibition of British-grown fruits and vegetables, September 29, 30, and October 1.—The Royal Horticultural Society will hold an exhibition of British-grown fruits and vegetables at Chiswick, on September 29, 30, and October 1. The prize schedule is now ready, and contains, in addition to the list of prizes, an authoritative list of dessert and cooking Apples, Pears, and Plums. Special prizes are offered for preserved and bottled fruits. A conference on "Vegetables" will be held on Tuesday, September 29, at 2.30 p.m., Mr. George Bunyard, V.M.H., in the chair. The following have been asked to read papers: On "Cooking Vegetables," Dr. Bonavia and Mr. James Hudson, V.M.H.; "Vegetables all the year round for a private family," Mr. W. H. Diver; "Vegetables for Exhibition," Mr. Edwin Beckett; "Vegetables for Market," Mr. W. Poupert. Any contributions to the conference will be welcomed. Donations towards the prize fund will be gratefully received by the Secretary, Royal Horticultural Society, 117, Victoria Street, London, S.W., of whom copies of the schedule can be obtained. Applicants should enclose a stamped envelope ready addressed to themselves.

Chionodoxa grandiflora and Crown Imperials.—The following notes may interest your correspondents S. W. Fitzherbert and "W. P.," whose letters appear in your last issue. *Chionodoxa grandiflora*: This has been very successful with me. Some two dozen bulbs planted a few years ago on bare ground at the foot of a large Elm tree have flowered well every year and increased rapidly. The flowers are very large, of a beautiful colour, and last a long time. Speaking from memory, I should say there were usually two or three flowers on a stem. Crown Imperials: I planted fifty of these about five years ago in a bed. The first year my experience was similar to "W. P.'s," as only a few flowered, but since then they have always flowered well and increased in numbers. They have never been disturbed, and will not be unless they become overcrowded.—L. B., *Wills*.

The double Furze.—A more gorgeous effect than produced by this plant in spring when in blossom is seldom seen. It is very showy when planted in bold masses, and even quite small plants flower most profusely. For park or woodland embellishment, when suitably placed, it is particularly well adapted. It will thrive in soils that the *Rhododendron* cannot even exist in. It is usually perfectly hardy, at the same time it is advisable should there be occasion to cut plants down to do so early in the spring, as growths made late in the summer do not mature well. In the park here upon stiff land it does remarkably well, but the precaution was taken to place some light soil around each plant when planted.—T. COOMBER, *Monmouth*.

Mushrooms where not expected.—A few weeks ago some half-hardy annuals were sown in a frame cleared of winter Violets, and the lights kept close to hasten germination. In a few days signs of cracking were observed in the brickwork at the back of the frame, and gradually a block, weighing in the aggregate 1½ cwt., was pushed out of position. Finally I took a hammer and chisel, cut out several bricks, and took a mass of Mushrooms, weighing 3lb. 3oz., from the centre of the wall. The mycelium had run freely in the

mortar and on the face of the bricks in the wall as thick as whippoorwill. Since gathering the Mushrooms in the wall others are coming in the frame in clusters, heaving up the soil close to the wall.—MARK WEBSTER, *Kelsey Park, Beckenham*.

A "sea" of *Gentiana acaulis*.—A few years ago I described in THE GARDEN the wondrous beauty which decks the meadows on the neighbouring peat land around Munich in spring. I then spoke of *Gentiana verna* and *Primula farinosa*, and the pleasing effect they produce when growing intermixed in quantity; but lovely, nay, indescribably beautiful as was the scene which I had in my mind then, it was beaten hollow by what I had the good fortune to come across during a botanical excursion a few days ago. Noticing in the distance the pinky sheen of *P. farinosa*, stretching away as far as the eye could reach, I made towards it, hoping that among such millions I might be lucky enough to find a few of the white variety. Well, I was not disappointed, for I bagged thirty pure white ones, and a dozen or so of a charming variety with the faintest tinge of blush. In the first moment, however, my white *Primulas* were quite forgotten, for on nearing that pink sea a sight met my gaze that held me spell-bound in speechless admiration for some time. As far as one could look the meadow was covered with trumpets of extraordinary size of *Gentiana acaulis*, so evenly distributed, at 4 inches to 6 inches apart, as almost to suggest human aid in planting them there, and the spaces between these were filled in densely with *P. farinosa* and the graceful white, yellow-throated *Pinguicula alpina*. Words fail to describe that scene, and words again fail to express one's feelings at witnessing such overwhelming beauty. The nearest I can describe that feeling is that the heart seemed not large enough to enjoy such grandeur all alone; you require help to enjoy all that wealth of beauty to the full. Though my daughter, who is quite as enthusiastic as myself, was assisting me to her utmost power, still there remained within us a feeling as if we should have liked to shout it out to all in this world who appreciate such glory to come and look and enjoy with us, in order still to heighten our own unbounded pleasure at such a sight as this. I felt as though I could have died amidst all this loveliness—if only the ground had not been so sopping wet.—E. HEINRICH, *Planegg, near Munich (Bavaria)*.

Autumn Strawberries and the frost.—The injury to early flowers of Strawberries, even in the undeveloped bud stage, by the recent frost, and the effect of which can hardly fail to minimise the ultimate fruit crop, allied to the harm done to the early bloom last year, naturally attracts attention to the autumn fruiting section, as these escape injury. May it not be possible, however, to intercross such varieties as Royal Sovereign and St. Joseph or St. Antoine, if not already done, in the hope of securing a strain that shall not produce bloom or buds till all danger from frost is over? The best autumn fruiterers are worthy of the name, but these fruits fall much below those of the early summer fruiterers in size and flavour. To obtain a later summer race would be a great gain, especially on stiff retentive soils, though perhaps they might fail on dry ones. However, it is not pleasant to find so much harm done to our Strawberry bloom, a trouble too often of annual occurrence, and one we would gladly avoid.

The gardeners' dinner.—In reply to Mr. J. Crook with reference to country gardeners attending the proposed dinner, on September 29 next, at a recent meeting of the committee his suggestions were considered, and with reference to the one concerning the provision of lodgings for visitors to the Chiswick show it was thought that this duty could be better undertaken by the Royal Horticultural Society. With respect to the provision of a book in which all who attend the dinner can inscribe their names, all such names will be so entered in a book as dianer tickets are issued, with the number of each person's ticket. But the chief object of the proposed reception is that every one attending shall be duly announced, and thus friends present will hear the names called out.—A. DEAN.

Azalea Duchesse Adelaide de Nassau.—That the continual introduction of new varieties does not do away with the old and tried forms was shown at Ghent, where the first prize for a single specimen was awarded to this variety, the date of whose introduction I cannot say, but thirty years ago it was a very popular form, and was then almost invariably included in the mixed collections at that time sent from the Continent. Though an old sort, it still ranks with the best, while a companion variety, Duc de Nassau, is also equally good.—T.

Aphelandra pumila.—The order Acanthaceæ, to which the Aphelandras belong, contains many groups of beautiful flowering plants, none of which, however, surpass the Aphelandras in their richness of colouring. An exception sometimes taken to many of this class is that the plants are apt to grow up tall and thin at the base, which charge cannot by any stretch of imagination be brought against *Aphelandra pumila*, for the whole plant is not many inches high, about half of the entire height being occupied by the head of orange-scarlet blossoms. Like some of its allies, it is seen to the best advantage when half-a-dozen plants or thereabouts are grouped in a pan. Though less vigorous than some of the Aphelandras, it is certainly entitled to a place among the most select members of the genus under which head must also be included *A. aurantiaca*, *A. aurantiaca Roezli*, *A. cristata*, *A. Leopoldi*, and *A. nitens*.

Eucryphia pinnatifolia.—Always a favourite of mine, I was pleased to see such a charming illustration of this beautiful Chilean shrub recently in THE GARDEN. It is not, however, my intention to add to Mr. Dallimore's notes thereon, but rather to call attention to an article on page 257, entitled "Flowering Shrubs at Truro," in which, among other subjects exhibited at the recent spring show, the writer, "A. C. B.," says the snowy white *Eucryphia* was quite charming. Presuming that *E. pinnatifolia* was the species intended, I could not reconcile that statement with my own experience of the plant, an experience I see confirmed by Mr. Dallimore, who speaks of it as flowering in August. I am aware that the rare *E. cordifolia* is also in cultivation, but have always considered it to be a summer-flowering subject. That the climate of Cornwall is particularly favourable to many tender subjects, especially those to which a humid atmosphere is necessary, we are all well aware, but that a plant which at least in the London district usually flowers in August is there at its best at the end of March, will, if there is no mistake, be news to many. The reason of the non-success attending the culture of this *Eucryphia* in many parts of the country is, I think, that, like most other Chilean plants, it requires a greater amount of humidity than we get in many parts of these isles.—H. P.

Chrysanthemum display at Tamworth.—So successful was the Chrysanthemum feast at Tamworth last season that Mr. William Sydenham has decided to repeat the display on September 27 next. It takes the form of an exhibition of early-flowering Chrysanthemums grown in the open air without disbudding. There are to be several competitions, for which valuable silver cups and bowls are to be given as prizes. It is expected that the leading specialists will again be present, as they were on the former occasion, and there is the promise of a spirited rivalry for first honours in the leading competitive classes. The chief item of interest is the trial of some hundreds of varieties of the early-flowering Chrysanthemums in Mr. William Sydenham's own garden. This season, I believe, he is arranging his plants in their order of flowering, and in this way it should be easy to make comparisons and determine which are the better varieties for certain periods. The plants look remarkably well, and embrace not only the old and proved sorts, but every new variety worth including.—D. B. C.

Cytisus scoparius andreanus.—I do not know how this remarkably pretty Broom behaves in other gardens, but here when first planted some years ago it grew and blossomed well for a few years and then dwindled away to

such an extent as to be utterly useless. This points to the probability of our soil being too heavy and cold for it, but with reference to this I should be glad for information respecting the character of the soil in which it thrives. Plants of this variety are, I believe, invariably or always worked upon one or other of the easily raised free growing Brooms, and if this view is correct it makes our failure the more difficult to account for, because both *C. scoparius* and *C. albus* do exceedingly well under conditions that prove fatal to *C. s. andreanus*.—T. COOMBER, *Monmouth*.

Hyde Park from an American point of view.—In *Park and Cemetery* (Chicago) appears an illustration of a scene by the side of the Serpentine, Hyde Park, and the following note by Mr. Joseph Meehan: "Those who have visited London and have strolled through the parks will have been struck with the great dissimilarity of the shrubs and trees used in planting to our own. In the first place the climate enables the superintendents to plant so many kinds tender with us, and particularly of the broad leaved evergreen class. Many of these we cannot grow, but there are many we could were we but to encourage them a little, and in the border states and those south of them a great number could be grown. In the line of deciduous shrubs the English use but few, not as many as they could do to advantage. Among common broad-leaved evergreens I have noticed in the English parks are these: *Rhamnus alaternus*, *Aucuba japonica*, *Laurus nobilis*, *Berberis* in variety, *Box*, *Cistus ladaniferus*, *Cotoneaster* of sorts, *Daphne Laureola*, *Elaeagnus Simoni*, English and Portugal Laurel, *Laurustinus*, *Magnolia grandiflora*, *Mahonias*, *Photinia serrulata*, *Ligustrums*, *Garrya elliptica*, *Prunus caroliniana*, *Rhododendrons* and *Veronica*. And there are many more of like character available. Now very many of these I know will live here, and I would urge a greater trial of these beautiful shrubs and trees. In the illustration presented of the banks of the Serpentine, Hyde Park, London, England, many of the evergreens named are used, together with deciduous things, such as *Lycasteria formosa*, *Cytisus Laburnum*, dwarf Maples, *Pyrus japonica*, *Forsythia*, *Spiræa arifolia*, and others. The large trees are Beech, Elm, Ash, Maple, and native trees mostly. What a show a collection of our Oaks would make! The Oak of England is an uncommonly handsome tree. On the opposite side of the river in the illustration will be seen some of them. When not crowded they form round-headed symmetrical trees of much beauty. The groups of flower-beds lining the banks on the far side will be observed. Just what they contain I do not know, but the common blue *Lobelia*, the yellow *Calceolaria*, and the *Fuchsia* give plants of a style and shade of colour our hot climate will not let us employ. The Pansy also is to be added to the list. These plants afford blue and yellow colours, two we have nothing the equal of that we can use. While visits to the various parks of London are pleasing and eminently instructive, they have led many of our countrymen away who, noting the plants used in various combinations there, expect to utilise the same here. This cannot be, wholly owing to climate, but then think of the many lovely foliage plants our hot summers enable us to grow, which in England would not experience heat enough."

Essex County Council Technical Instruction.—The annual report of the horticultural section says: "The horticultural teaching in the county during the past session has included: Single lectures at twelve centres; courses of lectures at nineteen centres; courses of instruction at the Horticultural School at Chelmsford; about 100 visits to gardens, orchards, and allotments; instruction in various methods of plant propagation, by means of an exhibition of specimens in the committee's tent at the Essex Agricultural Show. With one exception the single lectures were given at centres previously visited, and in most cases a good interest in horticulture was noted. Eight of the courses of lectures were given at new centres, and in each case the teaching was keenly appreciated. At Rayleigh this was particularly noticeable. A class of ten lads from

the industrial school has received instruction in the county garden. The pupils gave very close attention to the teaching given. A general tendency to arrange that some of the lectures shall take place in gardens and orchards is evident, and this form of instruction is certainly desirable where convenient. Central work in connexion with the county school of horticulture is still increasing. The usual series of four courses has been held during the past session. The November course was attended by fourteen students, the February course by thirteen students, the March (advanced) course by thirteen students, and the July course by fourteen students. An encouraging feature of the work is the very general desire of the students to profit to the utmost from the opportunity thus afforded them of gaining instruction. The need of definite teaching in horticulture has again been forcibly demonstrated. In addition to the above courses, daily instruction has been given to the students undergoing a year's training at the county school. Four pupils are at present taking the year's course. The teaching is arranged in order to extend the students' knowledge of plants, as well as to render them proficient in the operations of horticulture. The necessity of developing a sense of responsibility is still being borne in mind in connexion with the work of this class. Demonstrations have been given to the normal class on several occasions, particularly in view of the increasing tendency for teachers to interest themselves in school gardens. Occasion has therefore been taken to suggest suitable subjects for dealing with in class work, as well as plants which may be readily used for such purposes. The development of the school garden is naturally closely connected with the increase of central work. The extension of the various groups of plants represented there has given frequent opportunities for demonstrations to the classes above mentioned, as well as to individual visitors. It is satisfactory to be able to note an increased interest in the garden and a desire to make use of it for the above purpose. A demonstration was given to a party from Chigwall on May 23, and another on July 25. As the work of teaching in horticulture becomes better known, an increasing number of enquiries on various subjects connected with gardening is being received. In addition to the lectures which have taken place in gardens, nearly 100 visits have been paid to individual occupiers. This form of teaching has been greatly appreciated, and more would have been accomplished in this way but for the pressure of central work. A visit was paid to the lads' allotments at Great Oakley on May 22. The season's work had been delayed by inclement weather, but it was evident that a very considerable interest was being taken in the plots.—C. WARELY."

NOTES ON HARDY PLANTS

IRIS ROBINSONIANA.

A COLOURED plate of this Iris, now known as *Moræa robinsoniana*, appeared in vol. xl., page 312, of THE GARDEN. A native of Lord Howe's Island, it was introduced into this country from Australia in 1877. A note in THE GARDEN, May 22, 1886, mentions it as flowering in Mr. Stapleton's garden at Southfield House, Westbury-on-Trym, but, no cultural details being given, one is left in doubt as to whether the plant was in a pot or planted out. The same lamentable, but all too common, lack of particularising occurs in a note in vol. lvi., page 71, where the plant is mentioned as flowering and standing 4 feet 3 inches high from the ground to the top of the flower-spike. From notes that have from time to time been communicated, it is evidently difficult to flower, though a few, at all events, have succeeded in blossoming it. I notice that "E. J." writes on page 234: "The species appears to be some years before reaching the flowering stage." I may mention, however, that last summer I saw a plant in an 8-inch pot blooming in Corn-

wall. At Tresco Abbey, Isles of Scilly, there is a splendid clump in the open that might well be mistaken for a group of Phormiums at a little distance. This, when it blooms, bears flower-spikes fully 7 feet in height, but does not blossom every year, and was flowerless during the past summer. I have a plant growing in the open garden, but do not expect to bloom it, and merely planted it out as an experiment after seeing the noble specimen at Tresco Abbey.

IONOPSISIDIUM ACAULE.

THIS charming little annual, called by some the Violet Cress, is a native of Portugal, but is easily established in the warmer portions of our islands. It is an excellent carpeting plant for spring bulbs, as, being surface-rooting, it does not rob the food supply of the bulbs, and only grows to a height of about 2 inches. When sown in the late spring it flowers in the summer and reproduces itself again from self-sown seed before the winter sets in, coming into flower, if the weather be mild, in December. With me, a patch about a yard across, the progeny of plants that withered and seeded in August, has been in full bloom since the end of the year until the present date (April 20), when it is slowly going out of flower. The seed was originally sown over a colony of *Chionodoxas*, whose blue flower-spikes make a pretty picture spearing up through the carpet of tiny lavender-white blossoms of the *Ionopsidium*. Seedlings have sprung up in many places in the borders, and are never interfered with except when the soil has to be disturbed for the introduction of new acquisitions, and I am in hopes that now it may remain a permanent occupant of the garden. It will not, however, reproduce itself spontaneously in all soils, for some years ago I sowed it again and again in another garden, where the soil was a clayey loam, but no self-sown seedlings ever appeared. Sometimes, after renewing itself by self-propagation for many years in a garden, it suddenly disappears for no apparent cause. I first saw and admired it at Mr. Archer-Hind's, where it has flowered annually ever since I have known the garden. This year, however, although the winter has been exceptionally mild, it has, for some unaccountable reason, failed to appear. Several plants of *Ionopsidium* have lately sprung up in a plot of ground distant about 200 yards from the border where my seed was originally sown. The seed, I imagine, must have been transported thither with some roots of *Iris tuberosa* which I removed and planted in that spot last autumn; but, whatever their origin, I welcome their appearance, and trust they may increase and multiply in their new home.

S. W. FITZHERBERT.

Kingswear, South Devon.

IRIS PALLIDA FOL. VAR.

WHILE plants with variegated foliage require to be used with great discretion in the garden, a carefully chosen selection cannot fail to give interest to it. It is desirable when these are being selected to take only those plants with well-defined variegation, many of those in cultivation being far from satisfactory in this respect. The variegated-leaved variety of *Iris pallida*, although not new, is one of the best and most distinct of our plants, with leaves of similar form. Its perfect hardiness is also in its favour. It is admirable for a dry and sunny position in the garden, and nowhere does it look better than on a roof garden, where its fine colouring of white and green is even more pronounced than on the level ground. Its banding of white and green is bold and conspicuous. The variegated form does not bloom with the same freedom as the green-leaved one. Its main beauty is in its foliage. I do not know where it originated, but the late Mr. Selve-Leonard of Guildford brought it prominently forward, and I first saw it in quantity in his garden several years ago.

RANUNCULUS AMPLEXICAULIS.

THE Crow-foots vary so much in garden value that much knowledge is often required before one can select the best. Some are unruly, and the most

recent introduction which promised well is likely to be one of the most annoying in this respect. This is *R. nyssanus*, which here at least ought to be included in the "Black List," to which some of your correspondents would relegate such plants of runaway tendencies. In the older, but even more lovely, *R. amplexicaulis* we have, however, a plant with which it would be difficult to find a fault, either in respect of its beauty, its easy cultivation, or from its being one of the "keepers at home," which we always like to have in our gardens. It is one of those trustworthy plants which one comes across in old gardens. I have seen it growing under such varying conditions that one imagines that there must be few gardens where it will not grow. I have met with it in what are probably its most congenial conditions—a good heavy soil, with plenty of moisture, where it would be seen as much as 2 feet or a little more in height, its "book" height being about 1 foot. I have seen it doing well in moist peat, and also flowering freely on a dry rockery, where, however, the dimensions of its growth, its leaves, and its flowers were all diminished by its uncongenial surroundings. In some cases it has only been 4 inches or 6 inches high. It is, however, always very pleasing in April and May. When of full size the flowers are 1 inch or more across, and are of the purest white, with the exception of the bright yellow centres. The leaves are of a pretty glaucous grey-green, those of the stem clasping it in the fashion which has given rise to the specific name of *amplexicaulis*. The radical leaves, which are rather lance-shaped, are on longish stalks. *R. amplexicaulis* is one of the members of the Crow-foot family which produce their roots in bundles. It is a rather common plant in the alpine meadows of the Alps and Pyrenees. Nothing could well be more lovely than a large colony of *R. amplexicaulis* in the wild garden, but it is quite as good a border flower in the lower parts of the rock garden, where it obtains the benefit of the moisture from the higher portions. It is one of the old, old favourites (it dates back to 1633), which is always sure of a welcome in the eyes of the lover of our best hardy flowers.

Carsethorn, by Dumfries, N.B. S. ARNOTT.

THE ROSE GARDEN.

MME. CAROLINE TESTOUT AND ITS DESCENDANTS.

IT was a happy inspiration of M. Pernet-Ducher when he cross-fertilised the beautiful old Tea Rose *Mme. de Tartas* with Lady Mary Fitzwilliam, and thus gave the world the glorious Rose *Mme. Caroline Testout*, that bids fair to outrival *La France* and all other pink varieties, at least for the garden. *Mme. de Tartas* played a very important part some years previously in giving Rose growers a useful and, perhaps, one of the first Hybrid Teas, namely, *Cheshunt Hybrid*. On this occasion Prince Camille de Rohan was the pollen parent. Evidently, if we want good results we must look to this parent. In the case of *Cheshunt Hybrid* a somewhat dull colour was got by using the maroon-coloured Prince Camille de Rohan. Perhaps a bright scarlet or a brilliant pink or yellow would have given us something better in the way of colour, though I have nothing to say against *Cheshunt Hybrid* in any other respect. When planted out under glass the dullness of colour apparently vanishes, and I can still recommend the Rose as a climber for this purpose, and also for outdoors.

Probably no Rose has made more friends in so short a time as *Mme. Caroline Testout*. Is there one that combines such vigour of growth with an equal profusion of flowers and quality also as this Rose? And yet there is one defect, and an important one, too, namely, want of fragrance. Its Tea-like fragrance cannot be called sweet. Apart from this, *Mme. Caroline Testout* is very beautiful, and all who can afford to plant a dozen, fifty, or a hundred of it should do so willingly. As a standard there is no better variety to grow.

If pruned so that every topmost eye of each growth looks outward, and the centre is kept free, a head of blossom remarkable as much for vigour as for profusion will be the result.

A Rose such as this (almost every bloom is good) is sure to be a mark for the hybridist who desires to obtain others of different colours and forms, but bearing the impress of the parent; and already, since the introduction of *Mme. Caroline Testout* in 1891, we have some thirty varieties owing their existence, directly or indirectly, to this grand Rose.

In 1898 Herr Lambert introduced *Grossherzogin Victoria Melita*, a cross between *Safrano* and *Mme. Caroline Testout*, and a very good Rose it is, of a pale creamy colour. In 1899 a very lovely semi-double Rose, named *Dawn*, was introduced, which is supposed to owe its origin to *Mme. Caroline Testout* and Mrs. Paul. This fine shrubby Rose partakes more of the nature of the Bourbon variety in growth, but of the Hybrid Tea in colour.

From America in the same year a sport of *Mme. Caroline Testout*, named Mrs. Robert Garratt, was introduced. This never made much headway, though quite distinct. I believe it has been eclipsed by the far more beautiful *Killarney*, apparently another of *Mme. Caroline Testout's* offspring.

Messrs. Soupert and Notting have introduced since 1899 no fewer than eight varieties which owe their origin, either as seed or pollen parent, to *Mme. Caroline Testout*. In 1899 they sent out *Duchess Hedwig d'Arenberg* (*Belle Siebrecht* × *Mme. Caroline Testout*), and it is well spoken of.

In 1900 five varieties appeared, one of the best being a sport named *Admiral Dewey*. This is almost a white Rose, and promises to become a great favourite. Another variety, I think a seedling, appeared in 1900. Its name is *Mlle. de Kerjegu*. This, again, has won golden opinions, its colour being so very clear and brilliant.

Marie Louise Poirat was also of this year. It is a fine show Rose, beautiful in form, and very sweet. This is a cross between *Mme. Caroline Testout* and *Marquise Litta*. Other varieties of this year are *La Favourite*, *Hofgarten Director Groebener*, and *Beatrix Comtisse de Buisseret*.

Six sorts, all emanating from *Mme. Caroline Testout*, appeared in 1901; of these *Minna Barbanson* (*Mme. Caroline Testout* × *Mme. Abel Chatenay*) and *Mme. Edmee Metz* (*Mme. Caroline Testout* × *Ferdinand Jamain*) are very promising. The other varieties are *Elizabeth Von Reuss*, *Faivre d'Arcier*, *Mme. J. P. Soupert*, and *Papa Reiter*. The latter, described as *Yellow Testout*, is very unsatisfactory here, but probably on the Continent it would prove of some value.

Last season, 1902, witnessed the advent of what must be a valuable new climber in *Climbing Caroline Testout*. This, together with *England's Glory*, which is not of the *Testout* race, will prove grand additions to our hitherto meagre number of pink climbing Roses. M. Guillot gave us *William Askew*, which appears to be a higher coloured *Caroline Testout*, and M. Croibier introduced *Marie Croibier*, apparently another seedling or sport. *Laure Waltine* and *Frau Peter Lambert* both have the *Testout* blood, the latter being a strange blending of *Kaiserin Augusta Victoria*, *Mme. Caroline Testout*, and *Mme. Abel Chatenay*, obtained apparently from two distinct crossings.

This season, 1903, there are twelve novelties announced already, each one bearing some relation to *Mme. Caroline Testout*. Probably two of the best will be *Souvenir d'Helene* and *Marguerite Guillot*, both from M. Guillot, who has hitherto given us some fine Roses. From other raisers we receive *Alice Hewetson*, *Capitaine Soupa Clairette Onof*, *Dr. Huas*, *Edmee Roger*, *Souvenir d'Anne Marie*, *Helene Welter*. *Mme. Augustas Sommerau*, *Princesse Marie Mertschersky*, *Winnie Davis*, and *Pan American*. This latter comes of good parentage, namely, *American Beauty* × *Mme. Caroline Testout*, so that it should prove of value.

All the above-named Roses, with the exception of *England's Glory*, owe their origin to *Mme. Caroline Testout*, either as seed or pollen parent or as sport, and it is reasonable to suppose that they all possess merit of no mean order. It is

rather curious to notice that none of the hybridisers have used the seed parent of Mme. Caroline Testout in their experiments. One would have supposed if the good old Rose Mme. de Tartas had been crossed with a Rose equally as good as Lady Mary Fitzwilliam, but of yellow or crimson or white colour, that some varieties quite as striking as Mme. Caroline Testout would have resulted. In any case it is worth a trial, because if this glorious Rose can be had in yellow, crimson, and white, what grand decorative Roses we shall have.

PHILOMEL.

THE FLOWER GARDEN.

THE USE OF ANNUALS.

To show how brilliant a garden of annuals can be we give an illustration of that at St.

certain perennials it is easy to alter the whole tone and give an entirely different complexion to the garden summer after summer, gaining novelty and freshness which never fail to enhance its pleasures. Not only in detail is it possible to avoid repetition, but with little trouble these plants afford inexhaustive facilities for the annual reformation of the whole outline of the flower garden.

To be effective, as every lover of these flowers knows, it is essential to use them more or less freely in masses and to exercise care and discrimination in the grouping of colours. Often an effect is marred by the introduction of a colour entirely out of harmony with the rest, and a border spoiled by the want of care in arranging the different tints and shades, but by a little study and observation a knowledge of colour effects is soon acquired.

Yellow, especially in the months of August and September, is such a predominating colour in most gardens that a border composed entirely of blue

groundwork. The Commeline and Catananche are perennials, but if sown early in heat will flower in July; the Commeline, in truth, in April.

Another splendid annual for employing by itself in beds or borders is *Callistephus sinensis*, which, if sown in frames and treated like the ordinary Chinese Asters, will flower in August and continue into November.

Pentstemons treated as annuals and planted in groups or masses are very effective. They come into flower early and last long if sown in heat. It is possible now to procure the seed in different shades of colour, which is a great acquisition.

Salpiglossis, *Helichrysums*, and Scabions are always far more effective when grouped in bold masses, but care is needful to keep the strong colours together and the weak colours together. Beds of *Phlox Drummondii* never fail to elicit admiration, but here again it is necessary to separate the colours and also the eyed from the



A GARDEN OF ANNUAL FLOWERS AT ST. FAGAN'S, NEAR CARDIFF, THE RESIDENCE OF LORD WINDSOR.

Fagan's Castle, near Cardiff, the residence of Lord Windsor, which Mr. Hugh Pettigrew arranges with much skill, and provides a feast of flowers that we have rarely seen equalled by means of annuals alone. There is still much work to be done if these plants are to give of their best, thinning and transplanting need to be carefully and systematically practised, and it is not yet too late to sow those for autumn blooming. The following notes upon this subject by Mr. Hugh Pettigrew will therefore doubtless be read with interest:—

By a generous and unstinted use of annuals and

flowers—the rarest of colours during these months—is always refreshing and attractive, and it is my intention this year to devote a border to flowers as near akin to this colour as possible. I have already poles fairly well covered with *Clematis Jackmani*, which, in conjunction with tall Larkspurs, perennial *Delphiniums*, blue *Salpiglossis*, and blue Sweet Peas will give the desired irregularity in height to the border, while the dwarf perennial *Delphinium King of the Blues*—the finest blue of the autumn treated as an annual—*Eutocia viscida*, with the closely allied *Phacelia campanularia*, the *Commeline*, the *Pimpernel*, the blue *Phlox Drummondii*, *Verbena*, *Catananche*, and *Heliotrope* will supply the medium heights, with the dark blue dwarf *Lobelia* for

selfs. Sown in cold frames in March they come into flower very early.

The Corsican Daisy (*Erigeron mucronatus*) is another fine subject for bedding by itself. If sown in heat in the early months it will flower by July.

East Lothian Stocks in designs in the more formal garden are excellent, and are preferred to *Geraniums* or any other of that class of bedders for many obvious reasons, but white should be used only in the smaller beds, as large dashes of that colour are not pleasing. To be really successful with them it is necessary to sow in heat in December, prick into boxes, and when large enough put into pots singly, and plant out in April, when they will come into full flower by the beginning of

June, lasting until the end of the season. Even in the wild, undressed parts of the pleasure grounds the hardy flowers have their places. If in the winter several portions of the ground have the turf on them reversed sufficiently deep to bring some of the less fibrous soil to the surface, it is possible by March or April to have, by roughly raking, a good bed on which to sow the seed of Shirley Poppies. A week or so and the ground is green, and from June until September it becomes a continuous sheet of colour. This is the best way of growing Poppies, for in the border they are but a flash in the pan, but grown as described they are always beautiful, for as one plant flowers and succumbs another pushes up and takes its place. In this kind of gardening the great thing is to avoid formality and to have outlying groups leading up to the masses.

The blue annual Larkspur gives a fine effect used similarly, for Larkspurs are always finer when sown where they are to bloom than when sown in boxes or frames and afterwards planted out.

There are numbers of annuals that lend themselves to this mode of gardening, and with little expense give charming returns.

St. Fagan's.

HUGH A. PETTIGREW.

A NEW USE FOR ESCHSCHOLTZIAS.

THE late Mr. Charles J. Perry, of Birmingham, who was a leading florist of that district in his day, was a cultivator and exhibitor of Roses, and he always made a point of having a plantation of all standard varieties. In order to furnish the soil about his trees, and to hide somewhat the nakedness of their stems, he used to sow broadcast among his Roses some seeds of *Eschscholtzias californica* and *crocea*, doing this in fine weather in December, in order to have the *Eschscholtzias* in bloom with the Roses; they would go on blooming until September, when the plants were cleared away to prevent any sourness in the soil. Mr. Perry was a great admirer of these gorgeous Californian annuals, and gloried in the brilliant effect produced by the deep orange and yellow Tulip-shaped flowers rising above the graceful foliage. By adding to the two foregoing species the rich orange-red Mandarin and the white form of *crocea* the tints of colour can now be increased. To have the *Eschscholtzias* in all their beauty autumn sowing should be resorted to. I remember the pride the late Mr. Anthony Waterer used to take in his autumn-sown *Eschscholtzias* at Knap

Hill. Sowing should be done in October, the plants then have time in which to root into and get a firm anchorage in the soil; they are hardy enough to resist the rigours of winter, and by the time spring influences are at work they grow vigorously, become branched, and produce flowers larger in size and more brilliant in colour than from spring-sown seed. The plants should be thinned out to 1 foot or 18 inches apart as soon as they are large enough. To afford more variety the pretty Rose Cardinal can be added; it may be found in some seed catalogues under the name of *grandiflora carminea*. A few of the very finest flowers might be marked for seed purposes; in this way Mr. Perry materially added to the quality and beauty of the strain he grew.

R. DEAN.

PLANTING SWEET PEAS OUTDOORS.

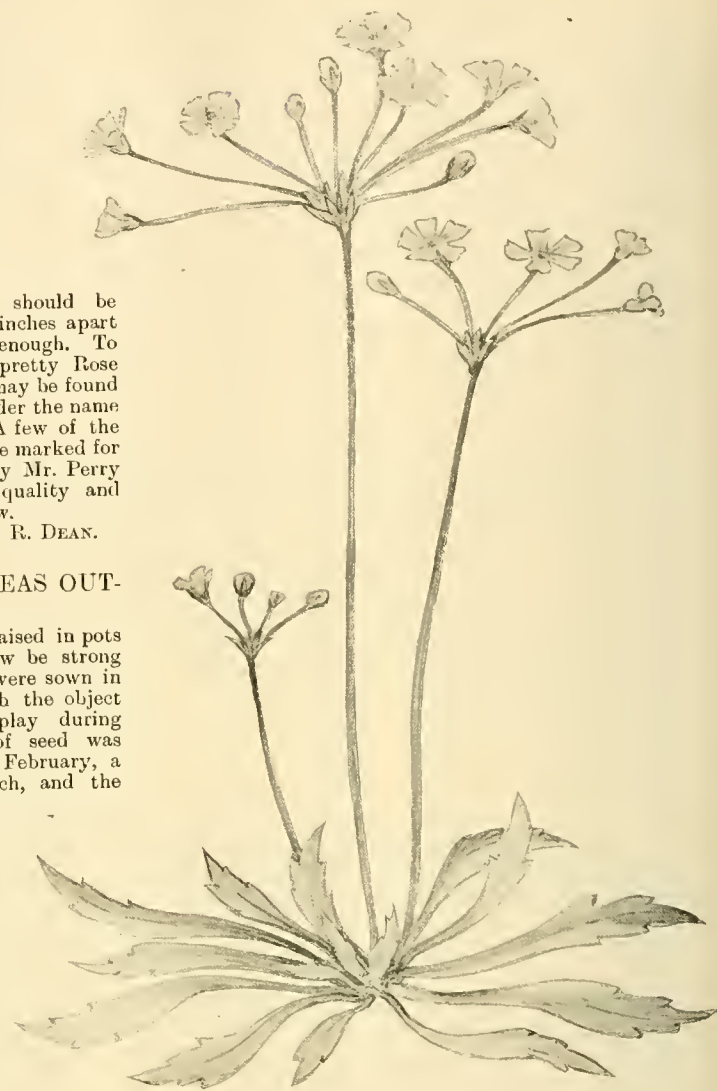
SWEET PEAS which were raised in pots in early spring should now be strong plants. Our Sweet Peas were sown in three distinct batches with the object of maintaining the display during summer. The first lot of seed was sown about the end of February, a second batch in mid-March, and the last of the series at the end of March. There is little to choose in the appearance of the first two batches, the growth being sturdy and exceptionally healthy. During the abnormally cold weather of April the plants were in cold frames, without even the protection of a mat. However, they are safe, and as the frame-lights have been entirely drawn off since April 26 the plants are well seasoned for transferring to their flowering quarters. We prefer the clump system of planting to that of any other method, as experience with the Sweet Peas proves how well they succeed by adopting this mode of culture. As the space given to these plants is somewhat limited we cannot afford a larger space to each clump than about 3 feet. Three feet between each clump and a similar distance between the rows of clumps answer very well, and if the plants are subsequently staked with care one can get about the plants with little inconvenience. Had we more garden ground available we should allow a space between each row of clumps of 4 feet. It is surprising how much space is required to grow Sweet Peas well.

It is our practice to take out the soil at each clump to the depth of 18 inches to 2 feet, the diameter of each hole being some 18 inches also. For some time before planting accumulate a quantity of horse manure, and turn this over occasionally before the heap is brought into use. When filling in the holes with the prepared horse manure we also incorporate a few dustings with Ichthemic Guano. The last mentioned we have proved is an excellent manure and stimulant for Sweet Peas. The manure is very firmly trodden in, leaving a space to be filled in with the garden soil of some 6 inches or 8 inches—more or less. The plants are turned out of their pots and the crocks removed with care. The roots as far as possible are first spread out on a layer of

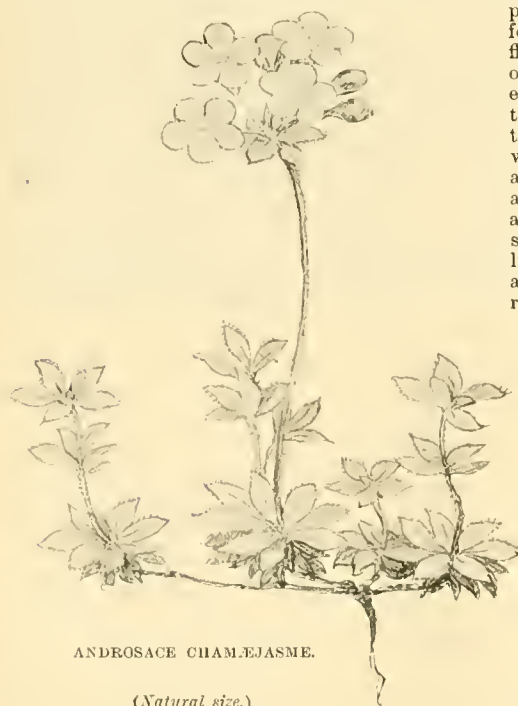
soil and the garden soil filled in all round and trodden in firmly, finishing off by leaving a basin-like formation on the surface. This is necessary, because when watering in hot weather copious supplies may be given in such a way that the roots are able to take full advantage of the water. Label each clump as the work is completed, and in this way avoid confusion and disappointment. In addition to the short twiggy sticks which were inserted in the pots for the support of the young plants, add a few other taller ones when planting is completed. The old growths of the Michaelmas Daisies are excellent for this purpose. D. B. C.

THE ANDROSACES.

OF all the plants of the mountains none are more closely tufted or more completely alpine in their appearance and character than the species of the genus *Androsace*. One may say that they are the most alpine of alpinists, and that they may be taken as the most completely characteristic type of the flora of the mountain heights. Low of growth, brilliant of aspect, extremely pretty, and covered with bloom, they are the purest of the jewels of alpine vegetation. Their beautiful flowery tufts enliven tall rock masses, stony and arid passes, and above all the short thin turf of the higher altitudes. In some parts of the Alps and the Pyrenees



ANDROSACE LACTIFLORA. (Natural size.)



ANDROSACE CHAMJEASME.

(Natural size.)

they even form an actual turf, short and spreading, completely taking the place of grass. Our Swiss mountain-climbers call them "flowering mosses," though, unlike the true mosses, they are about the brightest and most beautiful objects that the mountains have to show.

The genus *Androsace* is essentially one of mountain plants, and specially European, although the Himalayas and Central and Northern Asia furnish the largest number of known species. But as the number of Asiatic species in cultivation are but few, one may say that from the cultural point of view the genus is almost exclusively European.

The chains of the Alps and the Jura have twenty endemic species proper to their soil, and exclusively their children. The Pyrenees have four species strictly limited to that chain, the Caucasus four or five, Siberia the same number; finally, the Himalayas, the mountains of Yunnan and of China have something like thirty.

From the cultural point of view the genus falls into two groups. Firstly, the terrestrial species, growing naturally in turf, in pastures, in steep, dry slopes. These are the true *Androsaces*. Secondly, the species of the *Aretia* group which grow in the fissures of rocks and form the saxatile section.

GROUP I

In this group are comprised the following species which are in cultivation. It also contains others, but these are not here included as they have not yet been introduced to gardens.

A. arachnoidea (S. N. K.).—From the calcareous Alps of Transylvania and the Balkans. It is an *A. villosa*, with a spider's web-like villosity, whose threads, instead of being free, as in the type, are confused and matted, and whose leaves are lingulate and narrowing (in *villosa* they are ovate-lanceolate-cuneiform), without ribs (*villosa* has a rib at the back). The rosettes of leaves are pale green (dark in *villosa*), and the flowers are larger and handsomer than in the type. (*Analecha Botanica*, 17, Schott, Nyman, and Kotschy).

Androsace carnea (L.) syn. *A. Halleri* (Gmel.), *Aretia Halleri* (L.).—Alpine regions



ANDROSACE LACTEA. (Natural size.)

of the granitic Alps and of the Vosges*. It is a dwarf, tufted plant, formed of a greater or lesser number of lax rosettes. The leaves are linear-acute lightly glaucous, and with a very short ciliation. Flower-stems upright, 2 inches to 4 inches high, bearing a small terminal umbel of flowers of a very bright rose colour. May to June; in the Alps, July to August.

The following varieties are found in catalogues: †*Puberula*, from the Mont Viso; *brigiatica*, from the Alps of Briançon; and *Reverchoni*, with pure white flowers, from Piedmont. English catalogues sometimes mention a variety with flowers of a deeper colour under the name *A. carnea eximia*. Elsewhere *A. Laggeri* is often sold for *A. carnea*. *A. carnea* requires silica, and cannot live in limestone. It likes peat with granitic sand and half sun. It is only increased by seed.

A. chamaejasme (Willd), syns. *A. villosa* (Jacq. non L.), *A. lehmanniana* (Sprengl.), *A. acutifolia* (Turcz.).—From the calcareous Alps of Dauphny, Piedmont, Switzerland, and Bavaria, between 1,500 and 2,500 metres; from the Altai and Siberian mountains in sub-alpine pastures; from the Caucasus (Georgia); from Eastern Thibet, between 4,000

and 4,500 metres; from Behring's Straits; and from Northern and Arctic America.

Thus, it will be seen, it is a species of wide distribution, occurring over a wider area than any other *Androsace*. It is dwarf and stoloniferous, with branching turf-forming root-stock; leaves ciliated, obovate-lanceolate, in a collection of spreading rosettes, hairy on the underside; flower-stems downy, 2 inches to 3 inches high, bearing an umbel of three to six white flowers with yellow eye, whose throat turns to a carmine colour after fertilisation.

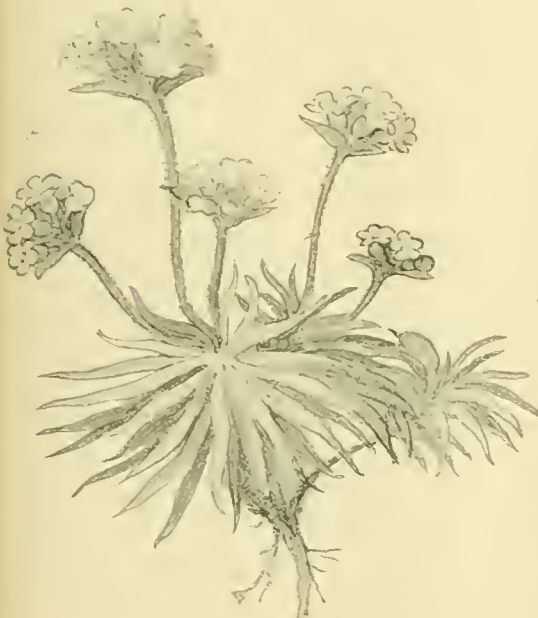
There is a variety named *uniflora* from Kumaon, and one named *coronata* from Western Thibet. The flowering season is April to May (June to August in the Alps). The culture is the same as for *carnea*, with this difference, that it requires a calcareous sand and loamy soil and a position in full sun. It is increased by division and seed.

A. Chumbyi (Hort.).—From the Chumby in the Himalayas. It is a handsome non-sarmentose variety of *A. sarmentosa*, with shorter and extremely woolly leaves, and large, bright carmine flowers.

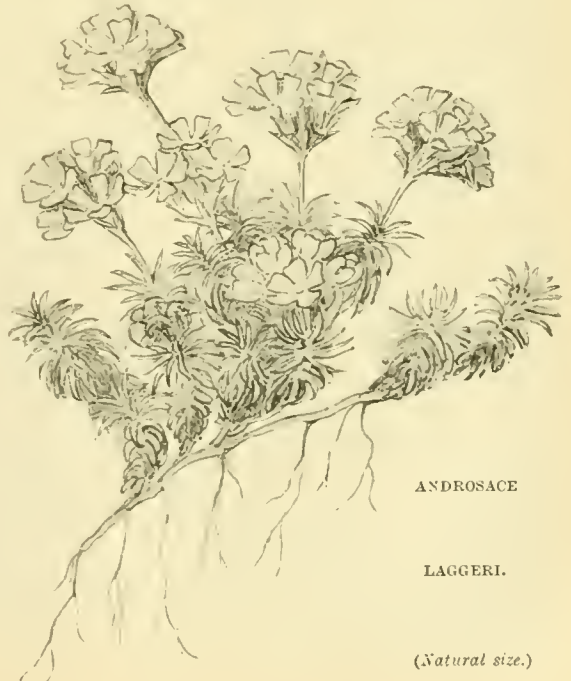
A. foliosa (Dnby.).—From rocky pastures in the Eastern Himalayas, between 3,000 and 6,000 metres. A vigorous plant with thick, stoloniferous, prostrate stem, throwing out leaves that are wide, obovate, glabrous, ciliated at the base, rather like Daisies, reddening in the autumn like those of Virginian Creeper. They are in large rosettes. Flowers large, pink or tinged with lilac, forming a large umbel which is borne on a stem 8 inches to 1 foot high, furnished with a few leaves. It flowers from May to September and grows well in the open ground or on rockwork in half sun, in deep soil composed of leaf-mould, loam, and sand. It is increased by cuttings,

* The *Androsace carnea* of the Pyrenees is absolutely different from the alpine type. We place it as a separate species under the name *A. Laggeri*.

† Published by Jordan and Fourreau in *Breviarum Plantarum*, fasc. II.



ANDROSACE CARNEA. (Natural size.)



ANDROSACE

LAGGERI.

(Natural size.)

division, or seed. Our *Jardin alpin d'acclimation* has lately received seeds of a new form of this Androsace from the Himalayas, which we hope to be able to grow and distribute.

A. hedraantha (Gris.).—From the Balkans, in natural stone-heaps and bare, rocky slopes (abundant on the Mt. Rilo). A dwarf, tufted plant with dense foliage; leaves small, ovate-lanceolate, obtuse, sometimes terminated by one or two teeth; glabrous, ciliated at the edges. The flower stem bears three to five blooms of a fine rose colour. May and June (July and August) culture as for *chamaejasme*.

A. lactea (L.), syn. *A. paucifolia* (Vill.).—From the calcareous Alps, where it is rare; the Jura, the Cevennes, the Carpathians, the mountains of Bavaria and Silesia, between 1,000 and 1,500 metres. A turf, glabrous

plant; leaves of a fine green colour, shining, entire, acute, linear-lanceolate, shortly ciliated and arranged in wide rosettes; flower stems slender, divided, from 6 inches to 9 inches high, bearing one to four flowers (a larger number in cultivation) with long pedicels, a large, extremely pure white corolla with a yellow disc at the throat and on the five indented lobes. April and May (June and July in the mountains). It is extremely easy to grow in the rock garden or open ground in spongy calcareous soil rich in humus, in half sun. It is increased by division or seed.

A. lactiflora (Fisch.) syn. *A. coronifolia* (Andr.).—From Siberia. A biennial; leaves ovate-lanceolate, in rosettes, toothed at the edges, yellowish green; flower stem erect, smooth, divided above; flowers white, rather large. June to September; soil cool and light, half sun, seed.

A. Laggeri (Huet)†.—From the Pyrenees, between 1,800 and 2,400 metres. This plant, which is strictly limited to the Pyrenees, is there the representative of *A. carnea*, and has nearly always been confused with it. I observe with pleasure that the "Index Kewensis," whose tendency is always in favour of simplifying the number of species, acknowledges its identity and classes it as a true species. Moreover, both its aspect and its cultural needs would place it apart from *A. carnea*; we treat it quite differently in the *Jardin alpin d'acclimation*. Seen side by side, the difference is so clearly marked that it is impossible not to recognise them as separate species. It is the prettiest of the alpinists of early spring; extremely caespitose, forming close tufts of foliage of a bright green, and, unlike *carnea*, not at all glaucous. The leaves are very narrow, much narrower and more aciculate

than in the case of its congener, crowded one against another, and forming little cylindrical shoots tipped with a small rosette. The greater number of the shoots remain sterile, and they rarely produce more than one flower-stalk. It should be observed that when they open these flowers are sessile, being attached to the end of the shoot like those of the Androsaces of the Aretia group; but by degrees the stem lengthens and also the pedicels of the flowers, so that at the end of ten or fifteen days they form a little rose-coloured bouquet of five or six flowers, on a stem 2 inches to 3 inches long, and have much the appearance of a small *Primula farinosa*. During the month of February (from the 15th onwards) and through March and April the tufts become covered with flowers and have a most charming effect.



ANDROSACE FOLIOSA (Natural size.)

The corolla is larger than that of *A. carnea*, and also more expanded; also the involucre are much longer than the pedicels, and the capsules are rather less in size. The actual seed is also different. The cultivation is the same as for *A. chamaejasme*; it does not actually need either granite or limestone, but must have a dry place in sunshine.

A. lanuginosa (Wall.).—From the Western Himalayas, between 2,000 and 3,000 metres, where it carpets extensive stretches of rock. It is a trailing plant with branching sarmentose hanging shoots, furnished with ovate-lanceolate, alternate leaves, sessile and entire; the whole plant is covered with long silky hairs, giving

it a satin-like appearance. The flowers are a fair size, lilac with a bright rosy disc at the throat; they are borne, twelve to twenty, on short pedicels in close umbels, which are carried on a stem 4 inches to 5 inches high. May to November. The open garden or rock garden, in rather light soil in sunshine. Increased by seed, division, or cuttings.

Geneva.

HENRY CORREYON.

(To be continued.)

NOTES ON NEW PLANTS.

TANAKÆA RADICANS.

THIS diminutive botanical curiosity, exhibited recently by R. H. Beamish, Esq., at a meeting

of the Royal Horticultural Society, was named by Franchet and Savatier ("Enumeratio Plantarum Japonicarum," vol. i., p. 144) in 1875, and described in the second volume (p. 352) four years later. It was named after Yoshio Tanaka, a Japanese botanist and a member of the House of Peers. Though evidently a very rare plant, it has long been known to Japanese botanists, for there is a coloured figure of it in the "Honzo Zufu" (xxxvi., t. 23) a work of ninety-

six volumes, or rather parts, first issued in 1828, and containing altogether nearly 2,000 coloured figures. The plant exhibited by Mr. Beamish bore only female flowers, the inflorescence having the appearance of a miniature *Astilbe japonica*. The figure in the "Honzo Zufu" represents a male plant having runners like those of the Strawberry plant. In the "Zomoku Zusetsu" (viii., t. 17), another Japanese work of more recent date (1856), there is a figure of a female plant with an enlarged male flower by the side. Franchet and Savatier give no locality for Tanakæa, and the only specimen in the Kew Herbarium, a barren one, is labelled "Mt. Amagi, Prov. Idu," if I have correctly deciphered the writing, but I have not succeeded in finding either of these names. Possibly "Idu" should be Idsu. The specimen in question bears the characteristic runners. Tanakæa belongs to the Saxifragaceæ, and is most nearly related to *Leptarrhena pyrolifolia*, a native of North America and Kamtchatka, which it strongly resembles in foliage. Miss M. Smith made a drawing of Mr. Beamish's plant, and it will probably appear in the *Botanical Magazine*.

I may take this opportunity of mentioning that the "Honzo Zufu" contains a large number of garden varieties of various genera, many of them admirably depicted. No less than five parts are devoted to the genus *Nelumbium*, and the figures include germinating seeds and successive stages of seedling plants. One whole part is devoted to the genus *Camellia*, and another to *Hibiscus rosa-sinensis*. Many of the varieties in both genera are very beautiful, and some of them of a different strain from any that I have seen in European gardens.

W. BOTTING HEMSLEY.

† In Ann. Sc. nat. Bot. 3rd ser. T. 19 (1853) p. 255.

JAPANESE GARDENING.

In these days, when the love of Nature and of the garden is so marked, it is a great pleasure to those who can travel to compare the English gardens with others one sees in different parts of the world. It was my good fortune to visit Japan and the Far East last year, and, being a lover of Nature, I noticed the parks and gardens, with a view to laying out a Japanese garden on my return home.

There is a great delight in observing the flora of a foreign country like Japan. The first thing that struck me was the total absence of grass pasture land. The whole of the hill country is covered with the coarse *Eulalia* Grass, so that there are no sheep or goats, cattle or horses pasturing, the few horses and cattle being stall fed. The flat plains between were irrigated and cultivated like market gardens in England. The soil is of a rich deep black peaty colour, and it grows very heavy crops of Rice and various vegetables. It was a never-failing pleasure to notice the coniferous and deciduous trees, especially as we saw the world-famous Maple trees at Nikko in their autumn garb, with every shade of red, yellow, and green.

I was greatly fascinated by the Japanese gardens, but failed at first to appreciate their style, which is so different to that seen here. The Japanese endeavour to copy natural scenery and improve upon it by rocks, stones, grouping of plants, hills and valleys, water and trees. I did not notice the old dwarf trees one hears so much about in general use in their gardens. They seem to be used for balconies and pots about the town houses, and are also planted in small town gardens. Every nurseryman had numbers of dwarf trees in fancy pots for sale for house decoration, &c. The raised parts of a Japanese garden are intended to represent the near or more distant mountain of natural scenery, and the stones the rugged eminences.

Large sums are sometimes paid for a special stone of correct proportion and ruggedness to form the principal feature, called the "guardian



JAPANESE TEA HOUSE AT GLEN HALL.

stone," and all other stones which occur are in harmony with it. There is usually a stream of water and a little pond and bridge. In town gardens where there is no water a rivulet course lined with pebbles is made to represent it. A basin or pond is usually made so that the stones and trees are reflected in the water. Turf is not used to any extent, as natural grass is almost unknown, *Bamboo* Grass and coarse herbage being natural.

Standard stone lanterns are an important feature in all Japanese gardens. They are of

handsome forms, and are of decorative use rather than for lighting. Garden lanterns are used with rocks, trees, fences, or water-basins, and they should harmonise with their surroundings, the intention being not to illuminate the ground but to form architectural ornaments, which make a pleasant contrast to the natural surroundings, and they are peculiar to Japan. They differ in shape and height. In the simple rustic gardens attached to tea houses stepping-stones are much used, and in all gardens they are seen to some extent because the wooden clogs universally worn would cut up the ground. The Japanese gardener follows carefully devised rules for the placing of his stepping-stones, having definite shapes and sizes, the whole being arranged with a studied design for comfort in walking and for effect. The whole design is to copy Nature, the mountains and hills, cascades, lakes, trees, and forests. This carried out on a small scale has a charming and quaint effect.

Suitable trees, shrubs, and plants are planted after the rocks, stones, and brooks have been provided. In some cases trees and shrubs are planted so as to branch over and conceal the rocks and stones, and as a background to show off their shapes. Japanese landscape gardeners always avoid regularity in planting trees. When trees are grouped together they are of different form and contour so as to contrast with one another. Evergreen trees are much cut and trimmed in Japan so as to look old and weird and gnarled. The ornamental Pine tree is often clipped and trimmed so as to give it an aged appearance.

I have endeavoured to represent some of these features in a corner of the grounds of Glen Hall, Leicestershire. The arbour (No. 1) represents on a small scale a form of one of the Buddhist temples with the peculiar roof and sliding paper partitions or *shoji*. The inside is painted red, the sacred colour. It is raised above ground, and commands a pretty view of the dell in front. There is a flight



SHINTO TORII GATLWAY AND STEPPING STONES AT GLEN HALL.



VIEW ACROSS DELL IN JAPANESE GARDEN.

of stone steps with two stone lamps and low rails painted black; the black and red contrast with the green verdure. In the centre of the dell is a miniature mound to represent Fuji, the one snow mountain of Japan, its top planted with white flowers to represent snow. A winding ditch lined with stones, with a flat stone across, represents the stream and drains the dell. Retinosporas, Cryptomerias, Thuyas, Japanese Yews, Hollies, Salisburias, &c., are a few of the trees used.

No. 2 is the flat Japanese garden, approached from the dell below. The path round the dell merges into the stepping-stones, which are the great feature of all Japanese gardens. Near the centre is the guardian stone, a collection of stones covered with Sedums. This is usually the principal stone of the garden, and all others should harmonise with it. The pedestal temple lamps brought from Kioto are placed at intervals among the foliage.

The wooden pillars and cross-bars with the boat-shaped top are a copy of the Shinto Torii, or sacred gateway, an erection peculiar to Japan. This is seen at the entrances to villages, temples, and gardens, and is usually painted in red and black colours.

I have planted Tazetta Narcissus, Tree Pæony, Liliums in variety, Japanese Maples, Prunus, Cherry, Bamboo Grass, hardy Bamboos, Abies polita, and other conifers, Azaleas, Hydrangeas, and a variety of plants.

No. 3 is a view across the dell to the tea house beyond. The flat stepping-stones permit one to walk among the plants without disturbing the ground. Where the stepping-stones branch off one stone is laid upon another, called the pedestal stone, and the proper placing of the stones is an important part of the work.

The whole dell and garden are surrounded by a belt of deciduous trees, which, when covered with foliage, greatly enhance the beauty of the garden. It will be a great pleasure to gather all the Japanese plants possible that will stand the damp and cold English winter. Flowering shrubs, conifers, flowers for all seasons, beginning with hardy Prunus,

Camellias, Azaleas, &c., and finishing with Chrysanthemums, will be a never-failing source of interest.

The collection of plants that I brought from Yokohama comprises a great variety of Liliums, Iris Kæmpferi, Azaleas, Tree Pæonies, Prunus, and Japanese Maples. These are all flourishing.

I shall be glad to have the names of any Japanese plants which I may be able to add. I have sent these notes in the hope that others may be able to introduce similar gardens.

At present the stones and rocks look rather new, but when mossed over they will tone down to that ancient aspect to which the Japanese attach so much value.

THEODORE WALKER, F.R.G.S.

Glen Hall, Leicester.

TREES AND SHRUBS.

THE OLEARIAS.

SINCE penning my note on *Olearia Gunnii*, which appeared on page 280, I have received a letter from Mr. W. E. Gumbleton, who has for years made a special study of this family, containing valuable information, which I feel should not be withheld from the readers of THE GARDEN. *O. stellulata*, to which I referred as being formerly considered a distinct species, but now recognised in horticultural dictionaries (and in the "Kew Hand List") as merely a variety of *O. Gunnii*, Mr. Gumbleton states to be quite distinct, and says that the true plant is now very seldom met with in cultivation, and is far less hardy than *O. Gunnii*. "Its foliage is much more glaucous than that of *O. Gunnii*, and its flowers are smaller." *O. macrodonta*, Mr. Gumbleton states, is wrongly named, the correct title of this shrub being *O. ilicifolia*, the species known by that name in European gardens being *O. myrsinoides*, a comparatively worthless and uninteresting plant. *O. insignis*, Mr. Gumbleton tells me, is just coming into flower in his garden. *O. nitida* he considers very inferior in decorative qualities, and he gives to *O. semidentata*, with rosy purple flowers, the

place of honour as the handsomest of the race. This species is not mentioned in Nicholson's "Dictionary of Horticulture." Curiously enough, Mr. Gumbleton informs me that he finds *O. Haastii* most difficult to keep, though he was the first to bloom it in this kingdom. I confess to being surprised at this, as I have always looked upon that species as quite hardy and indifferent in the matter of soil, since I have seen it in the best of health in heavy loam inclining to clay, and also in very light and shaly soil of little depth.

S. W. FITZHERBERT.

THE TREE LUCERNE.

IN the gardens of Southern France *Medicago arborea*, or the Tree Lucerne, is a most useful plant. Its native habitat is Italy, Greece, and the many islands of the Archipelago. The plant is almost naturalised around Nice and in several localities on the sea coast. It is remarkable for its hardihood, for its resistance to the salt air of the sea, for its robust temperament, which enables it to flourish in the fissures of the rocks without fear of drought, and for the abundance of foliage upon its tufted branches, which are starred all over with little bunches of yellow flowers.

Medicago arborea has long been introduced among the plants cultivated in the south of France. From thence it has spread to the north, where it must be regarded as a shrub for the greenhouse. The English have possessed it since 1596. In the centre of France and at Paris it is cut down in severe winters, but shoots again from the foot, especially if it has been covered with snow. It is hardy in the west of France, and the nursery gardeners of Angers and other towns keep it in their catalogues. From the decorative point of view it is of great service by reason of its delicate yet persistent verdure and its striking yellow flowers. Bushy hedges can be made with it, and it is as easy to train in this form as *Teucrium fruticans*. So much for its decorative value. But it is still more interesting if we consider its alimentary value as forage.

A leguminous plant like this, requiring so little care, ought to attract the notice of agriculturists. The goats of Southern Italy and of Greece have long held this succulent shrub in high esteem. Did the ancient Italian writers on agriculture mean the woody Lucerne when they extolled the *Cytisus* as eagerly sought by the cattle? "Florentem cytisum et salices carpetis amaras," says Virgil.

One would think so on reading Pliny the naturalist, who, according to Aristomachus of Athens, extols this forage and commends its culture, adding that it fattens the flocks, that horses prefer it to Barley, and that bees always find abundance of nourishment in its flowers. Was it through reading the Latin writers that the celebrated gardener Miller advised the cultivation of the *Medicago arborea* in England, after having learnt that it was cultivated in the countries of the Mediterranean? The truth is that he reckoned without counting the British fogs and the occasional cold spells which this plant cannot stand. He relates in his "Gardeners' Dictionary," which appeared in 1731, the fruitless trials which were made with this plant in England, and concludes by recommending it only for warm, dry, and rocky countries, where it may be cultivated with great advantage.

Of what nature and of what importance are these advantages? The information which I had been able to collect was too vague to be entirely trusted. On the other hand, the specimens which I had planted in my own garden at Golfe-Juan, as well as those which I had introduced into the shrubberies of the gardens at Monte Carlo, and of the Villa Carassale at Nice, grew so well that I was tempted to utilise their superabundant vegetation for the cattle.

M. G. Viand says: "Nothing indicates that the *Medicago* would be as dangerous in this respect as the *Lathyrus*, and I do not think it is. In order to be sure different animals must be fed with it for a long time."

I ought to add that the stems of *Medicago arborea* which I received and experimented upon

had upon them half-ripe fruits, which would have augmented their harmfulness.

Therefore, what has been learned so far is that every kind of animal that will eat it can be fed on the *Medicago arborea*, not only without prejudice to its health, but to its benefit. It ought to be a forage food of the first rank, from the nutritive point of view.

It seems to me that the cultivation of the *Medicago arborea* should be tried in considerable quantities, and recommended to the agriculturists of all those regions where this shrub will grow and prosper.

CULTURE AND PROPAGATION.

For a successful attempt at the cultivation of *Medicago arborea* some advice is necessary. On slopes, similar to those of which railway cuttings so often present examples, lines should be traced, one metre apart, and at right angles to the slope. With the pickaxe or spade holes from 0.40m. to 0.50m. broad and deep, should then be made at every metre. These holes should be filled with all the good earth to be found on the spot or in the neighbourhood. Still better is to dig continuous trenches and to fill them wholly or partly with vegetable soil. The roots would then be able to interlace, and the result would be infinitely better.

When the soil is very strong it is well to help the young plants with a little good soil applied immediately round their roots. When they have once taken root they will do without further help. The preparation of the soil should take place during winter, and the planting in early spring—say, March to April. The winter rains will have freshened the earth, and the influence of the spring sun will cause the young plants to strike rapidly. The latter should be raised in pots and planted with the soil round their roots unbroken; their success will then be assured. If planting with bare roots (which is much less sure) is attempted, they ought to be set in February to March. In a stony soil, but which has a sufficient proportion of vegetable mould, and fissures in the rock into which the roots can penetrate deeply, the plants may be placed at a distance of 1 metre apart, making 10,000 plants to the hectare. Of course the planting must be less close where the soil is less rich. Sowing would perhaps be the best means of increase, but seeds are scarce, and at the present time commerce would not be able to supply any great quantity.

In 1903, therefore, only trials necessarily restricted can be made. Finally propagation by cuttings during the winter and the month of August can be tried under bell-glasses—by the side of a wall—or in sandy soil. Afterwards the plants should be placed in the nursery for planting out in the following spring. As soon as the plants are established the leafy branches should be cut in spring immediately after the complete development of the foliage and given to the cattle, which will eat the wood while it is still tender. Other branches will then shoot out and so produce a second growth, of which the importance cannot yet be indicated. This will be made known by the result of the trials which will take place during the coming year. If the different experimenters will let us know the conditions under which they proceeded, and the results which they obtained in the weight of forage, and in the alimentation of the different kinds of cattle, the year 1903 will not terminate without the establishment of the certainty of the agricultural value of the *Tree Lucerne*.

ED. ANDRE.

Those who desire to try the cultivation of *Tree Lucerne* can procure seeds from MM. Vilmorin-Andrieux and Co., 4, Quai de la Mégisserie, Paris; and young plants from M. Martin, horticulturist, 63, Avenue Gambetta à Nice (Alpes Maritimes).

TRACHYCARPUS EXCELSUS OUT OF DOORS.

THOSE who are still sceptical as to the hardiness of this Palm, more widely known as *Chamærops excelsa*, can hardly remain so any longer after glancing at the accompanying

illustration, which shows a specimen of *T. excelsus* that has been growing unprotected out of doors at Kew for many years past. Nor is this the only example of this Palm planted in the open in the Royal Gardens; there are several more, although the one illustrated is probably the best. It would be interesting to hear from correspondents in more northerly countries who have tried to grow this Palm out of doors. Their experience could not fail to be interesting. In the south and south-west counties of England when well established it appears not to suffer at all during an ordinarily severe winter.

THE KITCHEN GARDEN. SLEEPING DISEASE OF TOMATO.

SLEEPING disease of Tomato was first recorded from the Channel Islands. It is very destructive to the crops of Tomatoes extensively grown in Guernsey. In recent years the disease has occurred in most localities in the British Islands, even when widely separated, where both small and large areas are under cultivation, resulting in considerable loss to the growers.

The plants affected by sleeping disease first give indications of attack by the dull or leaden colour of the foliage, and presently the leaves begin to droop. Shortly afterwards the stem collapses, especially at the lower part, and the plant goes off altogether, as indicated in the illustration at *A*. Sometimes, however, the affected plant makes a great effort to supply itself with nourishment by pushing adventitious roots from the stem above ground, and in some instances a surface dressing of soil placed round the stem has resulted in the maturing of the fruit already set and swelling on the plant. A case of this kind is shown at *B*. The attack on the Tomato plant is more frequent after fruit is present than before, though the parasite assails the seedlings, and in all stages of growth, but commonly its effects are not pronounced until the flowering and fruiting stages. It frequently happens that the plants are not apparently attacked until they are well in fruit, and this very often ripens, the unaided eye and even microscopical examination failing to detect any trace of the disease or even in the stem of the plant for any considerable distance above ground. Thus the disease appears to have degrees of virulence or the plants possess varying resistive powers.

HISTORY.

In all cases the root

is attacked first. The fungus gains entrance to the plant through the rootlets, often by the radicle or tap-root, and gradually extends to the root-stem. Its mycelium ascends in the woody tissues of the root-stem, and presently the plant begins to droop or "sleep." If a stem is cut through just above ground at this stage, drooping being well pronounced, a brown discoloration of the woody tissues or vascular bundles will be noticed clearly by the naked eye, and this is a certain indication that the disease has extended so far up the stem. Shortly after this the cortex or bark at the junction of the stem with the soil becomes brown, and presently is more or less covered with a very delicate white mould. This consists of the first stage of the fungus, being fruiting branches or conidiophores, and bearing conidia in whorls, shown at *E*. This diplocladium stage of the fungus is quickly followed by the fusarium condition, which forms from the same mycelium that previously produced the diplocladium. The fusarium stage is shown at *F*. Another form of fruit is produced on strands of mycelium in the soil, which are termed resting-spores, because they remain dormant for a season and then germinate. These bodies are shown at *G*.

The first stage spores fall to the ground when mature. They germinate and produce a mycelium that may attack the roots of Tomato plants. In like manner the second stage spores drop to the earth when ripe. They quickly germinate, and the mycelium produced may attack the rootlets of Tomatoes. On these points, however, the data are not decisive. Of the third stage or resting- spores



TRACHYCARPUS EXCELSUS OUT OF DOORS AT KEW.

(This Palm has been growing in the Royal Gardens unprotected for many years.)

there is no question of their capability of infection. They are formed in the soil, remain dormant there for a season, and then germinate, forming a mycelium, probably at first saprophytic, capable of attacking the rootlets of Tomatoes, and by this means the disease is continued from year to year.

In no instance has success attended efforts to infect above-ground portions of Tomato plants with either diplocladium lycopersici or fusarium lycopersici spores. This is remarkable, and as the young rootlets of the Tomato are the only part of the plant through which the fungus gains admission to its interior, the deduction may be drawn of the fungus beginning life as a saprophyte and of

Hence when seeds or plants push rootlets the mycelium of the fungus may assume its parasitic proclivities. The use of quicklime also tends to change the decaying animal and vegetable matter in the soil into inorganic substances upon which no saprophyte can live; hence to take away the food is to exhaust the organism. Whether lime acts on fungus in that way or directly destroys its saprophytic existence is not clear, but that its application reduces infection to a minimum is beyond question.

Another matter worth notice is that plants grown in pots are far less liable to sleeping disease than those planted in the border upon which the pots

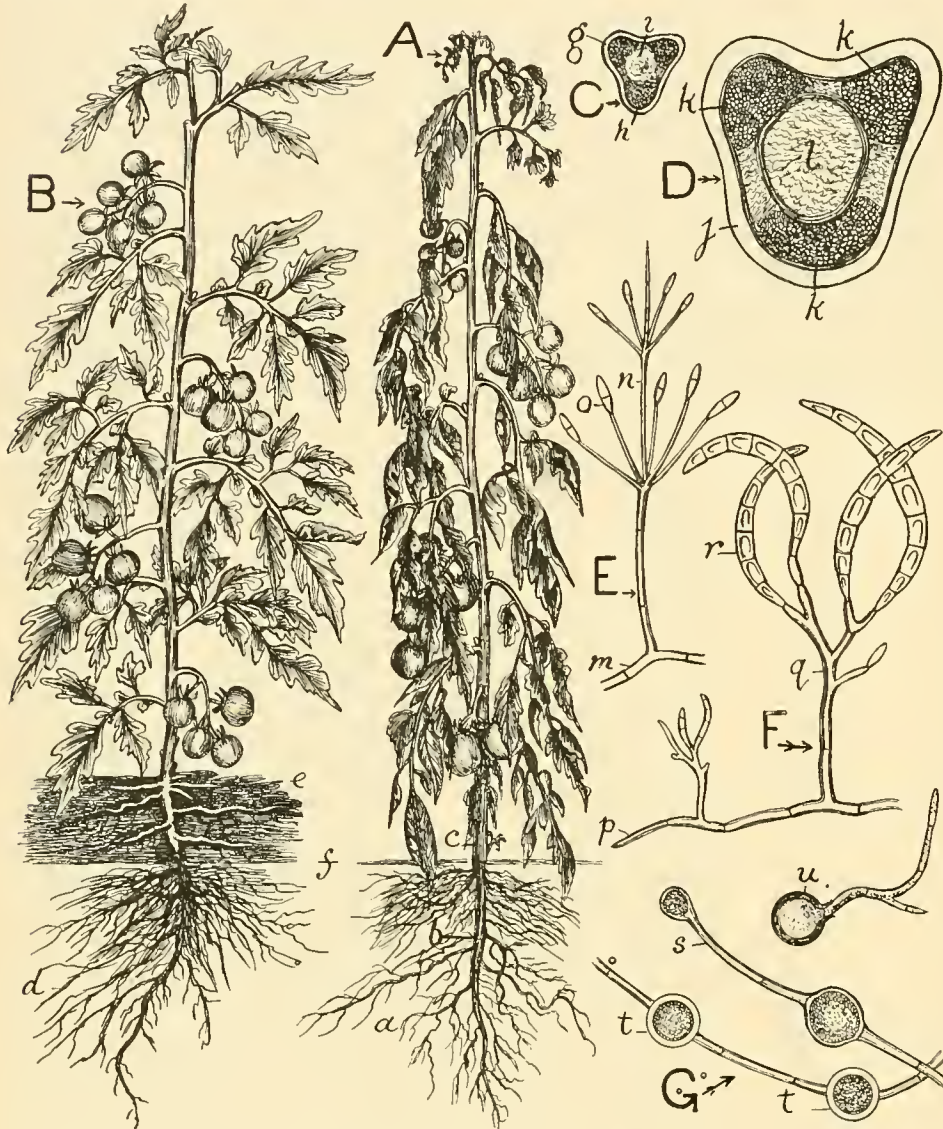
the application may be made in autumn. In the case of soil for potting, air-slaked lime mixed with an equal proportion of soot by measure may be used at the rate of 1 per cent. Where pots are to be placed the ground should be well dressed with quicklime.

Basic cinder phosphate has also been used advantageously, especially with kainit, 2lb. of basic cinder phosphate and $\frac{1}{2}$ lb. of kainit per square yard, digging in in the autumn and forking over again before planting. In the case of soil for potting the mixture may be added to about 9 cubic feet, or spread the compost about a foot in depth and sprinkle on it the 2 $\frac{1}{2}$ lb. of mixture per square yard and mix well. Though the disease has not been traced to the seed, it is not wise to use that obtained from diseased plants, and even that from a neighbourhood where the disease prevails cannot be safely used, for, apart from germs, there is greater susceptibility to disease.

It is needless to insist that the plants should be removed and burned on the appearance of the first symptoms of the disease, and the soil dressed and thoroughly mixed with quicklime.

The following notes explain the illustration: A, plant of Tomato drooping and destroyed by sleeping disease; a, roots brown and dead; b, root-stem browned and destroyed; c, stem up which disease passes. B, recuperated plant of Tomato by top-dressing with soil, sometimes effective in enabling plant to mature fruit; d, roots and root-stem destroyed by sleeping disease to ground level; e, top-dressing of soil encouraged rooting from aerial part of stem; f, ground level. C, transverse (across stem) section of drooping plant (A) just above ground, natural size; g, cortical tissues apparently healthy; h, woody fibres brown and diseased; i, pith cells quite normal. D, section of stem of diseased plant (A) just above ground, enlarged three diameters; j, healthy cortical or bark cells; k, woody fibres diseased (brown); l, normal (white) pith cells. E, early or first stage of fungus, called diplocladium stage; m, mycelium or prostrate hypha; n, conidiophore; o, conidium or spore $\times 300$. F, second stage of fungus, termed fusarium stage; p, mycelial thread or prostrate hypha; q, conidiophore; r, conidia or spores $\times 300$. G, final or resting stage of fungus; s, mycelial thread with spores in course of development; t, matured resting spores; u, resting spore germinated and pushed germ-tube $\times 300$.

G. ABBEY.



SLEEPING DISEASE OF TOMATO. (See notes for explanation of letters.)

even mainly leading that, though also capable of becoming parasitic.

PREVENTION.

As the disease is wholly internal and infection on the aerial part of the plant not feasible, spraying with fungicides is worse than useless. As the fungus begins life as a saprophyte, it is obvious that the best preventive will be to avoid green manure either as an application to the soil or as a top-dressing, for a saprophyte must have at command dead and decaying organic substances to exist. The manure, or such substances as leaf-mould and even turfy loam, with the vegetation only partially decayed, may not contain spores, yet affords a congenial means for those present in the ground to germinate and reproduce themselves.

are placed. In the cultivation of plants in pots the compost mainly consists of loam in which the organic substances are in a complete state of decay, and fertilisers employed which only green-leaved plants can make use of. The fungus, therefore, even if present, cannot exist, or if the spores germinate the mycelium has its career ended in the saprophytic stage.

As preventive the use of quicklime is strongly advised at the rate of 1lb. per square yard, slaking with the smallest amount of water necessary to cause fall into an apparently dry powder, then spreading evenly whilst hot, and in the course of a day or two digging in with a fork and taking small spits so as to mix as evenly as possible with the soil to the depth of a foot. This should be done about six weeks in advance of planting, or

GARDENING OF THE WEEK

INDOOR GARDEN.

VIOLETS.

EXCEPTING in dry, warm localities, the middle of May is early enough to propagate for autumn and winter flowers in frames or pots. Select a border shaded by a south or east wall, and dig in deeply a heavy dressing of light, well-rotted manure and leaf-soil. If the ground is at all heavy, work in near the surface some finely-sifted old soil from under the potting-bench. Select from the beds the strongest runners which now have some active roots to each, and plant with a stick in the prepared border. The strongest-growing varieties require to be quite 18 inches apart each way, while for the Neapolitan and other double varieties 10 inches to 12 inches will be ample. Should the work be performed during very bright weather, bend some long Bamboo canes over the borders, upon which a few mats may be thrown for shade.

ZONAL PELARGONIUMS.

Young plants in 3-inch or 4 $\frac{1}{2}$ -inch pots may now be transferred to 6-inch or 7-inch pots in a compost of two-thirds sandy loam, one-third leaf-soil, with an 8 $\frac{1}{2}$ -inch potful of bone-meal to each barrow-load. Pot them firmly, as this should be the final potting, and place them in a light cold frame, protecting them with a mat by night as long as necessary. Cut back all old plants to four to six

joints of last year's growth. Allow the plants to become dry for a week or two, when the ball of soil may be much reduced and the plants repotted. These are best grown in frames or light cool houses during the summer, as a deluge of rain is injurious at any time. Remove all flower-buds as they appear until the plants are required to bloom.

CARNATIONS FOR WINTER BLOOMING.

Pinch out the points of the shoots of young plants as they reach a height of 4 inches to 6 inches, and as the buds in the axils of the leaves develop into young lateral shoots the plants will require repotting; 4-inch or 5-inch pots will be suitable, as too large a shift is often injurious by reason of the soil becoming too wet. Stand the plants on a coarse, ash bottom, and see that they do not become water-logged. A compost of two-thirds good friable loam, one-third leaf-soil, with an addition of coarse charcoal, silver sand, and a 6-inch potful of Clay's Fertilizer to each barrow-load will be suitable. Give them the protection of a cold frame for a week or two longer, giving them a light syringing each afternoon, but avoid making them too wet.

MALMAISONS.

Old plants now producing good blooms will benefit by a little stimulant. Bentley's Carnation manure is safe and good as a top-dressing, a small dessert-spoonful to a 6-inch or 7-inch pot is sufficient once a fortnight. Keep the plants free from aphids by frequently dusting tobacco powder into the points of the shoots, and shade them from bright sunshine. Keep the young plants staked and regularly tied now that they are growing rapidly, avoid crowding, and give them abundance of air and shade moderately. Keep the stock of

AMARYLLIS

clean and healthy for some time yet, and, should any signs of mealy bug appear, frequent fumigating with XL All is the best remedy. An occasional dose of liquid manure may be given to such plants as were not repotted before starting, and a slight shading from bright sun.

COLEUS

for specimens should now be ready for their final move. If the plants are to be kept in good shape they must have plenty of room, and the points of the strongest shoots must be pinched out to regulate the growth of the plant.

Wendover.

J. JACQUES.

THE FRUIT GARDEN.

HARDY FRUIT.

SELDOM, perhaps, have fruit trees of all kinds broken away and flowered in a more satisfactory way than they have done this spring, but, owing to a series of damp and all-night frosts for ten nights in succession, varying from 4° to 14°, accompanied by terrible north and easterly winds, never were our hardy fruit prospects in a worse condition (well coped and covered Apricots and Peaches excepted). The tiny fruits of Plums, Pears, Cherries, Gooseberries, Currants, &c., lie on the ground, having been destroyed wholesale. Even unopened buds on the early Strawberries and some of the Apples are found to be quite black within, thus a whole season's labour and expectations are almost annihilated. We must, nevertheless, not give way to such lamentations, but proceed with the disbudding of all wall trees, waging at the same time incessant warfare with the active grubs rolled up in the leaves. Wash the trees well with clean water when the days are mild and cloudy.

MULCH THE BORDERS

with rotten manure and old lime rubble, as calcareous matter will be in great demand at stoning time, and water copiously to ensure its reaching every part of the soil in which the roots are embedded. Take the foreright growths and blistered leaves off Peaches, also the small fruits from the shoots; wash well with clean water, and always have the usual insecticide ready for application to parts affected on the first appearance of green-fly. Examine the borders and see that the recently root-pruned or old trees do not suffer from

the want of good mulching and feeding. The usual mode of training a Peach tree against a south wall, or within a few inches of a glass roof, so as to expose every leaf to the sun, is a most trying position for them, and unless a liberal supply of water is given to the roots and foliage insect life will soon be abundant.

Maiden Strawberry plants, from which the current year's supply of runners is to be obtained, may be divested of their flowers, well mulched and watered if necessary, and autumn-planted beds may be made very firm by treading when the ground is dry.

GRAFTED TREES

will need quite frequent inspection, because if the modern grafting wax is not used the occasional showers we are now experiencing will loosen the clay coverings, and if not replaced quickly the drying intervals between the showers act most injuriously on the graft, and that, too, at the most critical stage of its existence. Any coverings that have given way must therefore be replaced at once, and those that are cracked must have some fresh clay worked into the fissures, as the more thoroughly air is excluded the more certain will be the success of the grafts.

Mudresfield Court.

W. CRUMP.

FLOWER GARDEN.

ORNAMENTAL SHRUBS.

THOSE planted in the autumn having made new roots and foliage and adapted themselves to their new home, it is found that they will withstand a moderate amount of neglect. During growth they should be liberally supplied with water, and if many flower-buds form whilst the plants are very young, most of them should be carefully taken off without injuring the wood spurs which grow just behind them. Any plants presenting a sickly appearance, which may be known by the leaves losing their gloss, and in some instances brownish-coloured flower-buds, the majority of which fall off undeveloped, should be immediately given a good mulching of well rotted manure and a liberal watering.

THE FUCHSIA.

This is an old and general favourite, which of late years has undergone considerable changes in form, colour, and size, and although chiefly cultivated in pots the majority of Fuchsias will flourish and bloom profusely in a sheltered border, especially if they face the east, and are backed with a wall or fence to afford shelter from cutting winds. By this means, and fairly cultivating ordinary garden soil, enriching it with manure, and supplying sufficient water, blooms equal to any produced by pot-grown plants can be obtained.

DELPHINIUM AND LARKSPUR.

The beautiful tuberous-rooted sorts are commonly known as Delphiniums, and they are perennials. Larkspurs should be raised from seed annually. The first-named may be included among the most beautiful of herbaceous plants; they thrive in almost any kind of soil, but prefer that of a light, peaty nature. These plants should be heavily mulched with well-rotted manure, and in hot, dry weather should have abundance of water. The following are a few of the best: D. cardinale, scarlet, large and handsome; D. cashmirianum is an excellent flower of a pale blue colour, and more than an inch across; D. formosum is perhaps the gem of them all, it is of a deep rich blue colour and elegant form, produced on long spikes, no garden should be without it, there being few flowers of such a lovely shade of blue; D. grandiflorum has beautiful large pale blue flowers; of this species there are a number of handsome garden varieties with colours intermediate between blue and white, both single and double-flowered forms; of these perhaps *Chinensis* is best. The varieties of common Larkspur are numerous, the tall double Rocket strain is one of the best, and the dwarf Ranunculus-flowered Rocket is a very elegant form.

THE GLADIOLI.

One of the best recommendations of the Gladiolus is that its flowers continue to open long after

the spike is cut, and blooms in a vase of water as freely as in the open ground. We may safely say that the Gladiolus is the finest of all flowers for indoor decoration in autumn, its tall and noble spike entirely preventing it from being used to produce the dumpling-like effect given by Dahlias and other popular flowers; but its uses in the open air are even greater. Nothing in the way of a flowering plant gives so bold an effect in the flower garden.

Ashwellthorpe Gardens, Norwich.

T. B. FIELD.

THE KITCHEN GARDEN.

BRUSSELS SPROUTS.

PLANT out the earliest-raised plants from the bed where pricked out. Always afford a copious watering immediately afterwards, if only to settle the soil about their roots. The strong-growing varieties may be planted 2½ feet apart in the row and 3 feet from row to row.

LATE PEAS.

A good trio of these are Autocrat, Ne Plus Ultra, and Carter's Michaelmas. Liberal culture is essential for late Peas, and unless this can be given but poor results can be expected. Now is a good time to make large sowings. Supposing that a plot of ground is at disposal that has recently been heavily manured and deeply dug or trenched it will answer well; but failing this a trench should be taken out to the depth of 18 inches, half filling it with well-decomposed manure, that of a cool nature, as cow manure, being preferable. Fill in nearly to the level of the surrounding ground, and draw a drill down the centre to receive the seed. Sow thinly, for it has been proved beyond dispute that Peas generally, and late ones in particular, give much better results when sown thinly. It is a good practice to pinch out the points of the plants when about 2 feet high, especially if they are likely to come in too early.

MULCHING THE CROPS.

The advantages of mulching vegetable crops are many, especially those that have to remain on the ground throughout the hottest days of summer before they produce their respective crops—for instance, late Peas, Runner Beans, large Onions, and Leeks. The best material known to me is spent Mushroom bed refuse, or, failing that, any half-decayed stable manure will answer. In the case of the two first-named vegetables, a foot wide of this should be laid on 2 inches in thickness on both sides of the row, or in the latter the ground may be entirely covered.

ENDIVE.

Seed may be sown for the earliest crop, but it is too early to sow for the main supply. At this date the best results follow if this useful salad plant can be sown thinly where it is to remain, afterwards thinning out to 10 inches apart.

HOING.

Keep the Dutch hoe working among the crops frequently, choosing fine sunny days for the operation. A useful tool among vegetables in gardens having a light soil is the "Erator." It is light to work, and stirs the soil to a good depth, at the same time checking small weeds. A lad can use it.

Stonleigh Abbey Gardens.

H. T. MARTIN.

ORCHIDS.

ONCIDIUM SPLENDIDUM.

THIS Orchid produces new roots from the base of the young growths when they are about an inch long, therefore any necessary repotting should be done as soon as growth begins. It should not be over-potted, as it does not root very freely. Pots should be used of sufficient size for two years' growth. Allow two-thirds drainage material, and over this place a layer of moss. Use as compost equal proportions of peat and moss with about one-fifth leaf-soil, mixing the whole well together. Place the base of the plant level with the rim of the pot in the usual way, and fill up with the compost, which should be pressed moderately firm, and work in a few crocks to allow a free egress of water.

Grow the plants in a light position at the warmest part of the Cattleya house, and give water sparingly until they have become well rooted and the growths further advanced, after which they should be well supplied until growth has finished.

CYMBIDIUM Eburneo-Lowianum.

When the flowers have been removed from the plants the young growths will be on the move. The necessary repotting should then be done, the pots filled one-third with drainage material, and be of sufficient size to allow ample rooting space, as the plants are free growers and make plenty of roots. Peat, moss, good fibrous loam, or leaf-soil in equal proportions form a suitable compost, and should be pressed moderately firm around the ball of the plants and a few crocks worked in to allow a free passage of water. If the plants are small, neat, and compact pot them on without disturbing the roots. When large specimens have become somewhat unsightly through loss of bulbs or foliage from the centre of the plant carefully pull them to pieces. Sever the rhizome to leave about two bulbs with one lead, each piece being potted up singly or a number placed together to form moderate or large size specimen plants, but they increase much faster when potted singly or about two leads put together (and so keep small plants) than when kept as large specimens. The cool intermediate house is the best place to grow this lovely Orchid.

Lelia jonceana.

These have now completed their growth and issue new roots from the last made bulbs. If any require more rooting space they should now have attention. Plants that are not neat and compact should be carefully pulled to pieces, the old and shrivelled back bulbs cut away, and the leads placed together to form neat compact plants. They are best grown in pans, and equal proportions of peat and sphagnum moss form the most suitable compost. As they have now entered upon their resting season they should be suspended in the cool intermediate house, and given sufficient water only to keep them plump and healthy during that period.

Odontoglossum grande.

This old and useful autumn-flowering Odontoglossum should as soon as growth begins be repotted if necessary. The new roots, which are large and fleshy, emerge from the base of the young growths when the latter are only 1 inch long. If therefore the roots get far advanced it is difficult to perform the operation of repotting without injuring them. If the plants are compact and the compost in good condition the roots should not be disturbed when repotted. If they have overgrown their pots or lost a number of their back bulbs turn them carefully out, liberate the drainage material and old compost from the roots. Cut dead ones away, place the plants in their pots so to bring the back bulb near the rim, and allow room for two or three years' growth. Chopped Fern roots should be used in place of crocks and peat and sphagnum moss make the most suitable compost. After repotting the plants should not be too freely watered, but when the new roots have permeated the fresh material and the growths well advanced they should not be allowed to become dry at the roots until growth has finished. They grow well in the cool intermediate house, and should be sprayed overhead on bright days throughout the summer. F. W. THURGOOD.

Roslyn Gardens, Stamford Hill, London, N.

RHODODENDRON DUCHESS OF PORTLAND.

VISITORS to the meeting of the Royal Horticultural Society on the 21st ult. will probably remember a very beautiful Rhododendron shown by Messrs. Fisher, Son, and Sibray, Handsworth Nurseries, near Sheffield. The flowers were beautiful in themselves, compact trusses of tender colouring, almost pure white but with just a suspicion of pink, and the profuse way in which they clustered over the

leafy growth showed that the variety is exceptionally free. A great point, however, is its earliness. It is true that the plant shown in the illustration had been lifted into a cold house, but this was simply to save the flowers from destruction by late frosts. As a tub plant for the cold house it has a marked value. It is an addition to the list of strong-growing and thoroughly hardy Rhododendrons that will become popular. The committee gave it an award of merit.

CORRESPONDENCE.

(The Editor is not responsible for the opinions expressed by correspondents.)

PHARMACY ACTS AMENDMENT BILL.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—There are certain aspects of this measure which are open to criticism by those who honestly differ from its provisions, and I shall be greatly obliged if you will enable me briefly to refer to them through the medium of your valuable paper.

The second clause, which makes provision for the regulation of the sale of poisons, is evidently directed against any and every firm and company except individual registered chemists and druggists. I fail to see why the restrictions upon "any company, firm, co-partnership, or body of persons," should be so stringent as they are intended to be, or why an already existing monopoly should be strengthened in the way suggested. It is seriously proposed to make it unlawful for any person, company, firm, co-partnership, or body of persons to sell or to "negotiate" or "participate in the sale by retail of any poisons at or upon any place other than an open shop registered." Is a traveller or other agent to be forbidden negotiating an order for paint, sheep dip, weed killer, or insecticide from an agriculturist or nurseryman? Surely that would be an unwarrantable interference with the liberty of the subject which the Legislature will decline to sanction. The well-known case of the Pharmaceutical Society v. White at once occurs to one in this connexion. White, a nurseryman and seedsman, received an order at his shop for weed killer, which he transmitted to a manufacturer, who supplied the customer direct, White receiving a commission for forwarding the order. The Court of Appeal affirmed that White was the agent or "pipe" or "channel" through whom the order was sent. Surely that is common-sense; and it would be against the trend of modern legislation to endeavour to prevent such a transaction being perfectly legal or that persons who take orders in the same way as White should be deprived of their commission.

Then, again, the powers proposed to be conferred upon the Pharmaceutical Council, as regards the regulations to be made for the registration of shops and persons are such as would be more properly discharged by a public department than by officials of a body that would naturally be prejudiced in a certain direction. Grave injustice

might probably be done to individuals by the removal of their names from the register, under regulations which, by the Bill, it is intended to leave in the hands of such council.

Clause 5 proposes to make it compulsory for all shops or buildings which are registered to be separately rated to the poor. This seems quite superfluous. What sanctity attaches to the poor rate assessment it is impossible to conceive. Surely it has no connexion with the sale of poison or medicine! as everybody knows, it has been quite a common occurrence in recent years, for palatial hotels, coffee taverns, and theatres to be erected, the lower rooms of which adjacent to the streets are let out separately as shops. The usual practice is for the entire building to be assessed to the poor rate, and for the shop rental to be independent of rates. Why disturb the existing state of things? Registration should suffice. In the case of the Army and Navy or Civil Service Stores, where the chemists' department is only part of one particular floor, it would be most difficult, if not well-nigh impossible, to fairly estimate what the assessment should be for so many square yards of floor space.

Clause 7 seems unreasonable and unjust. It would really require that directors of stores in which there is a chemists' department should themselves be qualified chemists, although such department be under the superintendence of a registered chemist and druggist. Of what possible benefit could it be to the public—what extra protection would they receive—should such a provision become law? Is a director, forsooth, to test the strength and quality of all the drugs which the company sends out, as a qualification for holding office? Hitherto the possession of business capacity and a substantial holding of shares have been considered the necessary qualifications; but if this newly-invented one is to be insisted upon, the range of choice for such directors of such stores will be greatly restricted—for no sound reason whatever.



RHODODENDRON DUCHESS OF PORTLAND.

(Given an award of merit at the Royal Horticultural Society's meeting recently. Shown by Messrs. Fisher, Son, and Sibray, Handsworth Nurseries, Sheffield.)

It would be obviously unfair for directors to be limited in the manner proposed. It might as well be argued that those who guide the destinies of life assurance societies should be medical experts or skilled actuaries; or that those who control breweries should be trained judges of malt or Hops. From the point of view of quality of medicine or kind of poison dispensed, the public do not care two straws who the directors of a company are. If they are served and provided for medicinally by a duly qualified chemist restrictions upon directors will not give greater protection than they now possess. If a whole board of directors were to be registered as chemists and their registered dispenser sold some poisonous compound to an individual through whose carelessness or design such compound brought about a fatality, what possible connexion could such directors have with so unfortunate a result? Mr. Bailey, M.P., may well describe Clause 7 as a "very unreasonable condition." He might have added "absurd."

To conclude, the restrictive nature of several of the provisions of this Bill is such as to make it highly probable that it will meet with strong opposition on the part of all those who, while desirous of fully protecting the public, decline to continue, much less extend, the monopoly already possessed by chemists. A Privy Council departmental committee has recently reported in favour of breaking down the monopoly and legalising the sale of poisonous compounds under proper restrictions by others than qualified chemists, where they are required for use in connexion with agriculture, horticulture, or sanitation; such poisonous compounds to be sold only by licensed persons, in sealed packages, as received from the manufacturers, properly labelled, and subject to the regulations to be made by the Privy Council.

The object of the Pharmaceutical Society in promoting this Bill is only for the benefit of chemists and druggists. This is shown by the reports of meetings of chemists held in all parts of the country.

The Legislature should act not in the interests of individuals, but for the convenience and benefit of the public. The day has gone by when monopolies can be maintained.

THOS. G. DOBBS,
Secretary and Solicitor, Traders in Poisonous
Compounds for Trade Purposes Protection
Society.

24, Sansome Street, Worcester, May 6, 1903.

BOOKS.

Flora and Sylva.—The monthly part of this beautifully got up magazine contains two excellent coloured plates, both by H. G. Moon, one of *Geranium grandiflorum*, which goes with an article upon the genus by the Rev. C. Wolley-Dod, and the other of single Camellias. The first article is upon "Azure and Blue Flowers in the Wild Garden," in which the *Muscari*, *Forget-me-nots*, blue *Wind-flowers*, the *Hepatica*, *Pasque Flower*, *Wood Hyacinths*, and *Omphalodes* are described. "The Garden Beautiful" is continued from last month, and several pages are devoted to "Government Neglect of Forestry." Tree lovers will find much to interest them in the article upon "The White Poplar," accompanied by an exquisite engraving of a noble line of Poplars, from a picture by a Dutch artist shown at the Paris Salon. Mr. Bean describes the "*Eucryphia*," and the editor (Mr. William Robinson) reprints, with additions, his article on "Garden Designs," originally published in the *National Review*. The following words are so true that we reproduce them. No architect who loves his own work will regard them in any other way than of meting out justice to those who have planned and planted in the past, and are doing so in the present, from their own love of the work, and a knowledge born of close and long acquaintance with the trees, shrubs, and flowers. ". . . While any pupil in an architect's office will get out a drawing for the kind of garden we may see everywhere, the garden beautiful does not arise in that way. It is

the difference between life and death we have to think of, and never to the end of time shall we get the garden beautiful formed or planted save by men who know something of the earth and its flowers, shrubs, and trees. I would much rather trust the first simple person, who knew his ground and loved his work, to get a beautiful result than any of those artificers. We have proof in the gardens of English people abroad, that where freed from the too facile plans of the 'office,' far more beautiful gardens arise, as in the Isle of Madeira, where every garden differs from its neighbour, and all are beautiful. So it is, in a less degree, in our own island, where the more we get out of the range of any one conventional idea for the garden the more beauty and freshness and happy incident we see." We are pleased to see that the art paper has been abolished. "Flora and Sylva" for May is an improvement upon the first number.

The Handy Shilling Atlas of the World.—Messrs. Newnes send us this excellent little book. It is as neat and handy as anything we have seen, and deserves a large sale. Atlases are usually too cumbersome for constant use, but this book can be referred to without trouble. An atlas for the desk of a busy man.

SOCIETIES.

EAST ANGLIAN DAFFODIL SHOW.

THE attractiveness of this exhibition at Ipswich was mainly due to the large number of voluntary contributions. In this respect, the hon. secretaries are fortunately able to command quite an unusual measure of support. The first display that came under notice was that made by Mr. J. W. Cross, of the Grammar School Nurseries, Wisbech, which covered an area of 100 square feet, and comprised many fine varieties of *Narcissus*. Beyond this, Mr. Benjamin J. Cant, of the Old Rose Gardens, Colchester, showed a magnificent collection of climbing and other Roses, and at the end, Mr. A. Bennett, Westerfield Road Nurseries, Ipswich, had a group of spring flowering shrubs. On the other side, Messrs. Wallace and Co., of Kilfield Gardens, Colchester—the famous East Anglian growers of bulbous plants—showed a great number, which were certainly amongst the most interesting objects in the room. Here were Tulips from Turkestan, Tulips from China, hardy Orchids from Siberia and North America, some beautiful Alpine Phloxes, and many other new and hardy plants. Messrs. Frank Cant and Co., Braiswick Nurseries, Colchester, maintained their reputation as growers of Roses, and it may be noted that the flowers appeared to much better advantage in being naturally set up.

The Lincolnshire cultivators of Wisbech were represented by Messrs. K. H. Bath and Co., of Wisbech, who brought many new varieties. Mr. R. C. Notcutt, of Woodbridge and Ipswich, exhibited a charming group of forced shrubs, together with standard Azaleas, Crimson Rambler Roses, and a lovely *Clematis* (Nellie Moser). Cut Daffodil blooms from the same nursery included fine specimens of *Mme. de Graaff* and *Gloria Mundi*. Beneath the platform, Messrs. W. Cutbush and Son, Highgate, London, and Barnet, Herts, had a large and well-arranged group, consisting of forced flowering shrubs and trees, in bush and standard forms. A really magnificent collection of floral trophies was sent by Messrs. Perkins and Son, of Birmingham and Coventry. Mr. Leonard Brown, of the Daffodil Gardens, Brentwood, had a good display of English-grown bulbs, cultivated in that town; and another exhibit hereabout of much interest was formed by *Calceolarias*, kindly lent by the Ven. Archdeacon Lawrence. In a position which was little calculated to display flowers to perfection, Messrs. Fred Smith and Co., of Woodbridge and Ipswich, brought out an excellent lot of Daffodils, together with grand Darwin Tulips of very deep colours, and a curious-looking parrot Tulip. In this department also, Messrs. Bolton and Laughlin, of the Henley Road Potteries, sent representative specimens of their pottery ware.

The platform itself was adorned with huge Palms, sent by Mr. Notcutt, and two of the groups of flowers, including those with which Mr. W. P. Burton won first prize and the Ven. Archdeacon Lawrence second. Miss Willmott, Warley Place, Brentwood, sent a number of seedlings which attracted a good deal of attention on the part alike of the professional and amateur visitors. In the saloon, the dinner table decorations formed the principal attraction; but here, again, there were many stands out for competition. *M. de Graaff*, of Leyden, Holland, forwarded fifty vases of the choicest seedling *Narcissi* from his nurseries in that country. Messrs. Hogg and Robinson, of Dublin, had a wonderfully bright stand, upon which some 150 vases were arranged. This collection comprised many choice Daffodils, Tulips, and Anemones, and afforded evidence that bulbs can be grown in Ireland equal, if not superior, to those grown elsewhere.

BRISTOL GARDENERS' ASSOCIATION.

ANNUAL MEETING.

The annual meeting of this association was held at St. John's Rooms, Redland, on Thursday, the 30th ult., Mr. E. H. Biofield presiding over a large attendance. Mr. W. Ellis Groves, secretary and treasurer, read the report for the year ending April 1, which showed that the society was

making steady progress. During the year seventeen meetings had been held, and a lecture given on each occasion, all of which had been both instructive and interesting and much appreciated. In addition to their own lectures, exchange visits had been made with the Newport, Cardiff, and Reading Associations, as also with the Bristol Amateur Horticultural Society, the exchange in each case proving very successful, and the society hope to exchange with other societies during the coming year, it being found that these exchanges were very beneficial to such associations as these. Forty-two certificates of merit and nine certificates of special merit had been awarded, and by donations received the society had been enabled to offer substantial prizes at all their meetings, thereby adding greatly to their interest. Feeling the want of suitable books for the use of the members, the society set itself the task of forming a library, and through the valuable assistance rendered by gentlemen of the district and the horticultural trade, the Bristol gardeners had now a first-class collection of sound readable horticultural works. No further subscription is required to obtain these books, apart from being members of the association, the subscription for this being half-a-crown per year. The library had proved of great service, and was much appreciated by the gardeners of the district. Though the membership is increasing annually it is felt that there are still many gardeners and lovers of plants who ought to become members, and the committee appeals to all lovers of horticulture to interest themselves in the good work the association is doing for the benefit of the gardening fraternity of Bristol and district.

On the motion of Mr. C. H. Lindfield, the sincere thanks of the society were unanimously voted to Lieutenant-Colonel H. Cary Batten, Mr. W. A. Garaway, and other gentlemen for their extreme kindness and most valuable assistance rendered during the past year. Lieutenant-Colonel H. Cary Batten was again unanimously elected president; Mr. E. Poole, F.R.H.S., as chairman; Messrs. Garnish and Lee as vice-chairmen; Mr. W. Ellis Groves, honorary secretary and treasurer; Mr. H. Kitley, assistant secretary; Messrs. Curtis and Garnish, librarians; Mr. H. Groves, registrar, and fifteen members as a committee.

The competitions for the evening proved of a very interesting nature, the display being exceptionally fine. Prizes for three foliage plants were awarded to Mr. W. H. Davis (gardener, Mr. Curtis), Mr. J. C. Godwin (gardener, Mr. McCulloch), and to Colonel Goss (gardener, Mr. Shaddick). Certificates of merit went to Mr. Pease (gardener, Mr. Legassick), for *Oncidium flexuosum*; Dr. Eager (gardener, Mr. Case), two seedling *Cypripediums*; Mrs. Hall (gardener, Mr. Ware), *Dendrobium thysiflorum*; Mr. N. C. Dobson (gardener, Mr. Thoday), for Carnations, Begonias, and Roses. Certificates of special merit were recommended to Mr. J. C. Godwin (gardener, Mr. McCulloch), for *Odontoglossum*; Mr. W. A. F. Powell (gardener, Mr. Raikes), for three pots of *Mignonette*; Mr. A. G. Colman (gardener, Mr. Spry), a dish of Strawberries; Rev. F. G. Whidborne (gardener, Mr. Whitlock), for a basket of Orchids; and to Miss Lucas (gardener, Mr. Chilcott), for *Dendrobium thysiflorum*.

NATIONAL AMATEUR GARDENERS' ASSOCIATION.

A MOST interesting and instructive meeting of this association took place on Tuesday, the 5th inst., at Winchester House, Old Broad Street, London, E.C., Mr. D. B. Crane occupying the chair. On this occasion the lecturer was Mr. S. Hillman, who dealt with "Hardy Primulas." The lecturer said if grown in pots in a cold frame or low-pitched greenhouse the aspect of the structure should be north. To keep them cool and moist plunging of the pots was advocated; though the plants were impatient of stagnant damp, they did not like their roots to become dry. The species indigenous to Great Britain were easily raised from seed. In speaking of exotic species, and particularly of the *Auricula*, the lecturer said to raise a batch of flowering plants would take three years. Mr. Hillman then described the various species in turn, giving much valuable information respecting the more prominent among them, such as *Primula capitata*, *P. cortusoides*, *P. denticulata*, *P. Forbesii*, *P. involucrata*, *P. Muuroi*, *P. Parryi*, *P. farinosa*, *P. japonica*, *P. marginata*, *P. viscosa*, *P. Sieboldii*, and many others. As the lecturer was able to illustrate his remarks with flowers of a large number of species, considerable interest was added to the lecture. A discussion followed, after which a vote of thanks was accorded Mr. Hillman for his lecture. An exhibition was held in the large hall, and this embraced a large and varied assortment of spring flowers. Mr. George Hobday, Romford, Essex, got a certificate for some phenomenal *Rhubarb*. The sticks were between 3 feet and 4 feet long, of good colour, and superb quality. Orchids were well shown by Mr. Forbes, Tottenham, and greenhouse flowers by Mr. Hobday, each of whom received a certificate. Not the least attractive features of the exhibition were the decorative exhibits set up by lady members. The association is progressing most satisfactorily.

COMMONS AND FOOTPATHS PRESERVATION SOCIETY.

A MEETING of the executive committee of the Commons and Footpaths Preservation Society was held at 25, Victoria Street, Westminster, recently. The Right Hon. G. Shaw-Lefevre presided, and amongst others present were Sir William Vincent, Bart., Sir Robert Hunter, Mr. R. P. Blennerhasset, K.C., Mr. E. N. Buxton, Mr. P. Birkett (hon. solicitor), and Mr. I. W. Chubb (secretary).

Mr. E. N. Buxton reported that the City Corporation were proceeding with their opposition to the scheme for purchasing an open space of nearly 900 acres on the eastern confines of the metropolis. The following resolution was unanimously adopted by the committee: "That this meeting of the Commons and Footpaths Preservation Society desires to express its great regret at the opposition threatened by the Corporation of the City of London to the Hainault Forest Bill, and earnestly hopes that the Corporation, which in the past has done so much for the open spaces

of London and its environs, will withdraw its opposition to a scheme that in the opinion of the society will be of great benefit to the metropolis."

It was resolved to oppose on second reading in the House of Commons the old Bridewell Burying Ground Bill, which seeks to override the clauses of the Acts providing for the protection from building of disused burial grounds; it was also decided to oppose the Hastings Harbour District Railway Bill, under which the celebrated East Cliff at Hastings will be subjected to grave disfigurement.

The chairman reported that the Charity Commissioners had now given effect to the society's views with reference to 290 acres of fuel allotments at Primley, in Surrey; a clause had been inserted in the scheme under which the charity will now be administered to provide that no part of the land shall be enclosed or built upon, and that reasonable access shall be allowed to the public. The chairman also stated that the society had assisted to defeat a proposal to sell for building purposes 75 acres of Poots Allotments at Burghclere, in North Hants.

It was further decided to enquire into the action of the War Office in forming an encampment on Watchet Hill, one of the most noted view-points in Dartmoor, notwithstanding the strong local opposition to the proposal.

The secretary reported that upwards of 150 cases of interference with rights of way, roadside waste and common land in various parts of England and Wales had been dealt with by the society during the past month.

NEWCASTLE-UNDER-LYNE AND DISTRICT GARDENERS' ASSOCIATION.

THE monthly meeting of this association was held on the 5th inst. in the Y.M.C.A. Assembly Room, when the subject for the evening was "The Apple: Its Cultivation and Varieties." The chair was occupied by Mr. A. Sproson, who introduced the subject. This was dealt with in a lengthy manner, and special emphasis was laid on the systems of training and pruning. The extension system was strongly advocated by the lecturer, and was illustrated by three year old branches thickly set with fruit buds their whole length. A very interesting and profitable discussion followed. A hearty vote of thanks to the lecturer terminated the meeting.

SCOTTISH HORTICULTURAL ASSOCIATION.

BY invitation of the council of the association Mr. Richard Dean, V.M.H., delivered a lecture before the members at Edinburgh on the 5th inst., on "Floriculture and Florists during the past Fifty Years." Mr. John W. McHattie, the city gardener, president of the association, was in the chair, and there was a good attendance. Commencing with the remark that in the lecturer's opinion the "golden age of floriculture" extended from 1825 to 1880, allusion was made to the great amount of activity in floricultural circles in the forties and early fifties, which led to the establishment of various periodicals, started for the promotion of floriculture. The formation of the National Floricultural Society in 1851 was mentioned, and of the 207 original members it was said that the veteran William Paul of Waltham Cross was the sole survivor to this day. Then followed a recapitulation of the leading florists' flowers cultivated at the time, and some account given of those closely associated with their improvement, interesting reminiscences being supplied. This led to the notice of eight subjects which the lecturer regarded as epoch making—the fancy Pansy, Japanese Chrysanthemum, Hippeastrum pardinum, Cactus Dahlia, Begonia Boliviensis and its allies, Clematis Jackmanni, the Sweet Pea, and the Gladiolus. The lecture closed with an impressive peroration, and at the conclusion Mr. Dean was heartily thanked, and by acclamation elected an honorary life member of the association.

CROYDON HORTICULTURAL IMPROVEMENT SOCIETY.

THIS society held its fortnightly meeting recently, and were well entertained by a lucid and ably delivered lecture on "Sweet Peas," contributed by Mr. H. J. Jones, Ryecroft Nurseries, Lewisham. The lecturer's remarks on this most popular adjunct to the flower garden would surely create in the minds of all who heard them the ambition to go and do likewise, and as the cultivation of this pretty flower is within reach of all, each can profit by the methods of such a practical and wide-known exponent.

Mr. Jones, in opening his subject, paid due attention to the preparation of the ground, which work should be commenced in autumn by adequate trenching and a plentiful supply of well-rotted manure, such as a spent hot-bed. The position in the garden could be selected anywhere almost, excepting under trees, and he advised growing in small clumps, because then the light and air would so much more materially assist the growth. The seed-sowing operation could be begun in February, and with the average season plants would flower about the middle of June. As soon as the seedlings appear above the ground, put in small twigs along the rows or clumps, and afterwards add the taller sticks, 5 feet to 6 feet in height, as the growth increased. For a top-dressing he advocated the mixture of bone-meal and Peruvian guano mixed, and applied at the rate of 14lb. to one bushel of soil, which should be well watered in. At all times when applying water give the rows or clumps a thoroughly good soaking to enhance the deep rooting of the plant. When the plants began to bloom he found it very beneficial to pinch out the leader of the plant, so that all nutriment went into the flowering stems. For a continuation of bloom care should be taken to remove all seed-pods as soon as appearing, and another useful hint was when the plants are beginning to look fagged and almost spent, cut them back to about 2 feet above the ground, withholding liquid manure for about a week or two, and so resting them. Afterwards apply a plentiful supply of stimulants to the roots, and the result would be they would break forth into new growth, and so continue the bloom until cut

off by frost. For pot culture he recommended using good rich loamy compost, and when the pots are filled with roots use any liquid manure, care being taken in this direction, as over-watering in pots is detrimental. The hybridising he thoroughly explained, and disproved the idea that fertilising by bees and insects was possible, owing to the very early stages when this practice must take place.

An interesting discussion by the members followed the lecture, and the questions asked were ably replied to by Mr. Jones, who won from all present a most hearty vote of thanks for his instructive lecture.

A well-grown Cattleya Mossia was exhibited by Mr. C. Perrett, and six new members were elected.

The chairman, Mr. W. J. Simpson, announced that the next paper, on "Popular Horticulture," would be by Mr. W. Turney on the 19th inst.

CAMBRIDGESHIRE HORTICULTURAL SOCIETY.

THE summer show of this society will be held on Tuesday, July 14, and the autumn show on Wednesday and Thursday, November 4 and 5. The summer show will be in the Fellows' Garden, King's College; the autumn exhibition in the Corn Exchange. Mr. Arthur Matthew, 20, Trinity Street, Cambridge, is the honorary secretary.

ANSWERS TO CORRESPONDENTS.

RULES FOR CORRESPONDENTS.

Questions and Answers.—The Editor intends to make THE GARDEN helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object will make a special feature of the "Answers to Correspondents" column. All communications should be clearly and concisely written on one side of the paper only, and addressed to the EDITOR OF THE GARDEN, 20, Tavistock Street, Covent Garden, London. Letters on business should be sent to the PUBLISHER. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper.

Names of plants.—A. J. J.—The Orchid is Dendrobium chrysanthum; the other flower, Streptosolen Jamesoni.—W. H. G.—The Rose is Mme. Barthelemy Levet.

Fuchsia flower (P. R. G.).—It is not very uncommon for petals to become foliaceous (leaf-like) as with some of those of the Fuchsia seen. Petals are metamorphosed leaves, and their reverting to leaf-like form is thus explained.

Black fungus on Dahlias (S. J. G.).—It is difficult to properly advise you as to the fungus attacking your Dahlias without knowing what kind of a fungus it is and how it attacks the plants, whether on the leaves, stems, or roots. Bordeaux mixture is, as a rule, the most effective fungicide we have, but it may not be of the slightest use in your case. Why not send up an affected part of the plant, and then we can see what the pest is.—G. S. S.

Grubs (H. D. PALMER).—The so-called grubs you send are specimens of the "snail slug" (Testacella halioidea), which is not an uncommon species, but as these slugs live almost entirely underground they are seldom seen, and, even if they are, they are generally mistaken for one of the ordinary kinds, which is unfortunate. They are decidedly useful in gardens, for they are entirely carnivorous, feeding on earthworms, slugs, and snails. Their principal food, however, is earthworms. In order to obtain these they are able to extend their bodies until they are so attenuated that they can pass down the worm burrows, and so reach their prey. They are known as "snail slugs" on account of their being provided with a small oval, flattened shell at the tail, which at first sight only looks like a brown mark.—G. S. S.

Cologne cristata not flowering (A. M.).—We cannot account for your C. cristata not blooming unless the plants have not made bulbs sufficiently strong to produce flowers, as this is a free-blooming Orchid. One that seldom fails to give satisfaction and one of the easiest to grow, it flowers well even if grown with the Odontoglossums, providing it has a warmer temperature in which to finish growth. In the cool intermediate Cattleya or Mexican house Cologne cristata does well. They must be shaded from the direct rays of the sun with a thin shading. They are now beginning to grow. They should be moderately watered, and when the growths have become well advanced and the bulbs begin to form an abundance of water is needed, with an occasional watering with weak liquid farmyard manure. When the bulbs have developed give a drier atmosphere and only sufficient water to keep them moderately plump until they show their flower-spikes, when they should be watered and given more heat.

Tulips after flowering (A. R. M.).—We gladly place at your disposal any practical advice, and we are sorry we cannot recommend you to follow what you propose to do, viz., to plant the Tulips "in a permanent place to come up every year as long as they will last," in fact, they will only last a very short time so treated. On the other hand, they will last many years, and increase and improve each year, provided the bulbs are lifted each year. In saying this we have in mind quite a grand display of single Tulips we have seen this spring. The bulbs were originally purchased from a Dutch firm, and in their first flowering gave medium size flowers only. The second season the flowers were somewhat larger, and now after four or five years both foliage and flowers are infinitely superior to the best of Dutch produce, not in one colour but in all colours alike, white, yellow, and those well-known sorts Thomas Moore and Keizer Kroon. Of the last we have never seen flowers to equal the four year old English-grown roots. This success in a large degree

depends upon lifting and harvesting at the right time, for the bedding Tulip is not a success if planted permanently in any soil, British or foreign. Planted thus they merely exist, the foliage getting smaller each year, and the flowers diminishing very perceptibly. We are so much struck with what we have now realised that we hope to deal more fully with the subject later on from the commercial standpoint; indeed, there is no reason why the Tulip may not be grown as well or better in this country than in Holland. The flowers we refer to are vastly superior to any Dutch produce we have seen. What you should now do with those that have flowered in the open—provided it is necessary to shift them at all—is to lift with foliage intact and lay the roots in soil in any sheltered place. Keep hot sun or drying winds away from the roots. Here they may remain for a month or more, and when fully ripened off the bulbs may be lifted, sorted, and laid in trays placed in an outhouse or shed of an airy nature. Those in the pots that have been forced may be kept for a time in the pots and laid on their sides to ripen. In a month or so shake them out and replant in the ordinary way in early autumn. It is more than likely that this great essential of annual lifting robs our gardens each year of the beauty these provide when thus treated. Given this absolute rest no bulbous plant is more reliable.

Anemone bulbs rotting away, &c. (A. E. F. H.). Your Anemones are attacked by the Anemone fungus, of which we hear many complaints this year. It is extremely difficult to combat this pest, as the experience of many growers is on a par with your own, that is to say, the plants are apparently in robust health and flower well one year, then the next they never make their appearance above ground. Various remedial measures have been tried in vain, as if other roots are planted the spores of the fungus lying dormant in the soil at once attack them, hence it will be useless to try them where yours have failed. Lifting when dormant and replanting in August has given the best results, but then not equal to those that flourish year after year untroubled by the fungus. We presume that the plant meant is Erysimum helveticum, which was recently noted in THE GARDEN. We cannot say where seeds can be obtained, but the different nursery firms who make a speciality of hardy herbaceous and alpine plants could doubtless supply established plants in small pots.

Boronia heterophylla after flowering (C. E. B.).—After flowering your Boronia heterophylla should be pruned back hard, that is to say, reduced to a height of 8 inches or 9 inches. When this is done keep it in the greenhouse, taking care not to overwater, but on no account must the soil be allowed to get quite dry. A bedewing with the syringe two or three times a day is very beneficial. This treatment will result in young shoots being pushed forth from all parts of the branches, and directly they are about a quarter of an inch long is a good time to replot the plant. For this purpose use good fibrous peat, with a liberal admixture of silver sand, and in potting take care not to bury the ball of earth deeper than it was before, and press the new soil down very firmly. After this return to the greenhouse, and shade from direct sunshine till the roots take possession of the new soil. When this stage is reached the plant may be stood out of doors during summer. The Pimentas vary in size from shrubs to trees, and if yours is one of the latter it may be many years before it flowers. Being healthy the treatment it now receives must be suitable.

Chrysanthemums, stopping and timing (IN DIFFICULTIES).—Your enquiry raises several important questions regarding the now recognised methods of stopping these plants with the object of retaining buds of a given kind. In reply to your first question, in which you ask whether there is any period when a plant, which you are directed to allow to make a natural break, should be "stopped" if it does not develop the break naturally by a certain period? In all cases where a natural break is recommended it is advisable to stop the plants by the third week in May, if they have not made a natural break by that period. In such instances, first crown buds should be retained, as those of a second crown kind would develop far too late to be of any use for exhibition purposes. You are right in assuming that the finest blooms are obtained from second crown buds, except, of course, in a few special instances. As a rule, blooms resulting from a second crown bud selection develop an even form, and possess better colour than those of an earlier bud selection. For this reason, therefore, they are more highly valued. Vicar of Leatherhead, Mrs. Barkley, Mme. Gabrielle Debrie, President Nonin, Soleil d'Octobre, Miss Nellie Pockett, and Sir Herbert Kitchener may be flowered on second crown buds by at once pinching out the points of the shoots and taking up the required number from those which subsequently develop in the axils of the leaves. These same shoots must in turn be pinched during the first week in July. The growths resulting from this second pinching or stopping should produce buds during the latter part of August, and these should be the equivalent of second crown buds. In the case of plants of Souvenir de Petite Amie and W. H. Lincoln, as these are persistent bud producers, any bud developing during late August should be retained. Plants of Golden Gate, Princess Victoria, and Niveum should be stopped about May 10 and first crown buds retained, and in the case of R. Hooper Pearson, Miss Lucy Cheesman, and Sunstone it would be as well to stop these about May 21, securing the first buds which develop subsequently. We hope the points raised by you are fully explained in this reply.

GARDENING APPOINTMENT.

MR. HERBERT JONES, for several years foreman at Ditton Park Gardens, Slough, and now in Messrs. C. Turner's nursery, has been appointed head gardener at Ditton Park by Lord Montagu, in succession to Mr. Ormiston, retired. Mr. Jones takes over his duties on the 23rd inst.

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THE GARDEN

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[MAY 23, 1903

VEGETABLE PRODUCTION

WHEN the immense national importance of vegetable production is taken into account—touching, as it does, the intimate well-being of every household in the land—it is rather serious reading (see *THE GARDEN* of the 25th ult.) that the kitchen garden “is, as a rule, regarded as quite a third-rate part of the profession, not only by the proprietors themselves, but also by the young men who have made up their minds to become gardeners.” If this be so, though we hope the statement may be a little overstrained, it is quite time that the matter should be placed in a better light. For this and other reasons we welcome with great cordiality the proposed vegetable show to be held at Chiswick, and referred to in our leader last week. Nothing but good can come of such exhibitions, which arouse public attention to important aspects of garden work.

It is certain that we cannot build up a healthy physique upon a diet of exotics, or even support life by sipping nectar from our herbaceous perennials. Hence it stands to reason that the Essential should take rank before the Ornamental, which by no means, however, implies that we underrate the value of beauty. We had the curiosity the other day to count up the vegetable concomitants of a plain family dinner, at which an excellent Scotch broth formed part of the menu. The kitchen garden was found to have contributed—without fruit—a good “baker’s dozen” of distinct additions to a very simple and ordinary bill of fare. Imagine for a moment how tasteless, not to say unwholesome, our meals would be if they lacked such many-flavoured accompaniments.

Do we always realise as we should the debt we owe to those good men and true—our gardeners—on whose skill and industry and forethought we rely for these everyday blessings? On the contrary, we are very apt to take such commonplace matters for granted, and to forget that the homely Cabbage, and even the garnishing herb, must pass through an infinity of stages before they can appear in fitting quality upon the dinner table. To produce them in proper form, seed grower and gardener, sun, rain, and soil, with all its enriching elements, have worked together to good purpose.

We complain sometimes that too many vegetables with new names are foisted upon

the public, and it is certain that many of the older ones are hard to beat. A little thought, however, will show that without constant perseverance in this direction we should not only come to a standstill, but even these same good old kinds would before long wear themselves out. We may well forgive a little exuberance of this sort—though, doubtless, it needs to be held in check—in view of the benefits conferred upon the nation at large by the unremitting efforts of the large seed growers.

A walk through the trial seed grounds of any of the leading growers would give a good object-lesson to a thoughtful observer. There we may see hundreds of acres devoted to accredited varieties of all the best vegetables grown for the annual stocking of gardens throughout the length and breadth of the land, and even beyond seas—“rogueing” most diligently carried on to keep each variety pure and distinct—new hybrids tested with patient care, year after year, until at length the desired quality is fixed which is to stamp their fitness to take high rank among their compeers—a vast organisation of labour to bear the burden of minute and inflexible detail. “All in the way of business” is the heedless passing comment. True, but what if this arduous work were left undone? Surely there is no good reason for withholding honour where honour is due because it happens to be in the way of business.

Yet with all the care of the seed grower his would be lost labour were it not for the painstaking of the kitchen gardener. Why should there be no guarantee from vendor to purchaser that seeds will bear out their given character? Simply because a little neglect—a trivial oversight as it may seem—on the part of the cultivator may ruin the crop, though the seed sown may be of the finest. And yet, comparatively speaking, how seldom it happens that crops are so ruined. Instead, the accusation most frequently brought against the average gardener is excess of zeal. “He *will* give us finer vegetables than we want, not in point of quality, but of size.”

It is a temptation, we know, to produce the largest ever seen—a temptation something fostered as we misdoubt by the prizes offered for show vegetables grown from special strains of seed—yet it is an economic error to sacrifice adequate yield to mere size. A coarse-grown vegetable besides, of whatever sort, is as a rule worthless and destitute of flavour. Untutored public opinion is still ranged, unfortunately,

more on the side of bigness and outside show than quality.

Moreover, why should it be supposed that beauty must of necessity be divorced from utility? Culinary crops are not essentially unlovely—for witness, take the silvery grace of a well-grown plant of Globe Artichoke, which in its own way can scarcely be equalled. The illustrations, which appear from time to time in these pages, of well-planned walks and divisions in some of the best kitchen gardens are full of happy suggestions. There is nothing, perhaps, more beautiful in a certain homely sense than the broad path of a well-kept vegetable garden, with borders full of old familiar flowers and sweet-smelling herbs, where old fashions are never out of date, and new fashions meet us with airs of old acquaintance. Nor does it detract from that beauty to look across the flowers into the well-stocked quarters of fruit and vegetables, which give promise of open-handed plenty and the comfort of simple home luxuries, which the most rigid disciplinarian would not dare to call extravagance. It might be possible to do without flowers, but the vegetable garden—never.

SOME NEW AUBRIETIAS.

AUBRIETIAS are so important in the spring garden and early rock garden that it is a gain to have the good new varieties that have lately been raised. These seem to divide themselves into two classes, namely, those that aim at intensity of colour, and those of less violent colour, but that have, I think, more excellent qualities in other ways.

To begin with the strongest coloured, the fine purple raised by Dr. Mules and known by his name will probably be the favourite flower with those who judge of the merit of a colour by its strength and vivacity. Messrs. Barr are sending out an Aubrietia named *Fire King*, of an intense magenta-crimson, that will also find admirers.

But looking at the type Aubrietia *deltoidea*, and considering the varied beauties of a bed of seedlings of a good garden strain, those of us whose eyes have been trained to a keen sense of colour-beauty feel more satisfaction in tints ranging round the actual type colour, and in those variations that are lighter rather than darker. The seedlings form a good strain—those in question were the produce of seed from the garden of that accomplished amateur Mr. George Walpole—vary mostly in the lighter direction. Some are of a cool lavender colour, some with a slight rosy tint inclining to mauve. One of these seedlings especially seems to show a point of perfection in colour-beauty that exactly fits the character of the plant and the best needs of our gardens. The medium and

paler shades of colour, it should be remembered, also have the merit of making the better show at a little distance, this giving those broad effects that are so telling in the well-planned garden. Moreover, there is something about the tenderer flower-tints that are most truly in harmony with the sentiment of spring, but of this we may have something to say later.

Two new Aubrietias of dainty and beautiful colouring are Messrs. Barr's Bridesmaid and Lilac Queen. They are two shades of the same tint, Bridesmaid, the palest possible mauve, Lilac Queen a good shade darker. Both are flowers of large size—an inch across. This size may sound incredible, but it should be remembered that the apparent diameter of the flower is nearly always less than the actual measurement. The individual petals are also broad, half an inch across, so that they imbricate and fill the whole bloom, doing away with that thin open look that reduces the merit of many of the cruciform flowers. But the best of the tender-coloured Aubrietias is without doubt the very fine variety Moerheini of Messrs. B. Ruys. This almost matches Messrs. Barr's Lilac Queen, but appears to be just a good shade better all round, the flower still larger, with a prettily waved outline, the colour a pure, tender mauve. The word mauve, so often loosely used, here means the rather pale than dark rosy lilac of the wild Mallow, only in the case of this fine Aubrietia, the flower being of a better texture, the colouring is of a more solid and satisfying quality.

There is no doubt much yet remains to be done with this capital spring flower, but I incline to advising amateurs and growers to give their attention to its development in the tender rather than in the violent shades of colour.

G. J.

THE FERN GARDEN.

THE HART'S-TONGUE FERN.

ALTHOUGH as a lover of British Ferns I am naturally pleased to see that your correspondent Mr. A. Hassard-Tyrrell appreciates the beauty of this Fern and the capacity of the common form of it to become a handsome decorative plant when properly treated, I cannot help feeling, at the same time, that it is a pity to devote the care he describes to the common type when there is such a host of far more charming varieties in existence.

No one who is familiar with these latter would dream of doing so, and I am sure that if your correspondent would try his hand with a strong plant of *S. v. crispum* or the frilled form of the species he would at once allow that his care was far better rewarded than it ever could be with the plain type. Once converted by this experience, it would be odd indeed if he did not extend his culture to some of the scores of other interesting variations, for of all the Ferns in the world it is precisely the Hart's-tongue which has yielded the most departures from the normal form. The frilled section itself embraces a number of distinct forms varying in breadth of frond, length of stalk, and consequent different habit, and also in depth of the frilling. *S. v. crispum Stableriæ*, grande Wills, Bowden, Robinson, majus Moses, Gray, and diversifrons are all fine and distinct and make a handsome group.

The Hart's-tongue, however, has not been content with putting on frills, but in some cases has added fringes thereto, as in the beautiful fimbriatum section of Stansfield and Cropper, and still more so in some of the *S. v. c. Drummondii* progeny, which cap the climax by not only having

deeply-fringed frills, but the fronds are waved, switchback fashion, and finished up with beautiful tassels.

Let your correspondent acquire some of these and treat them as generously and kindly as he has done the common, or, to the connoisseur's mind, the wild form, and I am perfectly sure another letter would follow justifying my advice. He might then turn his attention to some of the merely tasselled and branch-tasselled forms, ranging from bold, robust plants with heavy terminal tassels down to tiny balls of apparent moss, roomily accommodated in 2½-inch pots. In short, he would find in time that he might fill his frames with a hundred or two quite distinct varieties, some beautiful and some curious, but all certainly more interesting than the common one, the raw material from which Nature has fashioned these varied masterpieces. There are two points in his cultural recommendations which, I think, are a little open to question, and might act as a needless deterrent to would-be growers of the Fern owing to the trouble involved. The first is the need of manure, to be applied on the surface about every three weeks. My finest and strongest *Scolopendrium*s are growing, and have been growing for several years, in a rough mixture of common garden soil and gravel.

My fernery was erected over a part of the garden consisting of a bed and a gravel walk. These were merely made uniformly flat, the staging put on, and rows of large red tiles laid down for the paths between the staging. Having a few small spare offsets of *crispum*, I dibbled these into holes in the gravel, and to my surprise they immediately took hold, and in a season quite eclipsed any specimen I had carefully installed in pots. Here, at any rate, we have the maximum growth without any manure at all, and we certainly do not find any manure among the robust plants which line the Devonian hedgerows. The next point is sponging the fronds every day. Even in London air this is surely unnecessary, and to my mind involves an amount of handling of the fronds to which I should be sorry to submit my own plants. A good watering overhead now and again I find is quite sufficient to keep the fronds healthily clean.

CHAS. T. DRUERY, F.L.S., V.M.H.

EDITOR'S TABLE.

At this season the flowers of the garden are coming forth abundantly, and we invite our readers to send us anything of special beauty and interest for our table, as by this means many rare and interesting plants become more widely known. We hope, too, that a short cultural note will accompany the flower so as to make a notice of it more instructive to those who may wish to grow it. We welcome anything from the garden, whether fruit, tree, shrub, Orchid, or hardy flower, and they should be addressed to The Editor, 20, Tavistock Street, Covent Garden, London.

TULIPS FROM CORK.

Mr. W. B. Hartland sends from his nursery at Cork many lovely Tulips in wonderful variety, and all showing the most careful culture. We selected a few of the most striking, and their names are as follows: Eyebright (red, with yellow stripes), The Moor (red), Nigrette (very deep reddish brown, very handsome flower), Didiera alba, spatulata aurantiaca, elegans lutea (pale yellow), Marjole (a pretty flower, primrose, splashed with red), fulgens maxima lutea (an immense yellow), Emerald Gem (a small reddish flower), Fairy Queen (a pale heliotrope, with yellow edging to the florets), Sunset (yellow, with bright pink edge), ixioides (very beautiful with its yellow colouring and black base), gesneriana lutea, Fawn (a beautiful flower of fawn and white colouring), Bridesmaid (red and white striped), Cloth of Gold (bright yellow, with red splashes), Firefly (a fragrant flower, scarlet, splashed with yellow), and the dark red aximensis.

NOTES OF THE WEEK.

FORTHCOMING EVENTS.

May 26.—Temple Flower Show of Royal Horticultural Society (three days).

May 27.—Bath and West and Southern Counties Show at Bristol (five days).

National Horticultural Hall.—Messrs. Thomas Rivers and Son, of Sawbridge-worth, have contributed £50 towards the building fund.

Winter Nelis Pears from Tasmania.—Mr. Monro brought to the dinner of the Horticultural Club on Tuesday last fruits of Winter Nelis imported from Tasmania. They were excellent in flavour, almost if not quite as good as fruits from English orchards or gardens.

Horticultural Club.—A very pleasant evening was spent at the club on Tuesday last, when the chair, in the absence of the chairman and vice-chairman, was taken by Mr. F. G. Lloyd, J.P. The subject for discussion was "Improvement of Rose Shows," opened by the Rev. J. H. Pemberton. Over thirty members and friends were present, including the Rev. W. Wilks, Messrs. George Bunyard, C. E. Shea, John Green, G. Monro, C. E. Pearson, R. Notcutt, M. Alderson, S. Mortimer, J. Collingridge, George Gordon, George Lang Paul, Frank Cant, C. T. Druery, H. B. May, J. Walker, E. T. Cook, G. B. Shoults, E. Mawley, and the Rev. F. R. Burnside.

Reprint of Parkinson's "Paradisus Terrestris."—Messrs. Methuen have much pleasure in announcing that they have in preparation a reprint of this book. It will be reproduced with the greatest care in the folio form of the original, page for page, and word for word from the edition of 1629. The fine illustrations, of which there are over 100, will also be given in their entirety. One thousand copies will be printed, and the published price will be 30s. net. An edition on Japanese vellum will also be printed, limited to twenty copies, the price of each copy being 10 guineas net.

A legacy to French horticulture. Mme. Wells, a patroness of the Société Nationale d'Horticulture de France has bequeathed to it a legacy of 800,000 francs (£32,000) in order to found a school of horticulture. The society, after a consultation with Mme. Wells' lawyer, has decided to propose to its Fellows the acceptance of this liberality. *Le Jardin*, which records this, says that many are of opinion that the gardens should take the form of an experimental one. We hope someone in England will do likewise. Horticulturists are practically without an independent trial ground of any kind.

Darwin Tulips.—These beautiful flowers are ignored by the majority of suburban gardeners, yet nothing can be more effective in the mixed border than groups of these tall, self coloured Tulips. Flowering late they form a connecting link between the bulbs and flowers of April and the June Pyrethrums and Delphiniums. Last Friday, when visiting Messrs. Barr and Son's nurseries, where these Tulips may be seen in perfection, I noticed that in spite of the late heavy rains few had lost their beauty. It is curious that at present there is no really good yellow among the Darwins, when there are so many beautiful yellow cottage Tulips. The visit was made with an eye to next autumn planting; one bright rosy red group showed up two fields off, a glorious patch of colour, proving on nearer acquaintance to be Queen of Brilliants. It is now located in imagination next to a clump of white Iris. Searching for a dark and lighter shade to be judiciously planted together these two were chosen, King Harold (not yet, but soon to be catalogued), a large handsome claret-coloured flower, and Salmon King, a deep rosy salmon. Other flowers made this visit of interest; large masses of alpine Phloxes and Aubrietias on the rockeries, and the long oval leaves and numerous pretty white flowers floating on the water of a large tank of the Cape Pond Weed (*Aponogeton distachyon*), once relegated to greenhouses, but now proved to be hardy.—W. SPURLING.

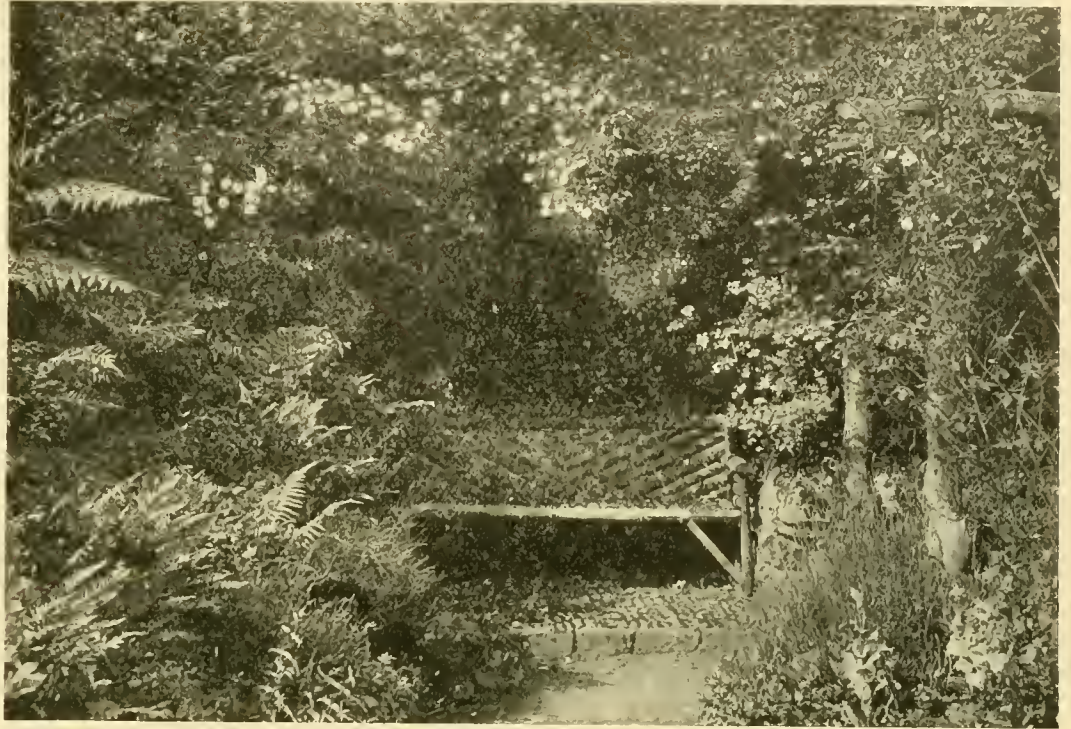
A garden bower.—Among the many pretty ways of using climbing Roses none is pleasanter to see than their employment on a well-covered arbour. The illustration shows such an arbour at the end of a path that runs along a wide border of hardy flowers. Behind the seat is a bank of earth; the seat was notched into it with a retaining dry wall of local stone. The ground level is also high on the left, where the dry wall runs the whole length of the path, and is full of flowering plants—wall Pinks, Aubrietias, London Pride, and other Saxifrages, and many a good wall-loving plant. At the arbour end, the coolest and shadiest part, are Polypodies and other Ferns, Welsh Poppies, and luxuriant tufts of the Willow-leaved Gentian.

Mr. Caparne's hybrid Irises.—I am having much pleasure from the beauty of some of Mr. Caparne's hybrid Irises; especially beautiful are Brunette, tall pale sulphur; Ivorine, shorter sulphur; and Charmant, pale lilac. They are intermediate between the Flag Irises of June and the Pumilas, &c., of May; their heights also are between the two. Their distinctive merits are the large size of the bloom, their early time of flowering, and the dainty beauty of colouring. In considering the latter quality one is reminded of the great advantage to good horticulture that comes of a raiser being a refined artist as well as a practical gardener.—G. J.

New early Peach Duchess of Cornwall.—This new Peach may not be so well known under this name as it deserves, as when it was first exhibited it was called Duchess of York. There was, we believe, a previous Peach with that name, so to avoid confusion the name was changed. This is one of Messrs. Rivers' new seedlings, and bids fair to become a standard variety for its splendid forcing qualities and good flavour. It received an award of merit from the Royal Horticultural Society in 1901, early in June, and since that date Peach growers have had an opportunity of testing its value for pot culture and early forcing. It fulfils the raisers' description in every way, as it is well known how badly some of the early American Peaches drop their buds, but this is free from that evil, and when fit for table is a delicious fruit with a distinct Nectarine flavour. The fruits are of medium size, with yellowish skin and red cheek on the sunny side, and, what is most important, the tree grows and bears freely. I feel sure when this variety is better known it will become a great favourite for the unheated house or case.—G. WYTHES.

Potato Sutton's May Queen.—Those who are on the look out for an exceptionally good first early Potato cannot do better than make a note of this variety for another year. I have been forcing Potatoes in frames, pits, pots, &c., for nearly thirty years and have never met with its equal for earliness, productiveness, and very low percentage of small tubers. Plenty of the tubers were being dug towards the latter end of April were 4 inches in length and proportionately large. It is smooth (the eyes being hardly perceptible) and of excellent quality.

Hypericum calycinum (St. John's Wort).—I have tried many things for clothing sharp, bare slopes where the ground is very poor and rabbits are in evidence, and have found nothing better than the common St. John's Wort. It is risky and tedious to plant unless one is prepared to soak the holes before planting and to water the plants once or twice until they are established: the better way is to sow seed where growth is required. Where the ground is of the nature described above a good treading and levelling are essential. Choose a dull, showery time in spring or autumn, and after sowing throw some light soil over the surface of the ground. Wood Hyacinths do not object to poor spots, and show to great advantage between the



A GARDEN BOWER.

masses of Hypericum, and what a lovely flower the latter is.—E. BURRELL.

Lily of the Valley Vrengdenhill Perfection.—M. J. Vrengdenhill, Haarlem, Holland, writes: "The new Lily of the Valley (*Convallaria majalis prolifera* Vrengdenhill Perfection) will be in flower in about a fortnight, and can be seen at the nursery at Piet Gyrenbrug, opposite the railway station, near Haarlem, and at the nursery, care of Mr. M. J. van Ginhoven, at Lisse, near Haarlem, Holland, close to the Old Castle, Teilingen, at Sassenheim."

LOVE'S PLEA.

ONLY wait until the Rose's
Fragile petals it uncloses
In my garden here;
For my heart were nigh to breaking
If I saw the Rose awaking,
And thou wert not near.
All I am and all I have—See!
Well thou knowest that I gave thee
All when thou didst come!
But I would that from my garden
Thou should'st learn my love, and pardon
If my lips are dumb.

SYDNEY HESSELRIGGE.

—(From Rückert's "Liebestühling.")

The Gardeners' Royal Benevolent Institution.—The secretary informs us that he has received the following communication: "Marlborough House, Pall Mall, May 15, 1903. Sir,—I am desired by the Prince of Wales to forward you the enclosed cheque for £20 as a contribution from His Royal Highness towards the funds of the Gardeners' Royal Benevolent Institution. I am also desired to add that His Royal Highness hopes that your annual festival in aid of the funds of this charity will meet with the success which it so fully deserves.—I am, sir, your obedient servant, (Signed) W. CARRINGTON (Lieut.-Colonel), Comptroller and Treasurer to H.R.H. the Prince of Wales. To Geo. J. Ingram, Esq., The Gardeners' Royal Benevolent Institution, 175, Victoria Street, S.W."

The Devon Daffodil and Spring Flower Society.—A society under the above name has just been formed with the object of encouraging the culture and exhibition of Daffodils and other spring flowers in the County of Devon. The president of the society is the Earl of Morley. The influential committee is composed of gentlemen

interested in flowers resident in the neighbourhood of Plymouth, and its chairman is Mr. G. Soltan Symons, illustrations of whose beautiful gardens at Chaddlewood have often appeared in THE GARDEN. The headquarters of the society will be at Plymouth, and it is proposed to hold an annual spring show at the Guildhall of that town, the scene of numerous successful Chrysanthemum shows, about a week subsequent to the show of the Cornwall Daffodil and Spring Flower Society at Truro. No pains will be spared by the committee to attract to the show the best flowers not from the County of Devon only, but from the whole of the British Isles, and it is to be hoped that all flower-lovers in the West of England will aid the executive in rendering their endeavour successful.

Planting early-flowering Chrysanthemums outdoors.—The wisdom of deferring the planting of the better early-flowering Chrysanthemums outdoors has already been seen, the recent frosts having tried those planted outdoors within the last few weeks severely. Although we experienced a slight frost this morning (May 12), our plants being nicely hardened and also sturdy, they suffered no injury, and for this reason we purpose planting without delay. Experience shows that it is undoubtedly better to plant the different sorts and their sports in close proximity to one another. As an instance, take Mme. Marie Masse and its four sports, Ralph Curtis, Crimson Marie Masse, Rabbie Burns, and Horace Martin, and if these be grouped they are very handsome in the flowering season. There is an unfortunate tendency to plant the early-flowering Japanese varieties too close together, and because of this the ultimate result is not good. For instance, plants of the Masse family, already referred to, require at least 3 feet between each plant and another 6 inches or 9 inches more between the rows of plants if this family is to be seen at its best. Taken as a general rule 3 feet between the plants and a similar distance between the rows is a safe one to follow. Certain varieties require less space, but these are a somewhat limited number. Plants of this kind and Harvest Home and Lemon Queen should be given rather more than 2 feet between each one, but the full distance of 3 feet between the rows is most desirable. The Pompons may be treated similarly.—D. B. C.

Aubrietia Fire King.—This variety does not appear well known, though several years have elapsed since its introduction, and it still retains the first place as the finest coloured *Aubrietia* we have. The flowers are no larger than those of the common *A. purpurea*, but the name Fire King is most appropriate, the colour being a rich crimson when the blooms are fully expanded. It is of strong and neat growth, and flowers are produced over a long season.—A. E. T.

Celsias in the greenhouse.—Two species of *Celsia* are very useful in the greenhouse during spring and early summer, viz., *Celsia Arcturus* and *C. cretica*. The last named is the larger grower of the two, forming an erect plant that will reach a height of 4 feet to 5 feet, with golden-yellow blossoms $1\frac{1}{2}$ inches in diameter. *C. Arcturus*, on the other hand, is smaller in all its parts and more branching. These are most satisfactory when raised from seed, which is produced freely by both species. If sown in a frame in May or June and the seedlings when large enough to handle potted into small pots, they will, if shifted on when necessary, form good flowering plants the next season. Both the species here mentioned are also very attractive when flowering in the open border, where they will sometimes continue to bloom until stopped by the frost.—T.

Rabbits barking trees.—A Fellow enquires how best to protect young trees from rabbits. The best way, no doubt, is to wire them round with small meshed wire at a distance of 6 inches or 8 inches from the stem, taking care to let the wire go down at least 6 inches below the surface to prevent the rabbits burrowing under, and having it high enough to keep them from leaping over. Save, however, with a few specimen trees, this is generally considered too expensive, and, as a rule, tar is used instead. But tar is not always satisfactory, as it sometimes itself kills the trees, particularly if applied after the rabbits have commenced to bark them. In any case, Stockholm, and not gas, tar should be used, and a better plan than putting it on the young trees is to drive in a few stakes round the stem and smear them with the tar, as rabbits have a great dislike to their fur sticking to anything. We have found the following preparations very useful for the purpose:—(1) Davidson's Composition, made by a Leith firm; (2) a teaspoonful of the tincture of *assaftetida* in half a bucketful of liquid soil applied with a brush, perhaps twice during winter; (3) a mixture of lime, water, and cow manure, pretty strong, is excellent; so is any strong-smelling grease.—*Royal Horticultural Society's Journal*.

Beaumontia grandiflora.—A large specimen of this lovely Indian shrub is at present flowering freely in the Mexican House at Kew. The plant has been known for about eighty years, having been introduced about 1820. It is of climbing habit, the branches being strong and free-growing, and if not kept separated they quickly twist themselves into a rope-like mass. To grow it well a large house is required where the branches can be given plenty of room and be kept well apart. The leaves are opposite, broadly ovate, 5 inches to 7 inches long and 3 inches or so wide. The flowers are in large axillary and terminal corymbs; they are large, tubular, and white, with a greenish tinge on the outside. Individually they are 3 inches long and $2\frac{1}{2}$ inches or so across the mouth. The plant is soon covered with mealy bug, and it is important that it should be cleaned frequently, especially after the buds appear early in the year, or the flowers will be quite spoiled. The plant at Kew, which is carrying a large number of fine inflorescences, is planted out in a border composed of sandy peat and loam, the minimum winter temperature of the house being 50°.—W. DALLIMORE.

Babianas.—Considering the cheapness of *Babianas*, their simple cultural requirements, and the beautiful and uncommon colour of their blossoms, it is surprising they are not more often grown in pots and used for the greenhouse at this season. Botanically they are near relatives of the better-known *Ixias* and *Sparaxis*, and, like them, are principally natives of South Africa. The *Babianas* are dwarf, forming a tuft of rather broad, hirsute

leaves, which are overtopped by the spikes of flowers. In most of them the flowers are of some shade of blue, with, in a few instances, a direct contrast of another colour. Perhaps the most striking of all, and certainly surpassed by no other sort, is *rubro-cyanea*, in which the major portion of the flowers is of a brilliant metallic blue, with a rich crimson centre. It is regarded as a variety of *B. stricta*, but the flowers are much finer, being in *B. rubro-cyanea* nearly 2 inches across. There are many others, both species and garden forms, every one of which is well worth cultivation. Most of the original species were introduced over a century ago, but in spite of their great beauty they are almost unknown in gardens at the present day. The treatment required for the *Babianas* is the same as that needed for *Ixias*, *Sparaxis*, and the pretty orange-coloured *Tritonia crocata*, viz., pot the bulbs early in the autumn, putting from five to seven bulbs in a pot 5 inches in diameter. Use a fairly open and sandy soil, and after potting place in a frame or the coolest part of the greenhouse. Give little water till the young growth appears, and when this happens a light, airy position is essential to maintain a sturdy habit. In very favourable localities these bulbs may be grown successfully in a narrow border in front of a hot house, but in pots the stipulation as to district is not necessary.—H. P.

Tufted Pansy Dove.—There is something very refined about this new Tufted Pansy. The flowers are typical of what a Tufted Pansy should be, and their creamy white colour, with a rayless yellow eye and prettily *Picotee* heliotrope edging, is pretty. The habit is good.—D. B. C.

Summer gardening.—A correspondent writes: "I hope some of the readers of THE GARDEN will give me helpful advice. I want to arrange beds in a garden, say, 50 yards square, at present occupied in the usual bedding way. In THE GARDEN (April 25) the writer of 'Round About a Garden' shows how valuable some hints and directions from him would probably be. I hope the subject may be discussed." We hope this letter will be taken notice of by those in a similar position. We alluded to the subject last week under "Summer Gardening."

The gardeners' dinner.—The committee of gardeners arranging the reception and dinner for gardeners and others at the Holborn Restaurant on September 29, over which Leopold de Rothschild, Esq., has kindly consented to preside, have issued to some 700 gardeners in all parts of the kingdom, Ireland included, copies of the enclosed circular, which my committee will be greatly pleased if you can find room for in the columns of THE GARDEN. Representative as so many British and Irish gardeners may be, yet 700 is but a small number out of the many thousands of gardeners in these islands. It would therefore be a kindness if, through the Press, the great body of gardeners can thus be reached. We have sent some 150 copies also out to the horticultural trade. It will thus be seen that no effort has been wanting on the committee's part to popularise the function or to make it widely known. We think our efforts in this direction should equally tend to popularise the Chiswick fruit and vegetable exhibition.—A. DEAN, *Secretary*. The following is the circular: "Dear sir,—You have probably seen in the gardening papers mention of a proposal to arrange a reception and dinner in London, for gardeners specially, and other horticulturists in general, on the first day, September 29, of the great fruit and vegetable exhibition of the Royal Horticultural Society at Chiswick. This show may offer a last opportunity to see the old gardens. With a view to popularise this proposal, and to render the function a complete success, the kindly co-operation and assistance of the leading gardeners and the horticultural trade of Great Britain and Ireland is cordially invited. We beg, therefore, to ask you to be pleased to act as a provincial steward for your locality, and to use your special influence in securing the sale of tickets and in promoting interest generally in the dinner and gathering. The tickets will be 5s. each; ordinary morning dress worn. Every effort will be made to render this reception and festival of exceptional enjoyment

and gratification, and it is hoped it will lead to the kindest social intercourse amongst all attending. The reception will commence at 6.30 p.m., and the dinner in the famous Kings' Hall at 7 p.m. Please to kindly favour the secretary with, we trust, an early and a favourable reply. As the interest taken in the gardeners' dinner is so great, and there is certain to be a big demand for tickets, it is imperative that applications for them should be made to the secretary early. They will then be issued in the order of application. In all cases cheques or postal orders, payable to Jas. Hudson, must accompany applications. By order of the committee.—OWEN THOMAS, V.M.H., *Chairman*; JAMES HUDSON, V.M.H., *Treasurer*; ALEXANDER DEAN, *Secretary*, 62, Richmond Road, Kingston-on-Thames."

Tufted Pansy Bullion.—This old variety is still one of the best of its colour. Bullion is valued for several reasons, not the least of these being the earliness of its display, and the freedom of the plants flowering. Recently, in the large collection of Tufted Pansies in Mr. William Sydenham's garden at Tamworth, I saw a fine lot of this early flowering sort, and was much impressed with its undoubted worth. On this occasion there were other seedling varieties growing in close proximity, some of which were described as "improvements on Bullion." The latter is a good rich golden-yellow, with dark rays running into the eye. The plant does not impress one with its vigour or robustness, and yet it possesses both these good qualities. Not only does this variety bloom early, but it is also one of the best sorts to flower in late autumn. Stock may be increased with ease, and it does well in town gardens.—D. B. C.

Peach trees on walls and the recent frosts.—I never remember the Peach and Nectarine to have suffered so badly for many years as during the past month (April) and the early part of May, the trees in a few instances being so badly crippled that I fear they will never recover. Owing to the early season the new growth was in a very forward state, and this is much injured by the succession of frosts and biting winds. The shoots were attacked, as it appears, by a wave of aphid, in spite of special attention in the way of winter dressing and cleansing. Young trees are much worse than older ones, and the pest is so difficult to get rid of, owing to the leaf curling and enclosing the fly. Insecticides too strong to use safely are necessary to kill the pest. It may be asked what can be done, and so far we have found the best remedy is to go over the trees twice a week, removing badly curled leaves, and then giving a dressing of Bentley's Quassia extract. Hand picking is a tedious process, but it is labour well spent, and the new growth will soon develop and make up for losses. In our case the fruit is less injured than the foliage, but in some cases there is no foliage beyond the fruits. Where this occurs it will be well to sacrifice the small fruits and get foliage lower down the shoot, as the fruits will be of little value; indeed, many will fall at the stoning. After the trees have received such a severe check they must not be allowed to carry too much fruit. The season is now so far advanced that the energies of the trees will be needed to both perfect new growths for another season's crop, and also to build up fruit. It will be necessary to assist them in every possible way, but the most pressing work is to get rid of the pests alluded to. Owing to the cold, sunless weather and fear of frost it has not been possible to hose the trees late in the day, but as soon as this can be done the growths will soon strengthen. Feed either with liquid manure or by giving a mulch to encourage new surface roots. In the case of newly-planted trees mulching should be done as soon as possible and the growths regulated, as the cold, drying winds quickly dry up the surface-soil. I have in a few cases noticed mildew in addition to the leaf-curl and aphid, and it is full early to dress with dry sulphur. I would advise syringing in a liquid state, not using the mixture too strong. Early in the season use a little powdered sulphur in tepid water or a prepared mixture. For the evil the only remedy is hand picking and getting rid of the affected foliage.—A. C. N.

Auricula Yellow Gem.—This deep golden-flowered Auricula has been a delightful subject in my Auricula house during the past month. It lacks the refinement of Buttercup Charm, Gold Cup, Myra, and others, but it has a large well-formed flower of a deep yellow colour, is, in fact, almost a self yellow, the flowers are produced in bold trusses and very freely, and there is a delightful fragrance about them. Like the foliage of Buttercup, it is green, having no snowy meal on the leaves. As a pot plant for the greenhouse I particularly commend it, and being of a tufted growth it soon spreads and throws up its flowers in great profusion. I have no experience of its possibilities in the open air, it appears to me to be a possession much too precious to be exposed to the rude storms of April.—R. DEAN.

Crown Imperials.—I have grown these stately plants for many years, and, unlike your correspondent "W. P.," I find no difficulty in flowering them. I have eight grand clumps, each about a yard through, at the back of one of my borders at intervals of about three yards, and they are now a glorious sight and have been for some time. In July, 1901, five fine bulbs were planted in each clump, and they are now carrying an average of ten heads of bloom each. The flowers are deep red in colour and the plants do not grow quite so tall as the old orange-coloured variety, and are two or three weeks later in coming into flower. My mode of culture is very simple. I lift the bulbs every other year immediately they have died down and plant again at once, placing five of the finest bulbs in each clump, and working some well-decayed manure at the bottom of each hole, then cover the bulbs 6 inches deep.—JOHN HENSHAW, *Rothamsted Cottage, Harpenden.*

Flowers tell the time.—With its mechanical frame quite concealed beneath flowering and variegated plants, the mammoth floral clock that may be seen at St. Louis by visitors to the Louisiana Purchase Exposition in 1904 will be by far the largest timepiece ever constructed. The floral clock is immediately north of the Agriculture Building, and to the visitor appears to be made entirely from contributions from the floral world. The mechanism of the clock is buried and the huge dial, 100 feet in diameter, shows its face 6 inches above the ground. The dial, the hands, the minute hand being 50 feet long and moving 5 feet at each move, and all the frame are so covered with plants as quite to conceal any mechanical contrivances. The numerals marking the hour are 15 feet in length, and are made of bright-coloured Coleus. In the circle surrounding the numerals are collections of twelve distinct plants, each collection being 25 feet long and 12 feet wide. Nature has ordained that each of these plants should open its blossom at a certain hour of the day, according to a World's Fair circular, and the great floral clock shows how the laws of Nature are as exact as the mechanical laws discovered by man. As the hands of the great floral clock reach the numeral naming a certain hour the flowers in the great bed at the back of the hour so designated begin to open their buds and to exhale the perfume peculiar to the plant.—*The American Florist.*

Plant life in the sanatorium.—The article on this subject (page 316) is very interesting, illustrating as it does the fact that many plants will grow under conditions vastly different to those they usually have. Undoubtedly a great deal may be done to inure plants to a much lower temperature than the one in which they have been grown by a process of gradual hardening, and during severe weather by keeping them as dry as is consistent with safety. As illustrating this I may mention that a plant of *Dracaena godseffiana*, which is a native of Sierra Leone, kept in good condition in a dwelling-house for nearly a year until a particularly severe night in January proved too much for it. *Cocos weddelliana*, too, is usually regarded as a stove Palm, yet I have had it for the last four years in a sitting-room, under which conditions it does well. It stands in a bay window facing the east, so while there is ample light there is, on the other hand, little direct sunshine but plenty of air. True it does not grow so rapidly as one under warmer and more humid

conditions, still it is none the less effective on that account. That many decorative plants, Palms and Ferns particularly, are when grown for sale kept much warmer than is absolutely necessary is undisputed, the object being to get saleable plants in as short a time as possible. The hardening off in their case should be gradual to keep them in good health.

Epiphyllum makoyanum.—For the last month this Epiphyllum has made an attractive feature in the cool greenhouse, every little branchlet contributing its share of bright-coloured blossoms. The latter are of a cinnabar-red and quite distinct from any form of *E. truncatum*, from which it also differs in the flowers being regular in shape, like those of a *Cereus*, and, above all, in the season of blooming. Whereas all the forms of *E. truncatum* are at their best in autumn and winter, *E. makoyanum* flowers usually in April or May. The cultural requirements are the same as those of *E. truncatum*, and it also unites just as readily if grafted on the *Pereskia* stock.—J.

A good late Kale.—This vegetable, affording as it does our chief supply of greens for winter and spring use, is for that reason a highly esteemed and indispensable adjunct to the gardens of cottager and nobleman alike. The sorts which can be depended for very late use are few, and on that account I may be permitted to describe one of the best that has yet come under my notice, namely, Veitch's New Sprouting. This variety is certainly a valuable acquisition to any of the late sorts we already possess, and if for no other reason it is well worth growing on that account alone. It is of excellent quality when cooked, of dwarf compact habit, and closely set with numerous sprouts resembling those of the sprouting Broccoli. It stands for a long time fit for use before going to seed, a point greatly in its favour. The plant appears to be much hardier and better adapted for cold wet soils and exposed positions such as ours than other sorts that are grown by the side of it. By making two sowings, one early in April and another at the beginning of May, a continuous supply can be kept up till late in the spring, when other sorts are past use, even when sown and grown under the same conditions.—R. BARTON, *Sidbury Gardens, Devon.*

THE FLOWER GARDEN.

DAHLIAS AS GARDEN FLOWERS.

GENERAL.

IT requires no great effort of memory to carry one's thoughts back to the time when the list of Dahlias was confined to what are termed "shows," "fancies," and "Pompons." Dahlias at that time were regarded from the exhibition standard only—"if suitable for exhibition, suitable for growing." Now and for some years past, thanks to the advent of the Cactus Dahlia Juarezii, we have progressed immensely in our views of the Dahlia as a decorative garden flower. Great credit is undoubtedly due to our raisers of new and greatly improved forms of the so-called Cactus Dahlia. These have added immensely to the attractions of the garden from early in August until the frosts. Pompon Dahlias are also most useful for decorative uses, though they appear somewhat formal to some. In a cut state they will travel well and keep fresh for a good space of time. Single Dahlias, both the ordinary and the Cactus forms, are excellent garden flowers, very profuse in flowering, and with greatly varied colours. Show and fancy Dahlias do not appeal to the garden-lover so much as to the enthusiast who looks upon them more from the florist's standpoint and for their utility for the show-board. Beyond any doubt, it is the Cactus Dahlia that now appeals more than any other section to the garden public at large.

The charming and, in many instances, almost indescribable gradations of colour, and the informal character of the flowers, cause these Dahlias to be general favourites either upon the plants or as cut flowers. It has frequently been urged against the Cactus Dahlia that in its modesty it hid its pretty flowers beneath luxuriant foliage. This *was* true, undoubtedly, but *now* there is not much to complain even in this respect, for there has been a marked improvement in habit during the last few years.

CULTIVATION.

When the culture of the Dahlia is considered it should be divided into two distinct sections—cultivation for home use in the garden, and cultivation for exhibition purposes. It is not inferred by this distinction that the latter mode of culture is not commendable; it serves its purpose, and is the means of making the flowers more popular and better known, whilst the fewer blooms produced by excessive thinning are fine specimens of their kinds. The cultivation of the Dahlia for decorative garden use concerns us most now. We have proved that each section of the Dahlia can be grown from year to year upon the same ground. (Exhibitors do not do this more than they can help; a change is deemed advisable, whilst on the whole they manure more heavily for obvious results.) The Dahlia ground or beds should be dug over deeply early in the spring, farmyard manure being added wherever it is procurable, except upon the heaviest land; there stable manure will be a better choice. Planting out should take place about the last week in May, or, if cold then and not genial weather, the first week in June will be better. If the plants are well hardened off previously they will not require any protection. It is a good plan to drive in the permanent stakes—at least, the central one—before the planting is done, then plant to the stakes, and at once secure the shoots by a tie, but not tightly. Watering should be attended to according to the weather, but do not mulch the ground; rather let the full benefit of the sun's rays act upon and warm the soil. For general purposes 4 feet each way will be ample room. Those who grow for exhibition frequently allow 6 feet, and some even more, but in the majority of cases the ground is too valuable for that distance. Mulching is commendable when the first flowers are opening, and watering will be saved thereby. It may be taken as an axiom—water the Dahlia freely up to the flowering stage—then mulch and save watering by preventing so great an evaporation. This will then tend to greater floriferousness, for excessive watering will, on the other hand, excite a too woody or succulent growth at the cost of the flowers. Just prior to the first flowers opening a few doses of liquid manure or of genuine Peruvian guano will have a good effect. Then onwards withhold water, except it be very hot and dry weather. Rather than tie the plants too tightly as they grow to the central stake, it is advisable to insert four or five more, but not so stout as the other one, around the plant, and secure the shoots thereto. This not only assists the plants, but less injury will ultimately be done by the autumn gales. A most commendable method of growing the Cactus Dahlia is upon wire fences, where they can be trained flatly, being made with care to cover all of the space except near to the ground. Thus grown a grand effect is produced in the autumn, and the propensity on the part of some to hide their flowers is greatly overcome. It is often easier to look after the plants in this way, and often, too, the means of covering space not otherwise so readily

managed. All faded flowers should be removed from the Cactus and Pompon, so as to prevent decay as well as seed development. From the singles all the seed-pods must be persistently picked off every few days, for unless this be done the flowering season will be considerably shortened and the quality of the flowers deteriorated. It is advisable to adopt a moderate system of thinning the shoots of Cactus Dahlias when grown only for home uses, but not to such an extreme as that practised by those who want show blooms. To thin the flowers is not desirable, for moderate-sized flowers in greater quantity are preferable. Towards autumn the sappy and oftentimes strong shoots of Cactus Dahlias that have no chance of developing flowers should be thinned out without any hesitation.

PROPAGATION AND AFTER TREATMENT UP TO PLANTING OUT.

Propagation from cuttings is the best mode of increase on the whole. Division of the tubers is not so reliable. Old stools should be placed in heat in February, so as to have all the requisite stock struck in March. One cutting to a 2½-inch pot is the better plan. By the middle of April these can be shifted into 4½-inch and 6-inch pots, according to the size and vigour of the cutting. If the weather be favourable a cold frame will suffice by the end of that month, with a free exposure during the day. Overcrowding should be avoided, as it will tend to draw the plants up weakly. The cuttings strike readily enough when taken off with a slight heel, and do not even need to be treated to a close inner frame or pit. Old stools of the Pompon section make good plants, and they flower well, but the Cactus varieties, on the other hand, make too many shoots to start with at the base. The present (May 16) is about the time when plants from the nurseries come to hand. These should at once be potted into pots at least one size larger, and be carefully looked after for a few days in a close frame. By the end of the month they will be well rooted and fit to turn out at the same time as the home-struck plants, even if not quite so strong or so well rooted. New kinds, owing to severe propagation, are not always such strong plants as the older ones; consequently, it is well to always give these more careful attention until they are quite established after planting out.

The earwig is an old enemy—and a most destructive one, too—to the Dahlia from the outset when planted out. The old remedy of placing a flower-pot stuffed with a little hay upon the central stake still holds good, but it is rather unsightly until the growth hides the pot from view. As an addition, if not a substitute, it is a good plan to use some Broad Bean stalks or some of the previous year's growth of the herbaceous Polygonums; if these fail, short lengths of Bamboo will answer well. The earwigs should be emptied out into a pail of hot water twice or thrice a week. The great point, however, to observe is that of commencing to trap the earwigs at the very outset. Do not leave this essential item of work until the harm is done, but rather anticipate it.

DAHLIAS IN DECORATION.

For cutting the Cactus Dahlia is undoubtedly and pre-eminently the best to employ. No flowers, not even Daffodils, lend themselves so well to decorative or artistic uses as these. The decided colours of such as Mrs. Crowe, Starfish, Red Rover, Sylph, and other self-coloured varieties are very effective, each by themselves, or with, at the most, two colours in the same arrangement. The multi-

licity of shaded and tinted forms greatly adds to the choice of excellent material, such as Britannia, Magnificent, and Countess of Lonsdale. These are invaluable for autumnal decorations in vases or baskets, whilst for such seasonable work as harvest festival decorations they are unsurpassed. Autumnal tinted foliage harmonises well with the Cactus Dahlia; so also do berries and grasses. Single Dahlias if used in a cut state should be cut from the plant before the flowers are *really expanded*, say, when one or two petals are still in that state. Taken thus they will last much longer. Pompon Dahlias are better taken when nearly approaching their best condition. In any case bear in mind that early morning cutting is the best.

THE BEST VARIETIES.

CACTUS DAHLIAS.—*White*: Lord Roberts, Venus, and William Treseder. *Yellow*: Mrs. J. J. Crowe, Eclipse, and Mrs. E. Mawley. *Pink and rose*: Zephyr, Vesta, and Elsie. *Scarlet*: Starfish, Mrs. Montefiore, and William Jowett. *Crimson*: C. Woodbridge, J. W. Wilkinson, and Mrs. Carter Page. *Purple*: Emperor, Earl of Pembroke, and Kingfisher. *Maroon*: Uncle Tom, Night, and King of Siam. *Various shades*: Britannia, salmon-pink; Countess of Lonsdale, salmon-red; Lucius, deep orange; Mary Service, pinkish heliotrope; Viscountess Sherbrooke, reddish terra-cotta; Magnificent, salmon-pink; Mayor Tuppenny, yellow, orange, and crimson; Lyric, bronzy red and yellow; Lodestone, orange-scarlet to apricot; Miss A. Nightingale, yellow, flaked scarlet; Winnie Walter, sulphur-yellow, tipped white; Bessie Mitchell, orange, salmon, and pink; Casilda, sulphur-yellow, tinted pink; Ringdove, pinkish fawn to white; and Ophir, apricot tints.

POMPON DAHLIAS.—Bacchus, crimson-scarlet; Captain Boyton, dark maroon; Demon, deep crimson; Douglas, crimson-maroon; Phœbe, golden-orange; Orpheus, yellow; G. Brinckman, white; Lilian, primrose, edged peach; Sunny Daybreak, pale apricot, edged rosy red; Clarissa, pale primrose; Whisper, yellow, edged bronze; Nerissa, soft rose; Guiding Star, white, free; E. F. Junker, amber; Rosebud, white, edged pink; Nellie Bromhead, soft lilac; Tommy Keith, red, tipped white; and Ernest Harper, coral-red.

SINGLE DAHLIAS.—Snowdrop, pure white, erect flowers; Seriba, crimson, shaded purple; Columbine, rose and orange; Demon, blackish maroon; Donna Casilda, coppery orange; Eric, flame colour, free; Gulielma, pure white, golden buff margins; Jack Sheppard, yellow, striped red; Miss Morland, crimson-scarlet; Miss Roberts, clear yellow; Naomi Tighe, sulphur-yellow and orange disc; Polly Eccles, satiny fawn, with red ring; The Bride, pure white, medium size; Trilby, velvety maroon, with white tip; Tommy, violet, scarlet, and yellow; Puck, orange, crimson ring; Leslie Seale, lilac and crimson; and Aurora, yellow and orange.

JAMES HUDSON.

LUPINUS ARBOREUS.

THIS Californian shrub is attractive both in and out of flower. The chief reason for this is the elegant leafage combined with a quite evergreen character when in the most favourable situations. The plant, as may be surmised from its native habitat, is not adapted for a soil that is cold or not well drained. In light loamy soils and where ample and quick drainage is at hand this handsome species may be seen in full beauty. From quite small plants I have in this part of Middlesex grown specimens in five years or so that are fully 7 feet high and 8 feet, probably 10 feet, through.

Such a plant when in flower is a picture well worth seeing in the garden. It is hardly suitable for the ordinary border, but adapted for growing in large or spacious beds on the lawn or for grouping in any good position in the open. As a wall plant for a western exposure I know of no finer subject than this, for in this way it may be grown in any part of the country. Freedom of flowering as well as the pleasing colour of the pale yellow blossoms are among the attractions of this fine species. The plant may be increased to almost any extent by seeds as well as by cuttings, the latter preferably inserted in the early autumn months, and if secured with a heel attached are almost sure to root quickly. Now and then in more severe winters the plant is cut down rather badly, but I do not remember an instance of a plant being killed outright unless it were very old or in badly drained soil. In the former the decay may be anticipated and the latter is of course avoidable.

Hampton Hill.

E. J.

PYRETHRUMS.

I HAVE this spring been over my stock of these, dividing them and replanting on ground that was roughly dug in winter, and has been well sweetened by exposure to wind and frost. They are now growing away freely, and I find very few blanks among them. Those not well acquainted with the nature of this fine hardy flower are apt to think that, like the generality of vigorous-growing hardy flowers, it can be transplanted at any favourable time during late autumn and winter. Moving Pyrethrums in the resting season is, however, fraught with danger, for unlike many herbaceous things they make no new roots until spring, and in a time of hard weather, when melting snow or heavy rains are followed by severe frosts, the crowns are so injured that many of the plants disappear. This is especially the case when old stools are divided. If I could do so I should prefer to divide and replant at the close of the summer, say, about the middle or latter end of August, as at that time new roots will form, the plants will throw up new leaves, and will get well established by winter. Some years ago, before I was acquainted with this peculiarity, I planted 100 good stools in November. It happened that we had a heavy fall of snow that winter, and when this melted a very hard frost occurred before the ground regained its normal condition. The crowns with few leaves to them were frozen into a block of ice, the result being that quite one-third of the plants died, and many of those that survived were much weakened. It happened that I had to purchase them late in the season, and if I had had the wit to winter them in cold frames, of which I had plenty empty, I should not have lost half a dozen plants. My soil being light and the weather open and mild at the time I transplanted early in March; in heavy soil I think it better to wait until the last week in that month.

Pyrethrums need plenty of nourishment, and when they have become thoroughly established they can hardly get too much manure. They should have a top-dressing of manure annually or a liberal dressing of some concentrated manure, to be applied quite early in the spring. In placing Pyrethrums in the mixed border, account must be taken of the varying height of the plants according to the time they have been established. The first year the flower-stems will not run up more than 18 inches, but when they have been undisturbed for three or four years they will attain a height of 3 feet or more, especially when they have been well fed. Last season I had some plants that had been seven years undisturbed, they ran up 4 feet high, and produced an enormous amount of bloom. I think, however, that Pyrethrums are at their best in the third year from planting, the blooms are fine in quality, and the flower-stems are not so long, so that staking is not imperatively necessary. In the case of plants that have been undisturbed for four or five years some support to the flowers must be given, otherwise after heavy rains and wind the greater portion of the blooms will be beaten to the ground. One good stick will suffice, looping the flower-stems to them: as soon as the beds are well

formed. The duration of the blooms will in a great measure depend on the amount of moisture the plants get. In a hot, dry time their season will naturally be short if they get no artificial aid. A good soaking of manure water just as the buds are expanding will increase the size and add brilliancy and beauty to the blooms. Where watering cannot well be practised the plants should be mulched in March. Pyrethrums show a marked tendency to produce an autumn crop of bloom, and this tendency can be either suppressed or encouraged. In order to encourage the production of late blooms the plants should be cut over as soon as the flowers fade, and if the weather is dry they should be watered with clean water, to be followed before they are quite dry with tolerably strong liquid manure, or, in a wet season, a top-dressing of concentrated manure should be applied and hoed in. The later crop will not be so abundant, and in a general way the flowers will not be so large as earlier in the season, but they will nevertheless be a welcome addition to the outdoor garden in late summer and early autumn. No one who has a garden can afford quite to pass by Pyrethrums. In the matter of hardiness they are on a level with

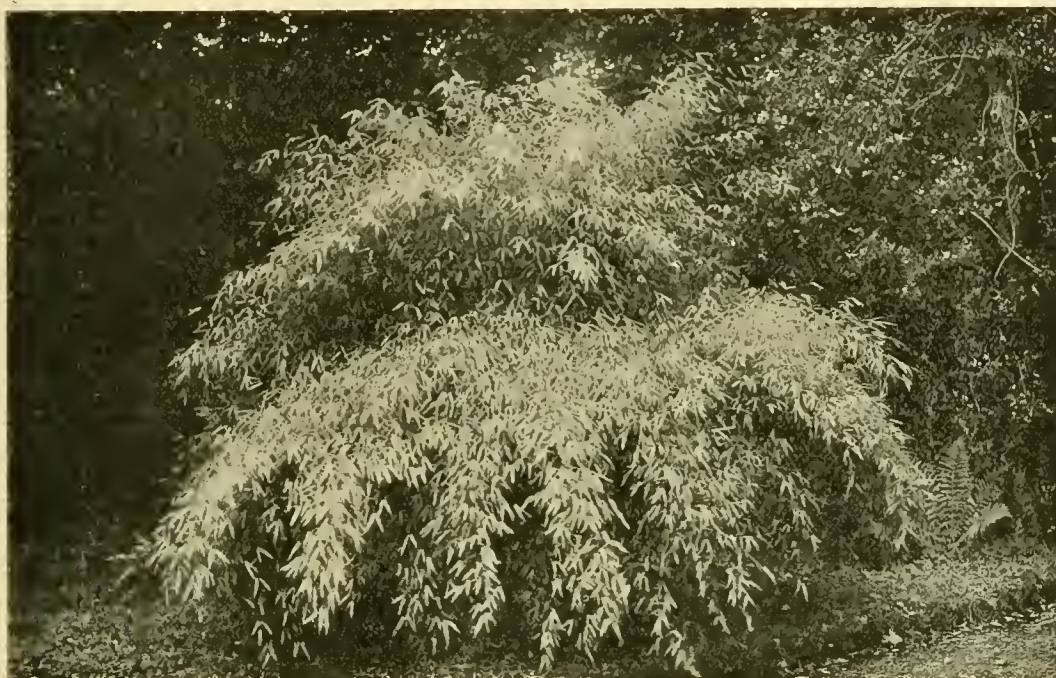
TREES AND SHRUBS.

BAMBOOS IN THE SOUTH OF ENGLAND.

NO plant is dowered with such delicate grace of form as the Bamboo, and, though some species far exceed others in elegance, none of the family is without decorative value. They are practically

hardy, far hardier than was imagined on their first introduction to our islands, and, where shelter is provided, will withstand severe frost without harm. A wind-swept site is, however, fatal to the beauty of the Bamboo, which has a miserable appearance where it is exposed to the full force of biting gales. Some species, such as *Arundinaria nobilis* and *A. Falconeri*, generally lose the majority of their leaves in the winter, but in exceptionally sheltered spots, such as Penjerrick, near Falmouth,

when a Bamboo flowered and seeded it died, but this I understand is not the case with *A. Simoni*, though the old specimens of *A. nobilis* at Menabilly, the progenitors of the present magnificent plants, all died after seeding some twenty-eight years ago. I am rather curious to see how *A. Simoni* behaves after seeding. Some plants are flowering on only two or three shoots, but one good-sized example is absolutely covered over the whole length of every shoot with hanging seeds. It has also been averred that when a Bamboo flowers, every individual plant of the same species also flowers. This, however, is evidently an incorrect assumption, as in many gardens there are plants of *A. Simoni* that show no sign of flower, while others in the same place are bearing seed freely. I was this spring in a Cornish garden where some three dozen species of Bamboos are grown. The majority were planted eight years ago, and the owner kindly went round with me armed with a measuring pole to take their exact heights. All were put in as small plants about 3 feet high, but a few of them were planted later. There are finer specimens of almost all the species in other Cornish gardens, but I have never had an opportunity of measuring an entire collection before, and the heights give some idea of what may be expected in eight years from planting. I merely give the specific name in each instance: *Auricoma Maximowiczii*, a dwarf, 4 feet; *anceps*, 15 feet; *aurea*, 15 feet (this I have not until the present year considered a particularly decorative species, but it keeps its colour so well through the winter, and its light green is such a pleasing contrast to a dark evergreen background, that I have altered my opinion); *boryana*, 14 feet (this species has black blotches on the stems); *disticha*, 2 feet; *falcata*, 14 feet; *Falconeri*, 18 feet (this is one of the most beautiful of all the Bamboos when in full leaf); *fastuosa*, 14 feet, yellow and green foliage; *Fortunei*, 5 feet; *Henonis*, 20 feet (this is the queen of Bamboos, being exceedingly graceful and keeping a lovely green through the whole winter; where one species only is wanted this should certainly be chosen); *heterocyclus*, 7 feet; *Hindsii*, 16 feet; *Hindsii graminea*, 11 feet; *japonica* or *Metake*, 17 feet



ARUNDINARIA NITIDA IN A SOUTHERN GARDEN.

Phloxes, *Delphiniums*, &c., and it must be a very bad soil in which they will not thrive. For filling the flower basket nothing can equal them at that time of year, the white varieties being very suitable for wreaths and crosses, for which purpose they are largely grown for market; it would, indeed, be impossible to form an accurate idea of the number of acres devoted to this flower by trade growers at the present time. Several hundred varieties are now in cultivation, the colours ranging from the purest white through intermediate shades to rich crimson, embracing also several shades of yellow. Those who may be starting the culture of this fine hardy flower may safely leave the selection of varieties to the trade grower, who supplies them, taking care to specify that all colours shall be included. The following I have grown and found very satisfactory: Whites—*Mont Blanc*, with *Sambanburgh* to follow; crimson—*Captain Nares*, *Prince Teck*, and *Melton*; the brightest of all reds—*Imbricatum plenum*, and *Captain Boyton*; shades of pink—*Nancy*, *Rosy Morn*, and *Princess Beatrice*; yellows—*Solafaterre* and *Ochrolenca*; singles—*Jubilee*, *Merry Hampton*, *Purity*, *Rufus*, and *Carmine*, all good and distinct.

J. CORNHILL.

A. nobilis retains its foliage, and I have seen it there over 25 feet in height in full beauty in the month of March when the rooks were building in the leafless Elms in the background. At Menabilly this Bamboo is equally fine, and *A. Falconeri* rivals it in height. This year in Cornwall some of the Bamboos commenced to make growth early in the season, for at the end of March I saw the pointed shoots pushing up from the soil to a height of 6 inches or more. When in robust growth the shoots of the Bamboos lengthen at a surprising rate, and I was told in a certain Cornish garden that a shoot of *Phyllostachys Quiloi* grew 14 inches between Saturday afternoon and Monday morning. This Bamboo is one of the tardiest to make growth, often pushing up strong shoots as late as September, these generally being ruined by the frost before they have time to harden, except in very sheltered and warm nooks.

A. Simoni is this year flowering in many gardens. I have seen it in bloom in over a dozen places. It was formerly stated that

(this has made rampant growth, and has been transplanted to form screens in different portions of the grounds); *mitis*, 18 feet (this species, generally praised by writers and mentioned as a giant among the Bamboos, leaves much to be desired; it is very chary of throwing up shoots, and the clumps are not a quarter the size of those of *Henonis* planted at the same time); *nitida*, 12 feet, with a spread of 16 feet, a very lovely Bamboo, though not keeping its colour like *aurea*, *Henonis*, and some others in the winter; *palmata*, 8 feet; *quadrangularis*, 10 feet; *spathiflora*, 8 feet; *sulphurea*, 15 feet; *Quiloi*, 18 feet; *tessellata*, 4 feet; *verticillata*, 6 feet; *viridi-glaucescens*, 15 feet; *violascens*, 13 feet; *nigra*, 16 feet (the black stems of this species have a handsome effect); *nobilis*, 20 feet (this species well merits its name, the giant specimens at Menabilly and Penjerrick with arching, pennoned canes towering aloft to a height of between 20 feet and 30 feet, being the very personification of grace); *marmorea*, 7 feet; *marliacea*, 13 feet; *gracilis*, 13 feet 6 inches,

a very charming Bamboo; pygmaea, 3 feet; Veitchii, 2 feet (in the winter the outer rims of the leaves of this species fade, giving the plants a variegated appearance); Castillonis, 6 feet, stems bright orange.

All these Bamboos were carefully planted. Circular pits 4 feet in diameter were dug out to a depth of 2 feet and the soil beneath broken up with a fork to the depth of another foot. The Bamboos were then planted in loam and leaf-mould, and in the winter a heavy mulch of cow manure was given them.

I was shown a few that had been planted in holes only just big enough to contain the roots, which showed a remarkable difference in size to others of the same species planted in prepared pits at the same time. The safest time to plant is considered to be from the middle to the end of May. S. W. FITZHERBERT.

HEDGEROWS BEAUTIFUL.

THERE is always a certain beauty about a hedgerow where wild Roses, Honeysuckle, Hawthorn, Prim-

much beauty, too much variety, and hardly too much colour in a landscape, and in this respect the hedges present marked opportunities for improvement.

A friend has hedges intersecting and surrounding his garden, and to do away with the ruler and pencil character of their outlines he adopted a pleasing idea. When the hedges were cut he left here and there an upright stem of Thorn above the level of the hedge, and on to these he grafted double crimson and pink Hawthorns. They have formed heads, and when in flower in the spring they present a charming appearance. The same individual has also introduced Laburnums, white and purple Lilacs, wild standard Cherries, and even *Pyrus floribunda* into his hedgerows with very pleasing effect, as the fences are low and closely trimmed, and the tall, flowering trees stand well up above the surface. In and around gardens, I think, something in the above direction might be generally done, though it is too much to expect the farmer to introduce a little similar variety into the fences intersecting his fields.

On Lord Northbourne's estate at Betteshanger in

hand, and suggested the familiar name of Water Hawthorn. It is not hardy enough to pass severe winters in some ponds or lakes, but when garden waters are fed by springs this difficulty does not always arise. Protection from frost is ensured by planting so that the plants may be covered with 3 feet or so of water. The leaves of the *Aponogeton* are floating, and resemble those of the native Pondweeds (*Potamogetons*) that are among the worst rogues that the owner of ornamental waters could have.

When planting the Water Hawthorn it is best to either provide a liberal supply of loam at a suitable depth, or, if it is wished to confine it to certain spots, the roots may be planted in boxes, these being afterwards sunk. The same plant that revels in the space of a lake of considerable size can also be grown to perfection in 4-inch or larger pots, the "lake" in this case consisting of a tub or other miniature aquarium. Of course, the flowers are smaller, but they are produced in profusion. Grown thus, the Water Hawthorn is quite the nicest little aquatic plant that one could find, and a very suitable companion for the choicest Water Lilies, either in the open or under the shelter of glass. *Hottonia palustris* is fairly common in some parts of the country. It is, as some have pointed out, more like a Primula than a Violet. Doubtless the colour of the flowers suggested the latter name; it, however, belongs to the Primula family. This pretty plant must be classed with the travelling water plants, for it floats about, often having no fixed abode. It might increase too quickly, but its flowers are so ornamental that it will hardly become a nuisance. If too abundant, the Water Violet is easily dealt with.

D. S. FISH.
Royal Botanic Gardens, Edinburgh.



PORTION OF ROCK GARDEN AT ABBOTSEURY.

roses, and Violets grow together. The wild, unkempt hedgerow presents a pleasing picture, and for game preservation it is ideal, but it is not a sign of good farming. The overgrown hedge speaks plainly of agricultural neglect, the ground it covers in its encroachments is wasted from an economic point of view, and for the want of proper care the hedge ceases to serve the purpose for which it was originally intended—*i.e.*, to be a dividing fence.

Yet there is something very monotonous and tiring about the closely-cut hedges that surround rural homesteads. What could be more tiring than to run the eye over a wide area that is under the plough and to observe the dividing hedges, straight, low, and formal, as if they had been made with a ruler and pencil? This may be good farming, but I think it would be possible to make hedges more pleasing without detracting at all from their agricultural value. And in and around gardens, too, attention is very often centred on matters inside, and the hedges are unconsidered except as dividing fences. We cannot have too

Kent the common St. John's Wort (*Hypericum calycinum*) has been naturalised in the woods and on the banks alongside the highway, where it flourishes in the chalky soil, and I know of nothing more enjoyable than slowly to ride a cycle through that locality when the banks on either side are studded with starry flowers. This is only one instance, but many flowers might be mentioned that could readily be established outside the garden boundary. G. H. HOLLINGSWORTH.

TWO GOOD AQUATICS.

HERE we have a happy combination of British and exotic beauty. The pale lilac blossoms of the Water Violet are produced during June and July, while those of the Cape Pondweed (*Aponogeton distachyon*) are not only produced during the summer, but more or less through the year. In mild seasons the surface of the water is quite carpeted with the peculiar white flowers during winter. These are very fragrant when close at

must be a fitting combination of both. Few people looking at the little scene here depicted would imagine that this was once an ordinary flat meadow. Yet such is the case. The picture represents a small portion of the rock garden of the late Mr. E. Fisher, at Abbotsbury, Newton Abbot. I constructed the rock garden some years ago, when, in order to obtain the necessary irregularity, the soil had to be excavated about 13 feet deep, and the extra material thus gained was used for filling up in other places. In this way an almost level piece of ground was made undulating. I have in previous essays maintained that—whether large or small—the rocks should not be continuous, but should be broken up, and the accompanying reproduction will give a practical illustration of this. Although the picture shows only a small portion of this comparatively large rock garden, it will serve the purpose of explaining my meaning. If rocks

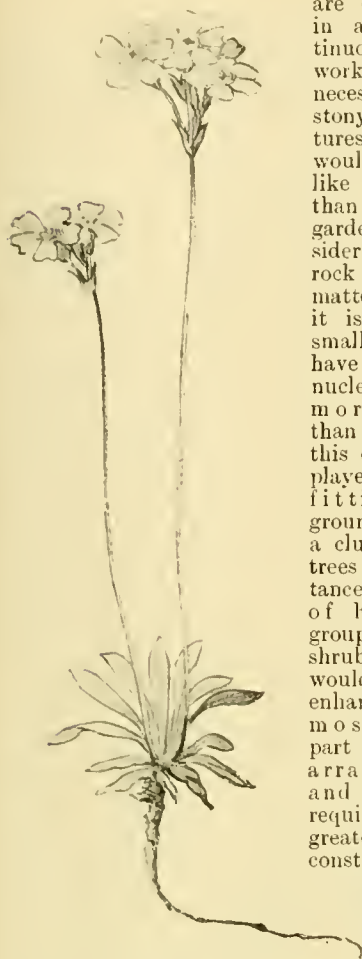
THE ROCK GARDEN.

ROCK GARDEN-MAKING.

X.—GENERAL HINTS ON GROUPING ROCKS.

IN the last chapter on rock gardening (see THE GARDEN of the 18th ult., pages 258 and 259) I gave two illustrations of a recently-constructed rock garden before and immediately after planting, but before the plants could develop. I am now giving an illustration of a rock garden photographed a few years after completion, when the plants had attained a considerable size. Effect in the rock garden will depend neither on the stones nor the plants alone, but

are constructed in a too continuous way the work must of necessity be too stony to be picturesque, and would be more like a quarry than a rock garden. I consider that every rock garden, no matter whether it is large or small, should have a sort of nucleus of rocks more massive than the rest. If this can be displayed against a fitting background, such as a clump of Fir trees (in the distance), a bank of Ferns or groups of rock shrubs, the effect would be greatly enhanced. The most difficult part of such an arrangement, and the one requiring the greatest skill in constructing, is to show an apparent reason for such rocks coming,



ANDROSACE OBTUSIFOLIA.
(Natural size.)

as it were, to a sudden stop. This I find is best effected by giving them the appearance of diving down far below the surface and cropping up again at some distance from the central massive portion. This may be repeated again and again until towards the outskirts of the rock garden the groups of rock above ground would be but loosely scattered fragments, cropping up from the ground here and there. But if skilfully arranged these fragments will nevertheless convey the idea of the rocks being really continuous below the surface, and having an underground connexion with the more massive rocks referred to.

The illustration will further explain this. To the right in the picture the rocks are massive; the little chair marks the entrance to a cave, while in the background a waterfall and streamlet (only partly visible) traverse the rocks. Then comes a sudden stop. The strata of the rock (limestone) are lost from view and dip below the ground where in the picture the path and stepping-stone bridge may be seen. To the right of this path, in the background, the rock reappears in the form of an isolated smaller group of rocks completely surrounded by green sward, which latter serves the purpose of a path, and facilitates access to plants, &c. This group of rocks was devoted chiefly to alpine Poppies and Campanulas of various kinds. On the left of this group, and on the other side of the path, is a still smaller group, in which not stones but plants predominate. The plants in this case are various kinds of Heather through which the rocks show only

here and there. To the left of this batch of Heather (still in the background of the picture) will be noticed an irregular grass path, which divides the Heather group from a more prominent rocky group devoted entirely to Androsaces and other minute gems of the mountain flora and forming, in fact, the "select part" of this rock garden, which cannot be overrun by plants of coarser growth.

Right in the centre of the illustration the interruption between the rocks is effected by plants of a bold type, such as *Spirea gigantea* (syn. *kamtschatica*) and various grasses and *Scirpus* which fringe the pond. The other plants noticeable around the pond are *Saxifraga peltata*, various *Iris*, and, in the foreground, *Dryas octopetala*. As only a very small portion of the pond appears in the picture, there seems to be, to judge from the illustration only, a continuous fringe of plants around the water; but this is not so, and would, in fact, have been a very grave mistake. I hold that occasionally the fringe of plants or rocks should be broken by grass dipping right into the water. I will say more on this subject when dealing with water in the rock garden.

The plants in the foreground of the illustration are on a much higher level than the path behind them, but as they were photographed from above, the ground appears fore-shortened. In planning the various groups of rocks care should, of course, be taken to make each individual group as pretty and natural in appearance as possible, to vary those groups as much as possible, not only in size and shape, but also in the manner of planting them, and, finally to take care that all these groups form a pleasing picture.

Elmside, Eretter.

F. W. MEYER.

(To be continued.)

THE ANDROSACES.

(Continued from page 334.)

A. OBTUSIFOLIA (All.) syn. *A. brevifolia* (Vill.).—From dry, stony pastures of the Alps and the Carpathians, between 1,700 and 2,500 metres. A small slender-looking plant, with ovate-lanceolate leaves, very shortly ciliated, of a grey-green colour, arranged in rosettes; flowers small, five or six in a small corymb, corolla white with a pink central eye, borne on a stem 2 inches to 4 inches high. May and June (July and August). Rockwork, peat, and sun. Increased by seed.

A. oculata (Hort.).—From the Himalayas. It is a slender variety of *A. lanuginosa*, with thread-like, bright rose-coloured stems, smaller leaves, which are more actually lance-shaped, and very pale lilac, almost white, flowers with a distinct eye at the throat. Culture as for *A. lanuginosa*.

A. pennicellata (S. N. K.), from the Dalmatian Alps, is a variety of *A. villosa* that is met with in some botanic gardens, but that I have never had.

A. primuloides (Duby.).—From the high mountains of the Punjab in the Himalayas. A stoloniferous plant, near *sarmentosa*; leaves narrow and covered with long down; umbel wide and many-flowered, surrounded by a distinct involucre. Flowers large, of a fine rose-lilac colour, resembling those of *Primula farinosa*. June to August. Culture as for *A. lanuginosa*.

A. rotundifolia (Harder.) syn. *A. incisa* (Wall.).—Alpine regions of Nepal, the mountains of Thibet, and of Western China. A curious species forming a dwarf, close tuft. Leaves orbicular, incised, resembling those of

Saxifraga rotundifolia but smaller; flowers small, rosy lilac, arranged in a small close umbel. June to August. Rockwork; in a soil of peat and loam with one-third of granitic sand. Half sun. Division and seed.

A. sarmentosa (Wall.).—From the sub-alpine regions of Cashmir, Sikkim, and Nepal, between 3,000 feet and 4,000 feet. A stoloniferous and trailing plant, distinguished from *lanuginosa* by its very fine smooth glabrous stems of a brown-black colour, by its wider leaves, which are woolly-downy (silky in *lanuginosa*), arranged in tight broad rosettes, from which the runners and new shoots issue in all directions. These, in their turn, produce new rosettes, which form fresh points of departure for more runners, and so on, so that the plant in a short time will take possession of a considerable space. The flowers are of a fine lilac-carmine and spring from the rosettes in large umbels. May to July. Rockwork or open ground. Sun. Division, runners or seed. In the garden of La Linnaea, at 1,700 feet this plant has done so well that it has completely covered a good half of the rock space intended for Himalayan plants, so that we have had to take it up and plant it elsewhere, where its love of invasion would not threaten more precious plants.

A. sempervivoides (Jacquemont).—From Western Thibet and Mongolia, between 2,500 and 3,000 metres. Nearly allied to the plant last described, from which, however, it is quite distinct. The narrow, downy leaves are arranged in close rosettes, which in summer and all the dry season have the appearance of small cones and remind one of *Sempervivum arachnoideum*. Flowers fairly large, in umbels, of a fine carmine-rose colour, with a deeper eye at the throat. June to August. Culture and method of increase as in *sarmentosa*.

A. strigillosa (Franchet).—From the mountains of Yunnan above Lan-Kong. Plant downy-hoary; leaves narrow, ending in sharp, rigid points, forming a compact rosette, which, at the moment when new leaves are growing, forms a shorter, quite distinct rosette in their centre, so that they have the appearance of *Cotyledon (Umbilicus) spinosus*. The stems are not stoloniferous, and the plant forms tufts of closely-packed rosettes. The flowers are of a fine lilac-rosy colour, numerous and arranged in dense heads on stalks 4 inches to 8 inches high. June and July. Rockwork in sun. Division and seed.

A. villosa (L.) syns. *A. capitata* (Willd.), *A. incana* (Lam.), *A. chamaejasme* (Bieb. non Willd.), *Primula villosa* (Lam.).—From rocky calcareous slopes of the Eastern and Western Alps between 1,000 and 2,000 metres; Jura, Appenines, Caucasus, Levant, Siberia. A



A. VILLOSA (WILLD.). (Natural size.)

plant with a branching stock producing small, compact, and nearly globular rosettes, formed of silky-downy leaves, from which rise the 1 inch to 3 inch high flower-stems, bearing three to five flowers of a pretty rose colour outside (brilliant in bud). They are white inside with a rosy eye at the throat. April and May (June and July). Dry calcareous rock-work, sun, and a light, well-drained compost, for it objects to damp. Division and seed.

(To be continued.)

PÆONIA ALBIFLORA WHITLEYI.

This beautiful single white Pæony, flowering in clusters, is one of the best things in the June garden. The illustration shows the effect of a few well-established clumps in a simple group, but this grand plant lends itself equally well to many ways of treatment. The foliage is dark and handsome, suiting it for rather large uses either in connexion with shrubs or sunny woodland edges. But, like all the Pæonies, it is a strong feeder and will not bear neglect, especially in poor soils.

ROUND ABOUT A GARDEN.

NATURE'S LIFE FACTORY.

The wise gardener notes the signs of the season, and will see to it betimes that his fruit netting is in good order and bird-proof this year, for never within recent recollection has Nature's factory of bird life been working at such full blast as during this spring. Not only has she, in the matter of black-birds and thrushes, twice as many hands employed as in the last breeding season, but she was enabled, by the unusual mildness of February and March, to set them working for a large spell of overtime. January 11, 23, and 28 are my dates this year for thrushes' nests containing eggs, and therefore it is no wonder that when the swallows came they found our gardens already as full of young thrushes, squatting by the drives and fluttering feebly about the lawns, as they are in ordinary years by the middle of June. And every day the output increases in volume, and already the thrushes and blackbirds seem to be so hard put to it to find sites for their second nests that it is hardly safe to hang up your weed basket out of doors overnight lest some hard-pressed birds shall have commenced a nest in it next morning.

THE BENEFIT OF BIRDS.

Robins, hedge sparrows, and wrens seem equally superabundant, but the larcenies of these little garden trifiers are so petty and rare that their multiplication is matter of unmixed pleasure; while even in the matter of blackbirds and thrushes, no one who owns a garden and watches the birds can have any doubt that he gains largely by their presence

in numbers. The trouble of netting such small fruit as you desire to preserve is a small countercharge against the large benefit which the garden in general derives from the services of these feathered police, who spend all the rest of the year in arresting evildoers. Nor need one be ashamed of counting the singing of the birds as a large item in their favour if one desires one's garden to be a "pleasance" in the good old-fashioned sense.

THE CURRANT'S ENEMIES.

Perhaps the owner of ground which is laid out solely for the growth of fruit for market—though a market garden is not quite the same thing as a garden—may think that he can get on better without the birds, but a little know-

leaves sunning itself, and if you look closely you will see that, though it is black and gold-banded like a slender wasp, its transparent wings have a sort of mourning border of black, and its tail has a silky tuft at the end, quite unlike a wasp.

A CAUSE OF DEAD BRANCHES.

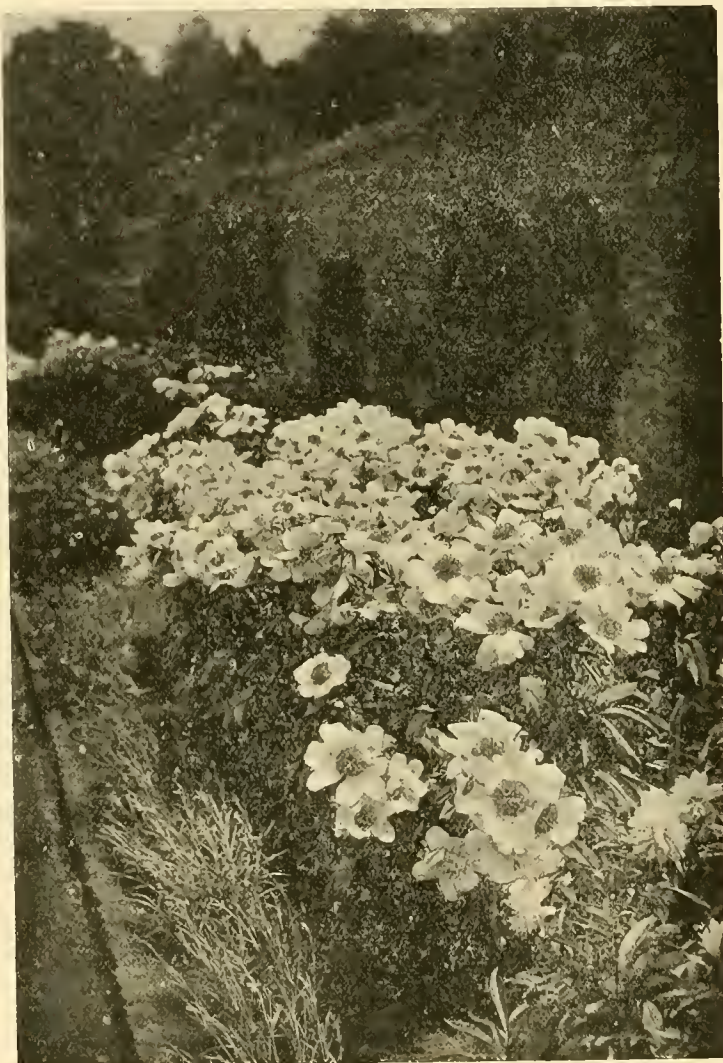
The Currant clearwing is especially abundant, considering the comparative scarcity of Currant bushes, in suburban gardens, for the simple reason that insect-eating birds are rarer round towns than in the country, and it is one direct cause of that too-frequent phenomenon when whole branches of Currant bushes suddenly die off, leaving only dead wood where the spring's leaves and fruit should be. In June or July the little wasp-like moth has laid its eggs on the vigorous shoots, and the grubs hatching from the eggs had eaten their way into the wood, tunnelling out the pith and spreading death as far as they travelled. Then they turn into chrysalids, and in May they emerge as little wasp-like moths, seeming to spend most of their time thereafter sunning themselves upon the Currant leaves.

MIMICKING A WASP.

You have only to glance at the moth to see that it is good to eat from the birds' point of view. If it was not good to eat it would not need protection, whereas Nature has gone far out of her way to protect it by giving it wasp-like wings and body, and making it almost as unlike an edible moth as possible. The disguise is not yet perfect, of course. All wild life as we see it is still in a state of transition; but the resemblance of the clearwing moth to a wasp is near enough to deceive the first glance of a passing bird. As the birds multiply, however, the deceit will more often fail, and the moth will have to become more and more wasp-like in order to escape extermination. Where, on the other hand, man protects the injurious moth by killing or driving off the birds, the insect is able to multiply freely, inasmuch that wherever you see Currant bushes seriously affected by its ravages, you may be sure that insect-eating birds are scarce. The converse is generally true also that, where the fruit bushes grow vigorously to all of their twig-tips, birds are numerous, though occasional and temporary immunity may sometimes be enjoyed in gardens where, although birds are scarce, the pest has luckily not been introduced.

THE CUCKOO'S USE.

Without leaving the Currant bushes, the most casual eye can hardly miss the sight, at some time or other in summer, of slim, looping caterpillars, which look like parti-coloured black and white twigs. These are the caterpillars of the magpie moth, a conspicuous flimsy creature, with large white wings, boldly spotted with black and yellow. Even the chrysalis is strikingly coloured, too, of glossy



PÆONIA ALBIFLORA WHITLEYI.

ledge of insect life would convince him of his error. Take the Currant, for instance. It is true that in a bird-haunted district the bushes will be freely robbed of the ripe and ripening fruit unless it is netted; but if you could exclude birds altogether there would soon be no fruit to net. Among the Currant's special enemies there is a dainty little moth, well known to entomologists as the Currant clearwing, which the ordinary gardener would certainly mistake to be some small kind of wasp. At the end of May and throughout June you may see it sitting on the Currant

black with yellow bands. On the Gooseberry bushes, too, you cannot help often seeing whole regiments of shiny green-speckled grubs, which flaunt their presence on the margins of the leaves, and cock up their tails with the menace almost of scorpions when the branch is disturbed. These are the grubs of a sawfly, and very often whole rows of bushes will be stripped bare of leaves. As you might guess from the way in which both these grubs and the magpie caterpillars court observation they are not palatable to ordinary small birds; but where small birds are numerous the birds'-nesting cuckoo will surely come, and a cuckoo among the fruit bushes is a glad sight for the gardener, because not the least mysterious feature of this mysterious bird is its amazing appetite for nauseous grubs and very hairy caterpillars, which other birds cannot or will not eat. Thus from the clear-wing moth, which pretends to be a wasp to escape the small birds, to the cuckoo, which eats the grubs that have no fear of small birds, a single fruit bush provides anyone who has eyes to see with easy object-lessons of the chain of cause and effect in Nature—from which, when man drives out a link, he suffers. E. K. R.

AN ARTIST'S NOTE-BOOK.

**ANEMONE CORONARIA FL.-PL.
KING OF SCARLETS.**

SO far as the form of this flower is concerned, the accompanying illustration will give a better idea than a mere description. It is sufficient to say that it is a double form of the Poppy Anemone (*Anemone coronaria*), whose flowers are unusually large and quite double. The colour of these is brilliant scarlet, and makes them conspicuous among even the brightest of Poppy Anemones. For this reason alone it will doubtless be widely planted, but add to its dazzling colour the attributes of size and vigour which it possesses, and King of Scarlets may deservedly be called the finest of double scarlet Anemones. Messrs. Gilbert and Son, Dyke, Lincolnshire, exhibited it before the floral committee of the Royal Horticultural Society on the 5th inst., when it received an award of merit.

THE ROSE GARDEN.

**HYBRID PERPETUALS
UNDER GLASS.**

IF the Teas and Hybrid Teas claim premier place as forcing Roses, the true Hybrid Perpetuals should be accorded their just meed of praise. From the commercial grower's point of view the two or three crops of flowers which the former will yield are of great importance, but the amateur is not over-anxious about this, providing he can obtain some really fine individual blooms. And who can say that this is not possible with the Hybrid Perpetual?

I do not think all of them are suitable for forcing. For instance, I should never think of

recommending Horace Vernet or Xavier Olibo, for they will not grow, or Her Majesty, for this variety is too coarse. But one has a number of suitable varieties to select from, such as Captain Hayward, Mrs. John Laing, Mrs. Sharman Crawford, Frau Karl Drusecki, &c., that there can be no excuse for growing inferior sorts. There is one point I should like to impress upon would-be growers of forced Hybrid Perpetuals, and that is the importance of young, healthy plants. For forcing purposes it is very essential that the plants be established. If one has a pot full of roots it is not difficult to grow good Roses. Thoroughly ripe wood is another consideration. Avoid the excessive use of stimulants. This tends to encourage growth

petual Roses after three or four years, that is if good flowers on long stems are required, so that every gardener who takes up their culture should have a batch potted each autumn. Select the best plants procurable, some on the Briar and some on the Manetti stock. Pot them into 8-inch pots in a compost of three parts loam that has been stacked for a year. A moderate amount of bone-meal and burnt earth will be beneficial. Plunge the plants outdoors, and grow in the open for the first year. Remove to cold pits in September, and prune when required. Allow from twelve to fourteen weeks from the pruning to the blossoming in a greenhouse of ordinary temperature.

After flowering keep under cover until May, then plunge outdoors and repot in June, giving the plants a small shift and using the same compost. Ample drainage should be allowed for all pot Roses. Should a house for their exclusive use be not available at first, such Roses may be kept in a cold pit until room can be found for them, and, indeed, they will flower here admirably. For early forcing I would strongly recommend a bed of leaves, into which the pots may be plunged. American growers have hot water pipes running under their Rose beds, and I think this would be a good plan to adopt here for planted-out Roses under glass. Hybrid Perpetuals are much subject to mildew when grown in pots, but the best of all checks to this is a steady temperature. Let the plants have plenty of air from the commencement. Sturdy, vigorous foliage is the result. Syringing with cold water also tends to check mildew.

Watering must be carefully done. Stimulants should only be given when buds are formed, and in weak doses. Liquid cow manure and soot is good and safe, but it is a good plan to vary the liquid manure each week. In the house the plants should stand on inverted pots. As to the varieties,

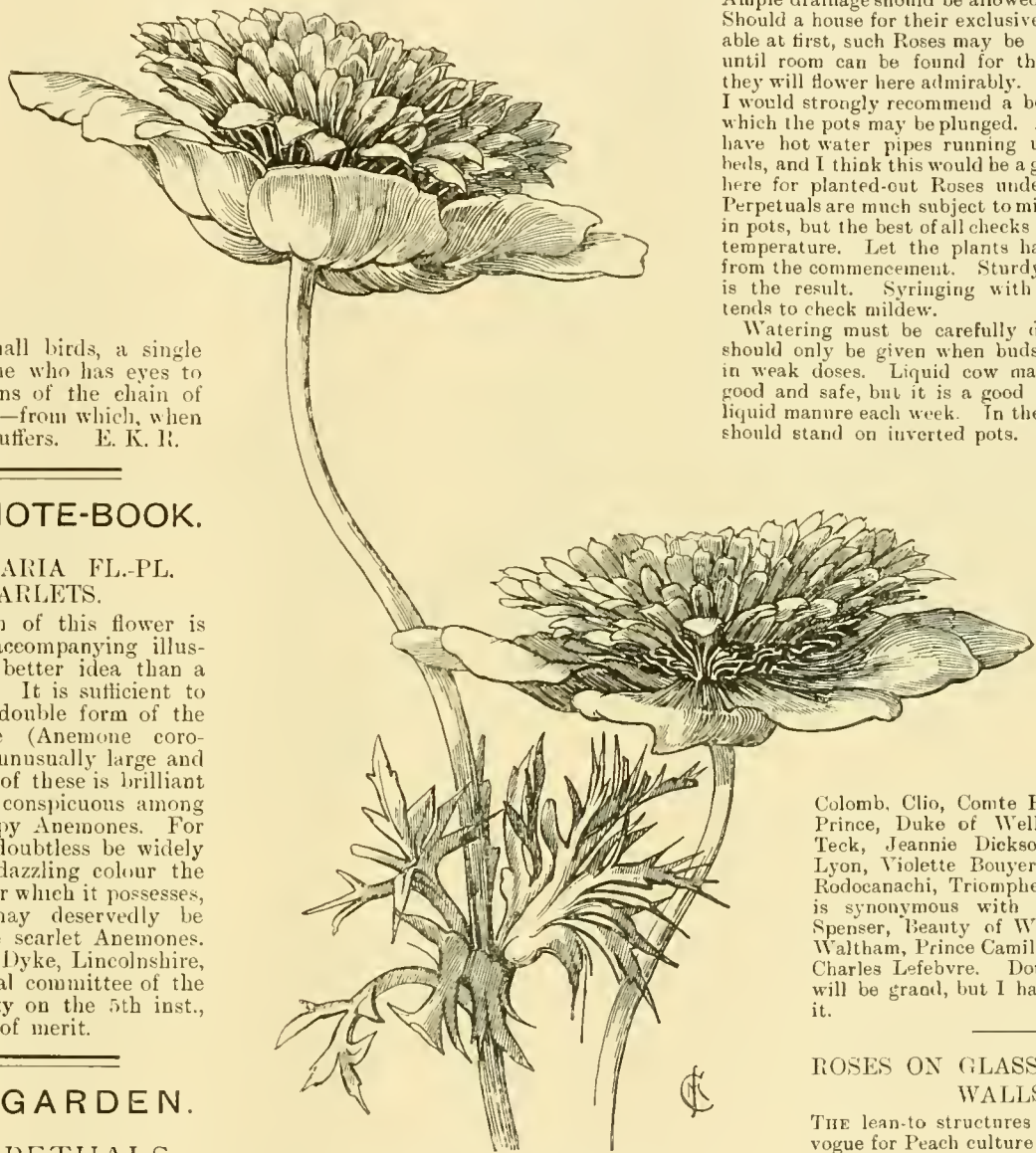
I would grow several plants of those named, but to supplement the list I give the following as being quite first-rate: Ulrich Brunner, General Jacqueminot, Alfred

Colomb, Clio, Comte Raimbaud, Crown Prince, Duke of Wellington, Duke of Teck, Jeannie Dickson, Merveille de Lyon, Violette Bouyer, Suzanne Marie Rodocanachi, Triomphe de Caen (which is synonymous with Prince Arthur), Spenser, Beauty of Waltham, Pride of Waltham, Prince Camille de Rohan, and Charles Lefebvre. Doubtless Ben Cant will be grand, but I have not yet tried it. PHILOMEL.

ROSES ON GLASS-PROTECTED WALLS.

THE lean-to structures now so much in vogue for Peach culture afford a splendid opportunity for obtaining some early Roses. In a lean-to house I saw recently the wall was devoted mainly to Roses, the Peaches being trained upon the roof. The Roses had plenty of light before the Peach trees had much foliage,

in fact the Roses were in bud early in March. The Roses were in pots, but they had been allowed to root through into a well-prepared border. The absence of mildew testified to the advantage of having a uniform temperature, which encouraged good sturdy foliage from the commencement. Some of the glorious wall Roses would well repay the expense of a glass coping or a lean-to structure, and many low walls, say, 5 feet to 6 feet high, against which one could place frame



ANEMONE KING OF SCARLETS.

(Slightly reduced. Shown by Messrs. Gilbert and Son, Dyke, Lincolnshire, at a recent meeting of the Royal Horticultural Society, and given an award of merit.)

at the expense of blossom. Care is necessary in pruning, as it is with outdoor Roses. Take, for instance, Mrs. John Laing. The shoots of this Rose may well be left much longer than such a variety as Gustave Piganeau or Victor Hugo. What is wanted in Hybrid Perpetuals, as, indeed, in most Roses, is young, vigorous wood. Let this give place to old, worn-out wood, then success is assured.

I am sure it does not pay to grow Hybrid Per-

lights, would ensure a supply of early flowers from the exquisite Teas and Hybrid Teas.

Instead of covering a southern or western garden wall with Ivy, plant Roses Comtesse de Nadailac, Medea, Lady Roberts, Bridesmaid, and the like, and these will give two and three supplies by September. Of course in the summer the lights would be removed, but returned to protect from the heavy dews of September and October. P.

CORRESPONDENCE.

(The Editor is not responsible for the opinions expressed by correspondents.)

THE RECENT FROSTS AND THE FRUIT CROPS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—A short time ago I sent you a brief note concerning the weather and the bad effects of the recent frosts on choice shrubs and specimen trees. I am now better able to supplement my previous note, as in our case the damage is greater than I thought possible. I gave the temperatures at page 272 of THE GARDEN for the week, and need not repeat them, and I note that they are a little higher than most of your correspondents give, but this is readily accounted for, as these gardens lie very low, and on three sides are surrounded by water. I note at Goodwood there were from 7° to 11° of frost, and Mr. Parker appears to have lost a good portion of his fruit crop. Here the result is much the same as regards the early blossoming varieties; it is sad, indeed, to see grand pyramid Pear trees in such a condition—not a single fruit remains. The ground at the time of penning this note is covered with the fallen embryo fruits. Fortunately the late Apples have escaped, and this is some consolation, as such sorts as Lane's Prince Albert were not sufficiently forward to be injured. I have never seen such havoc as the frost played with Plums; here the crop is quite lost, with the exception of a few late trees on north walls.

Rarely in my experience have I seen the Strawberry blossom injured in so young a state. We have lost a large portion of the early plants. I have cut down a good portion of our Raspberry canes, the flower trusses being quite killed, and I trust by doing this we may get a small autumn crop from the new growths. I have never seen our Peach and Nectarine trees present such a pitiful appearance; the leaves are badly curled and blistered. I have also been obliged to cut down the Wineberry; this appears to be very tender, while the Loganberry has not suffered. Apricots have escaped, these being naturally in a more forward condition than other fruits. For the first time for many years the very fine Wistaria that covers a large portion of my cottage has been badly injured, both buds and flowers are quite dead, and this chiefly on a south and west aspect; the same remarks are applicable to many of our trees and shrubs. Doubtless the injury is much greater owing to the mild weather in March, as growth was so advanced. In the northern counties the fruit crop is much better, as many of the trees were not so advanced, and in places the cold was less severe.

Syon.

G. WYTHES.

A FAMOUS MARECHAL NIEL ROSE.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I read with great interest your correspondent's remarks (page 310) on the grand old Rose Rêve d'Or. It is most interesting to find this old favourite with such a long and honourable career. How often do we hear it said of Roses of this class, when planted in houses, that they make rapid growth and do well for a few years, then suddenly die off with canker. This is especially the case with the grand old Rose Maréchal Niel. This has been my experience in many instances, and how to prevent it is still a puzzle to many Rose growers and gardeners. We have at the present time a Maréchal Niel in full

bloom. I have cut hundreds of flowers from the same tree during the past four weeks, and to-day (May 12) I counted over 200 blooms still in good condition. The plant in question is growing in an old vinery. It was planted in the autumn of 1875. The Vines were rooted out, the border forked over, and this plant with another were planted outside and the stem brought through the same hole as the Vines passed. Both plants grew away at a rapid pace, but after a few years canker got hold of one of them. This was soon rooted out, the other still remains, and now covers a space of over 400 square feet. The stem of the plant 1 foot from the ground measures 12 inches in circumference; it is now in perfect health, and does not make very much growth. I never have occasion to prune it, only take out any dead or useless wood. The border has not been renewed with soil during the twenty-seven years. We give a good mulching of manure every year, and in dry weather plenty of liquid manure. The Rose was budded on the Briar, and in planting the part where the union took place was covered about 3 inches. I have not examined this part of the tree, but feel convinced that by this time it is growing on its own roots. T. B. FIELD.

Ashwellthorpe Hall Gardens, Norwich.

AUTUMN-SOWN SWEET PEAS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I have noticed recently that there has been some discussion in THE GARDEN as to the sowing of Sweet Peas in the autumn, and one of your correspondents had failed to bring the young plants through the winter. Here in North-Eastern Scotland we always make an autumn sowing, and find that the plants winter all right without any protection whatever. Failure, I expect, is the result of too early sowing. The young plants should not make more than a few inches of growth before winter sets in. If they have grown too tall they are sure to get cut with frost. The autumn-sown plants come into flower five or six weeks earlier than those sown in the spring, and go on flowering just as late if they are not allowed to go to seed. As to vigour there is no comparison, the autumn-sown ones topping the others by several feet, with stems thicker and sturdier in proportion. If they can be successfully grown in this way in this part of Scotland, where our winters are very severe, I do not think there should be any difficulty in other parts of the British Isles, excepting perhaps on very heavy soil, which, however, could be remedied by digging a trench and filling it with some lighter material some time before sowing.

Forres, N. B.

N. B.

"ROUND ABOUT A GARDEN."

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I was much interested in the article written under the above title which appeared in THE GARDEN, page 281. "E. K. R." says the last time he "preached" was concerning our entomological ignorance, and this time he preaches on our botanical shortcomings. Now, sir, the next time he "preaches" I do hope it will be something for our edification. I certainly think that "E. K. R." in all fairness to himself and to gardeners, might have made exceptions, and not have made this general reproach to the whole gardening profession. I do know and readily admit that many gardeners have not the botanical knowledge that one might expect to find in men who spend their days among plants; but I should pause before making such a reproach general, because I have met gardeners who have been excellent botanists. Then "E. K. R." says all the gardeners' classification is by "rule of thumb," and all we know is that a plant is either an "annual," "biennial," "perennial," "hardy," or "tender." Well, a very important classification to understand, a good knowledge in this systematic arrangement being by no means despised. What would "E. K. R." think of the gardener who treated a biennial as an annual, or an annual as a perennial, or what would he think of a nurseryman's catalogue without

this "rule of thumb?" Why I think that our gardens would be simply places of confusion; therefore even as "Cabbage hoers" we are thankful for this little botanical knowledge, which prevents and saves us from much chaos and confusion. Then "E. K. R." goes on to mention "alpenes," and evidently by his remarks these are plants which the gardener knows nothing of whatever; in fact, they are so unlike a Cabbage that we gardeners should not recognise an alpine to be a plant at all unless we were told so, and of course we know nothing of its requirements. Now, here my experience differs from "E. K. R.'s" altogether. I know gardeners who can and do grow alpine plants most successfully, and not only grow them, but are able to build rockeries and make suitable homes for all these varied little alpine gems, and this is not done under the "rule of thumb," neither are the plants arranged according to the outline of the leaves; but the whole is done as far as possible to meet the requirements of Nature. Then a word on "leaf outline." Even the gardeners have learnt the important lesson that every "leaf shape" has its meaning; in fact, we have even got so far that we have come to the conclusion that Nature has ordered nothing without a reason. However, "E. K. R.'s" theory on the meaning of leaf formation, either that a serrated leaf is formed for the purpose of jostling its neighbour, or that leaf formation is an indication how plants should be arranged in our gardens, I, for my part, cannot accept. Of course we all understand that a plant in a crowded position has a tendency to grow higher than when it has proper room; but does "E. K. R." think this true development? I hope not.

Torquay.

R. W. H.

[We printed the remarks of "E. K. R." so that the attention of those men who know nothing of insect life or of botany might be drawn to them, but we do not think our correspondent intended to condemn the British gardener, if so, we are entirely out of sympathy with his statements.—E.]

[TO THE EDITOR OF "THE GARDEN."]

SIR,—After reading the remarks of "E. K. R." and "M. L. W." one is often led to think that a garden without a professional gardener must indeed be a paradise. For what with "M. L. W.'s" jobbing factotum, who kills all the choice plants and preserves the common, and who uses the shears alike to every kind of climber, and "E. K. R.'s" pet aversion, who knows nothing of entomology or botany—new style—it would be much better to garden in a natural way and let Dame Nature do it in her own fashion. The serrated-leaved plants could battle with their non-serrated neighbours, and all would be a delightful competition. If lads and men are not of much use in the garden, the need is often felt of men who possess some botanical knowledge. A course of the same as at present taught could not fail to be of use to many desiring to excel in their profession. The need is more pressing to-day when we have so many new introductions of species of plants from different habitats. The gardener that has the best chance of success with them is the one who has acquired a knowledge of plant life from botanical studies. "Hocuspocus absquatularia" may be smart satire, but it does not lessen the benefit derived from a fixed nomenclature. The confusion that exists with the present English names is enough to deter anyone from continuing to Christen new arrivals. For instance, in Oxfordshire Clematis Vitalba is called "Honesty," whilst in most other parts of the country Lunaria biennis is so named. Anemone nemorosa in some parts is known as Cuckoo-flower, but Cardamine pratensis in others. In Essex the Cowslip is known as Peggles, while the names of the Couch grass are many, Couch, Scotch, and Twitch being three of them. There is no doubt a deal of sentiment in these English names, but sentiment and usefulness are not always synonymous.

Surely it is not strange that the gardener sometimes does not understand the needs of every plant brought to him. His wages usually prevent him from acquiring many books on the subject, and his

other duties, such as cow keeping, pig feeding, and stoking, generally take up all the time he can spare from practical gardening. Generally speaking, however, when the gardener is given a chance he makes good use of it. Wielding a hoe or spade does not seem to interest "E. K. R.," but if many of the young fellows who hasten to get into the houses knew of the value in garden practice of a good use of both hoe and spade, we should not have to bewail so many bad crops and poor results when these same young men occupy positions of responsibility. Gardening takes many forms; it does not consist in growing "treasures" only. The gardener who can grow vegetables to perfection is just as much a gardener as the one who succeeds in growing alpinists.

A GARDENER.

CABBAGES CLUBBED.

[TO THE EDITOR OF "THE GARDEN."]

SIR.—Under the heading of "Cabbages Clubbed," on page 275 of THE GARDEN of the 25th ult., your correspondent "A. D." mentions that out of 200 strong Cabbage plants nearly every one "had been attacked by the club maggot, yet growth was not in the least affected," and later on speaks of "the club warts and excrescences." It is clear that he is mixing up two quite different pests of Cabbages. "Clubbing" is caused by a fungus (*Plasmodiophora brassicae*), which infests the cells of the roots, causing them to swell. The rounded wart-like nodules are formed by the grubs of the Turnip gall weevil (*Ceutorhynchus sulcicollis*), and if one of the nodules be cut open the grub will be found inside. An attack by this insect is not in any way caused by the quality or quantity of the manure applied to the soil in which the Cabbages are growing. The parent insect lays her eggs in the roots, and the action of the grubs in feeding causes an unusual flow of sap to the part, and an abnormal growth of cells in consequence takes place. These form a gall round the grub, which continues feeding until it is full grown, when it makes its way out and buries itself in the soil, where it becomes a chrysalis. Unless the attack by this insect is a very severe one the plants are not much injured. The best way of destroying this insect is by pulling up the infested plants and burning them. There are probably two broods of this insect during the year.

G. S. S.

ORCHIDS.

**CYPRIPEDIUM CHAPMANII
MAGNIFICUM.**

IN the group of Orchids recently exhibited by Captain Holford before the Royal Horticultural Society this *Cypripedium* was splendidly represented. The leaves, mottled with dark green upon a light green ground colour, were remarkably vigorous; the scape bore one fully opened flower and one bud. The petals are dark shining crimson and dotted all over, the lip is dull red-crimson. The white-margined dorsal sepal is veined with dark crimson, while the centre is tinged with green. Mr. Alexander evidently knows well the needs of this *Cypripedium*; its unusual vigour was generally remarked upon. This was not the only plant that gave evidence of exceptionally good culture in Captain Holford's group, for the Orchid committee gave a cultural commendation to a plant of *Odontoglossum crispum* that had no less than six racemes, carrying eighteen, seventeen, nineteen, twenty-seven, twenty-five, and seventeen flowers respectively, making a total of 123, a very good display for one plant.

**ODONTOGLOSSUM CIRRHOSUM
PITT'S VARIETY.**

This is probably the finest variety of *O. cirrhosum* that has yet made its appearance. It was much admired when shown by H. T. Pitt, Esq., before the Royal Horticultural Society on the 5th inst., and then gained an award of merit. The broad

petals are marked with a few chocolate-coloured spots, and the long, tapering sepals are more heavily marked with the same colour; both have a white ground. The rather broad lip is greenish yellow. The plant shown bore one raceme, which carried three expanded flowers and five buds.

P.

**RODRIGUEZIA
FRAGRANS.**

THE *Rodriguezias* generally are better known as *Burlingtonias*, with the exception perhaps of *R. secunda*, which still usually retains the generic name of *Rodriguezia*. The *Burlingtonias* are epiphytic Orchids, and are best grown in baskets or pans suspended near the roof of a warm house. During hot weather they need to be shaded, and the pans or baskets should also be well drained. *R. fragrans* is a native of Brazil, and bears pendent racemes of pure white fragrant flowers, the lips being marked with yellow. As the illustration shows, this *Burlingtonia* flowers very freely when given proper culture, and the blooms remain fresh for weeks together, opening usually early in the month of April. As the plant is evergreen water must not be altogether withheld when growth is inactive.



RODRIGUEZIA FRAGRANS AT KEW.

**ODONTOGLOSSUM CITROSMUM
PUNCTATUM.**

OF the several varieties of this fragrant Orchid, *O. c. punctatum* is without doubt the prettiest. Like the species, it is a native of Mexico. While the flowers of *O. citrosmum* have white or flesh-tinted sepals and petals, in this variety they are beautifully spotted with rose. The spots are fairly numerous, although they vary in different flowers. The lip is deep rose, and differs in form somewhat from the typical lip of *O. citrosmum*; it protrudes more, and is of true oblong form. Other varieties of *O. citrosmum* are *roseum*, with sepals and petals white, blade of lip rose; *sulphureum*, buff-yellow sepals and petals, rose lip; and *album*, which, except for the yellow crested lip, is pure white.

LEAF-SOIL FOR ORCHIDS.

WITH reference to the remarks on page 322 of THE GARDEN concerning the use of leaf-soil for Orchids, a writer mentions that M. Linden grows *Cypripedium lawrenceanum* exceedingly well, using nothing but peat and sphagnum. It is curious to find this, for only the other day, when visiting a garden where Orchids are largely grown, I was shown many plants which owed their vigorous condition entirely to the use of leaf-mould and

the other ingredients which go to make up the compost generally spoken of as leaf-mould, but which really contains only about one-third of this material, and, curiously enough, *Cypripedium lawrenceanum* was one of the plants pointed out to me as doing unusually well in leaf-mould. Although not in flower, the plants were extremely decorative from the appearance of their leaves alone, and might well have been made use of as ornamental foliage plants. *Cypripediums* generally appear to do well in leaf-mould, but *Odontoglossums* perhaps best of all. The difference noticeable in the growth of these when growing in leaf-soil and when in the ordinary compost of peat and sphagnum is remarkable; at least, in several gardens in this country I have come across the same thing. If M. Linden were to grow his Orchids in England there is little doubt, I think, that he would discard peat and sphagnum for leaf-soil. It is more than probable that the local conditions at Moortbeek so exactly suit the culture of Orchids that it matters little whether the medium they are growing in is leaf-soil or peat and sphagnum.

A. P. H.

NOTES FROM SCOTLAND.

MOUNT STEWART, ROTHESAY, IN SPRING.
It was the saying of an old dramatist who lived nearly two and a-half centuries ago, that "if any man feels no joy in the spring, then he has no warm blood in his veins." I not only experienced

keen enjoyment, but the blood in my veins was stinging warm, as on the afternoon of the 2nd inst. I walked through the majestic pleasure grounds and beautiful gardens of Mount Stewart, Bute, one of the Scottish homes of the Marquis of Bute. There was for a few hours a most welcome break in the moist, misty, dull cold weather which had settled down upon the west of Scotland, as it had in London. The splendid trees and deciduous shrubs were clothed with a vernal greenery of leaf; the tender green of Larch lit up the sombre tints of some giants of the wood slow in developing leafage; some early Rhododendrons and common Laurels were in flower; at one's feet there was a perfect carpet of Primroses; the Bluebells were commencing to show colour, the Wood Anemones were radiant with snowy whiteness, and the carolling of birds formed a delightful accompaniment to the panorama of natural beauty.

It is difficult to accurately describe the semi-wild garden, with its cleanly-kept walks and borders of spring flowers, which lead the way up to that reproduction of Mount Calvary which the piety and devotion of the late Marquis of Bute led him to create; a spot full of solemn associations which the reflecting visitor treads devoutly, as in the presence of things unseen. The late Marquis made a personal study of the physical conformation of that part of Palestine associated with this great tragedy, and all the essential features are reproduced with marked fidelity. At certain points are the spots which the procession to the scene of Crucifixion is believed to have made halts, and, finally, the summit is reached. Winding paths between grassy surfaces planted with spring-flowering subjects lead up to the point in the grounds where the ascent to Calvary commences. On either side were such flowering shrubs as Berberis Darwinii, the branches festooned with its deep orange blossoms; *Andromeda floribunda*, Weigelas, &c., delicate Daffodils in charming bunches, here and there *Trillium grandiflorum* peeping out from the grass; by the sides of the path *Primula denticulata* and *P. rosea*, the latter quite at home and seeding itself freely. Returning by a path partly amid a semi-wild expanse, and then, anon, shrubbery and umbrageous trees, with a mountain torrent close by in the natural rock, the pleasure grounds are reached, where there is more of ornamental gardening, but never any garish or obtrusive feature; choice trees and shrubs are there, and a Rose garden. In the centre of one circular bed stands the pathetic figure of the Redeemer in marble. Then, passing on to the more wooded portion of the domain in order to reach the cottage of Mr. Michael Heron, the gardener at Mount Stewart, a rocky valley is reached, from which bubbles forth a perennial stream, known as St. Peter's Well, whose waters are said to possess healing properties, and close by, on a rocky eminence, is seen a life-size marble crucifix, raised to the memory of the late Marquis by his widow and children. Here in unwonted quiet and almost undisturbed repose, under the shade of trees standing up strong and tall against the everlasting sky, stands for all time this emblem of the Christian faith, erected to the memory of one whose lavish gifts to the Church he loved, and to which he was devoted, are almost unrivalled in their magnificent generosity.

Mr. Heron's pride in the gardens and grounds is shown by the admirable condition in which they are kept. I gratefully acknowledge his great kindness and ready hospitality to a visitor from afar.

R. DEAN.

WORCESTERSHIRE NOTES.

ROSES.

A SUNLESS summer, a mild winter, and a wintry spring have left their mark on my plants, which consist mainly of Tea and Hybrid Tea varieties, and even at the time of writing (May 12) it is difficult to tell whether some varieties will recover, so greatly have they suffered from the effects of these unusual conditions. The remarkably mild and open weather during February and March started the plants into growth so quickly that long before the middle of the latter month many were

showing buds, and at the end of the month I was tempted to prune the bulk of them. For anyone who grows Roses purely for garden decoration, as the writer does, this has, indeed, been sad and uncongenial work. Unripened pithy wood, blackened bark, and a generally unhealthy appearance seem to be the complaint everywhere. The bitter weather which set in at Easter and prevailed for nearly a fortnight has not improved matters, and prospects, from a rosarian's standpoint, are most unpromising. Some varieties have been extraordinarily hard hit, and a number have had to be pruned to the ground line, and even at that the pith has appeared brown and diseased-looking. Climbing Roses have suffered severely, and in some cases they also have had to be cut to the ground. *Soleil d'Or* was covered with large buds when the frost came; so, also, were the Austrian Briers and the *Rugosas*, and in each case they were entirely ruined.

March proved to be a very wet month, as the following figures will show:—

	Days on which rain fell.	Quantity.
March, 1900	9	79
" 1901	17	131
" 1902	10	74
" 1903	20	263

(Registered at the Kidderminster Meteorological Station).

Of April it is really hard to speak. Never do I remember a more disappointing month. Day after day of biting wind and severe frost at night wrought incalculable damage throughout this district. Last year fruit crops in the Pershore and Evesham districts were very light; this year they will be still lighter—indeed, in many Pear and Plum orchards there will scarcely be any fruit to gather. One of the oldest and largest Evesham growers, I learn, considers it the worst season he has experienced for the last twenty years.

In this garden such plants as *Mertensia virginica*, *Heucheras*, *Tiarella*, *Campanulas*, *Aquilegias*, *Anemones*, *Primulas*, and such-like plants were badly injured, as also were many early-flowering shrubs. The beautiful *Lonicera Morrowi* was in bloom throughout the frost and escaped unhurt. *Weigelas* and *Spiræas* suffered the worst, and at the time of writing appear very unsightly objects. Throughout the neighbourhood the blossom of *Wistaria* and *Clematis montana* was nipped in the bud. The little fruit which escaped the frost in this garden was mostly destroyed on May 5, when, after several days of heavy rain, a terrific thunderstorm, accompanied by hailstones as large as marbles, was experienced. Many plants were defoliated, and my Daffodils were cut to ribbons, while Peaches, bush fruits, *Chrysanthemums*, and herbaceous plants were severely injured. This storm appears to have been peculiarly local, as when visiting Messrs. R. Smith and Co.'s nursery the following day I found that it had escaped. In spite of the severe frosts I found many hardy flowers unhurt, and will mention just a few of the most striking. *Gentiana verna* must have the first place on my list. Some dozens of strong plants in pots in an open frame were a mass of flowers—a sure evidence of careful culture. Close to these were several large open frames full of encrusted and other Saxifrages. In the former section I observed *S. Boudi* and its white variety, *S. burseriana* and *S. b. major*, *S. marginata*, *S. pectinata*, *S. notata* (very beautiful with its encrusted leaves margined with crimson), *S. longifolia*, *S. macnabiana*, and many others. In addition to the encrusted varieties, Messrs. Smith have a grand collection of the mossy and other species. For instance, I noted *S. aspera* bryoides and *S. bronchialis*, both very neat and dainty, *S. retusa*, *diapensoides*, *juniperifolia*, *stellaris*, *rudolphiana*, and *sancta* were all well represented. *S. pedemontana*, with woolly foliage and charming white flowers on 2-inch stems, is also worthy of mention. In an adjoining bed *Asperula suberosa*, *Androsace villosa*, and the uncommon *Dryas lanata* were a notable trio.

The rich orange *Cheiranthus Allioni* was very effective, as also was its companion *Anthyllis montana*, whose flowers were just expanding. *Draba tomentosa*, with deep green, woolly, angular

foliage, was interesting, though not in bloom, and other good things not yet in bloom comprised *Lithospermums*, *i.e.*, *canescens*, *hirtum*, and *graminifolium*, *Onosma stellulata*, *Potentilla flagellaris*, *Moltkia petraea*, and *Aubrietia Moerheimi*. In the rock garden the pretty blue *Polemonium reptans*, together with *Cytisus incarnatus*, *Alyssum saxatile* fl.-pl., *Arenaria grandiflora*, and *Phlox canadensis* were among the most conspicuous subjects. Some large patches of *Trollius*, various dwarf Irises, the bright greenish yellow heads of *Euphorbia pilosa* major, and a bed of *Scilla campanulata rosea* were the most attractive features in the extensive herbaceous ground. Only some warm weather is needed for the Peonies and Flag Irises to commence to bloom, and the *Eremuri*, which have been carefully protected in an ingenious manner, and as a consequence have escaped the late frosts, are throwing up some magnificent spikes.

Kidderminster.

ARTHUR R. GOODWIN.

THE FRUIT GARDEN.

THE PEACH AS A CORDON UNDER GLASS.

WHEN visiting the gardens at Hartsholme Hall, Lincoln, a short time ago I was much interested in seeing the Peach successfully grown under glass on a system new to me, namely, as an upright cordon. That the Peach can be grown cordon fashion on the close spur-pruning principle is, of course, well known, and is occasionally practised, like the Pear. When they are planted on the back wall of a narrow glass case, it is not uncommon to have several cordons from the top of these trees, and train down the roof at distances apart of 9 feet or 10 feet. At this distance the single cordon, when spur-pruned, will shade the permanent trees or affect adversely their general fertility but little, whilst the cordons thus obtained will give an excellent return of good quality and highly coloured fruit. As regards the adoption of the system pure and simple, this is the first time I have seen it put into practice with the Peach.

At Hartsholme one division of a lean-to range of houses has been planted in this way (trained against the roof) with regular and satisfactory results for many years. I am not certain as to the distance apart they are planted, but writing from memory I think 2½ feet. The trees are spur-pruned—the same, in fact, as we ordinarily prune Vines. As to results, at the time I saw them each cordon was carrying a heavy crop (and the fruit was approaching the stoning period)—far too heavy a crop, in my opinion. Upon my remarking this to Mr. Wipf, the head gardener, he agreed it was so, and that further thinning would have to take place, but assured me at the same time that the trees had never failed to produce heavy crops of excellent fruit. It may be asked whether my remarks are intended to be taken as advocating this system of growing the Peach in preference to that in universal practice. I answer that my remarks must not be interpreted in this way. I simply draw attention to the fact as demonstrated at Hartsholme that the Peach can be successfully grown in this way, and that it may interest some of your readers to know this, as it certainly did me on my visit to this interesting and well-kept garden. For anyone desiring immediate returns of fruit this system, I think, has much to recommend it, as a house can be filled with fruit-bearing trees in much less time than by

planting ordinary fan-trained trees, especially when cordons of four or five years old are made use of. To the amateur with limited glass accommodation wishing to grow several varieties, this system offers special facilities.

OWEN THOMAS.

CORDON APPLE TREES.

CORDON Apple trees against walls are a luxury that not every one can afford, for walls are expensive. Those who are so situated as to be unable to grow the finest Apples as bush trees in the open, and are without walls around their gardens, may follow the method shown in the accompanying illustration and plant against a fence or espalier. This is preferably made of strong wire stretched between iron supports. Not only may finer fruits be obtained from trees so cultivated, if the fence is given a south, south-west, or west aspect, than from bushes in the open, but this practice is advantageous from another point of view. Espaliers can be

The orchard house, 120 feet long by 32 feet wide, in three divisions, amply ventilated continuously each side at top and sides, with heating arrangement to meet the wants of both grower and inmates, is of more than passing interest. The proprietor evidently is a fruit enthusiast, nothing being sold, even though he has been connected all his life with the noted Covent Garden firm of Wild and Robbins.

To the thoughtfulness and generosity of Mr. T. Wild, the village is indebted for many advantages, such as a mission hall, coffee-house, with workmen's institute, &c. On entering the early No. 1 house a very gratifying sight was seen, every tree carrying a full crop of fruit. Then all were a picture of good health, clean, and with free growth, speaking much for the watchful care and culture. Much is made of soft rain-water for syringing, also using water with the chill off for the roots. No. 3 division was in bloom and full of bees, this being the secret of complete fertilising. As each division comes into flower the hive is moved. This, I know, is old-fashioned, but is a very economical way of securing a free set. Then if the soil is correct, with its due proportion of lime, stoning follows as

difficult to select when all were so good. Tobacco powder is used freely for keeping the trees clean. The vinery has a very mixed collection—Black Hamburg, Mrs. Pinee, Duke of Buccleuch, Gros Maroc, Gros Colman, Foster's Seedling, Muscat of Alexandria, and Lady Downe's.

STEPHEN CASTLE.

GARDENING OF THE WEEK.

INDOOR GARDEN.

FUCHSIAS.

LARGE pyramidal specimens are usually plants grown on from year to year, and should now be ready for their last shift; for this a little stronger compost is desirable than was recommended for freshly started and young plants. When the potting is completed secure the plants to a stout stake a few inches shorter than the ultimate height of the plants. An intermediate house where plenty of moisture and a little shade can be given is most suitable, or if no other convenience exists a late vinery or Peach house will do. Use the syringe freely for the purpose of keeping the plants clean as well as to encourage growth, and ventilate freely except on cold days, when care must be used. Stop all side shoots at every third joint, and encourage the leading shoot until the desired height is attained. Keep all flower buds picked off until the plants are well furnished throughout or to within three or four weeks of the time when they are wanted. For

STANDARD PLANTS,

select young ones that are inclined to grow away freely and have not been stopped, and of such varieties as are in favour. Pot them into 8-inch or 9-inch pots, and secure them to stakes made out of 1½-inch deal, some 4 feet 6 inches in length and others 1 foot longer, as plants 4 feet and 5 feet above the rim of the pot are more effective than shorter ones. Place in a growing atmosphere, and remove, without injury to the stem, all side shoots immediately they start to within 15 inches of the top for those of 4 feet, and to within 18 inches of the top for the 5 feet ones. Secure to the top of each stake a neatly-made umbrella-shaped trellis of 18 inches or 24 inches diameter, made from No. 10 gauge galvanised wire previously painted green, and to this trellis train out the young shoots from the upper part of the stems to furnish the trellis as uniformly as possible. Pinch out the points of the young shoots as they reach the trellis; a perfectly formed head usually takes two years to grow from the cutting.

BEGONIA REX AND VARIETIES.

Those propagated from leaves in the autumn should now be good little plants in 3-inch pots. Three or more of these placed in a pan 6 inches in diameter and grown on in a warm moist house rather heavily shaded soon make useful decorative plants.

ACHIMENES, GESNERAS, AND TYDEAS should now be carefully staked and each shoot tied up separately; have the stakes a little longer than the plants appear to require, as the top of the stick can be cut off when the growth is completed. In the case of Gesneras allow for the elongation of the flower-spike. These plants are subject to attacks from the small yellow thrips, also from a minute mite, both of which seriously disfigure the foliage and soon bring the plants into bad condition. Frequent but light dustings of tobacco powder will soon dislodge them, and if applied in time will save the plants from injury. As the flower buds begin to develop clear manure water should be given frequently.

Wendover.

J. JAUQUES.



CORDON APPLE TREES IN THE GARDENS AT MADRESFIELD COURT.

fixed in many places that might otherwise be unoccupied, for they take up but little room. The trees need not be cordons, they may be trained in any desired form so long as they are amenable to being secured to the fence. The leaf surface of cordon-trained fruit trees is necessarily a restricted one, therefore, if the best results are to be had, the trees must be well manured while the fruits are developing, otherwise these are almost certain to be small.

FRUIT CULTURE IN POTS.

"Come over and see me; I have a grand house of three hundred fruit trees in pots. I am now busy thinning number one division."

Such was the invitation of my old friend John Wallace, gardener to T. Wild, Esq., The Vineries, Drayton Road, Sipson, Yiewsley, Middlesex. I went to see them and was not disappointed. The whole culture of the little fruit-growing establishment, including Mushrooms and Tomatoes, is indeed a credit to all concerned.

a matter of course. The pots are about 16 inches across the top, none are over filled, this being left for top-dressings, as also for free waterings.

The list of some of the most notable varieties of Peaches, Pears, Plums, and Cherries is as follows, but at the same time I did not notice a failure in the whole lot. Peaches: Galande, Dr. Hogg, Prince of Wales, Early Rivers', Grosse Mignonne, Lord Palmerston, Princess of Wales, Crimson Galande, Alexandra Noblesse, Goshawk, Golden Eagle, &c. Nectarines: Early Rivers', Lord Napier, &c. Plums: Coe's Golden Drop, The Czar, Belle de Louvain, Grand Duke, Jefferson, Green Gage, &c. Pears: Emile d'Heyst, Josephine de Malines, Nouvelle Fulvie, Bergamotte d'Espere, Olivier des Serres, Marie Louise, Durondeau, Passe Crasanne, Doyenné du Comice, Beurré Bachelier, Marie Benoist, Glou Morceau, Beurré Diel, Souvenir du Congrès, General Todtleben, &c. Cherries: May Duke, Early Rivers', Empress Eugénie, Bigarreau de Schrecken, Bigarreau Frogmore, &c.

The list could be much lengthened, in fact it was

KITCHEN GARDEN.

ASPARAGUS.

THE beds should be looked over every morning, cutting all heads that are 6 inches high. Both the stout and thin shoots should be kept cut closely until cutting ceases for the season, which is generally as soon as Peas become plentiful. The thin heads may be used for soups, &c. No advantage to the plant accrues through leaving edible growths at this time, unless it is on beds planted but one or two years. One or two slight sprinklings of agricultural salt may be given with good results during spring. I have also found a slight dressing of soot and guano, mixed in equal proportions, of great benefit at this season; this is best put on the beds in dull, showery weather.

POTATOES.

Run the Dutch hoe through the alleys as often as time and the weather will allow, and when they are quite free from weeds earth up the plants. The earliest batches in warm localities will have been damaged by the severe frosts which occurred during the latter part of April, and in many instances little can be done to save the crop. Encourage successional batches by timely hoeing and earthing them; also give an application of an approved artificial manure when growth is active. This may be given immediately before earthing.

CELERY.

Continue to prepare trenches as the young plants become large enough. It is much better practice to plant while rather small than to leave them when pricked out to become drawn. As planting proceeds give a thorough watering in to settle the soil about the roots, and if rain does not fall in sufficient quantities in the course of two or three days afterwards repeat the operation. Before planting in the trench remove all side shoots proceeding from the collar of the plant.

CELERIAC.

Plant out the required number of plants on a prepared piece of ground. This useful vegetable requires no trenches, but a rich medium is essential to the production of good-sized roots. Draw shallow drills 2 feet apart, and disperse the plants in them 15 inches from each other. No other attention is necessary beyond keeping free from weeds and watering freely, both with clear water and that from the drainings of stables.

PARSLEY.

To maintain a succession of this much called for herb a good breadth may be sown at this time; this will, if well thinned and otherwise cared for, yield good pickings for following that raised under glass and planted out, and will prolong the supply well into the autumn.

BROAD BEANS.

Where these are in request another sowing of the Green Windsor type may be made for a late picking.

RADISHES.

From this time onwards the seed should be sown on a shaded border. The plants want attending to closely in the matter of giving water during dry weather.

Stoneleigh Abbey Gardens.

H. T. MARTIN.

THE FRUIT GARDEN.

VINES.

If Black Hamburgh Vines are not likely to be in flower when shy-setting varieties require artificial fertilisation, a good supply of pollen may now be shaken into a box, which must be kept in a dry, warm place until the pollen is wanted. Endeavour to keep the work well in hand in midseason houses in which the Vines are now making rapid progress. Remove all surplus bunches from free-setting sorts, discontinue stopping while they are in flower, and take advantage of early morning and dull days for thinning the berries as soon as those which are properly set show signs of taking the lead. When all the bunches are thinned give the inside borders a thorough watering with tepid liquid manure, mulch well with good manure, and encourage robust growth by giving plenty of air through the

early part of the day, and by closing with sun-heat and moisture every afternoon. Early Grapes now ripe, or approaching that stage, may have less fire-heat than they have hitherto received, but they must have sufficient to keep up a circulation of dry, warm air, and to prevent the temperature from falling much below 60° at night. Gradually reduce moisture, particularly towards night, but damp the walls and floors on fine mornings, and syringe the foliage copiously as the crop is cleared, for the twofold purpose of cleansing it from dust and insects and to induce a fresh break of laterals.

VARIETIES OF GRAPES.

Many find a difficulty in colouring Grape Madresfield Court; the berries are also liable to crack just as they begin their second swelling, that is, if grown with Black Hamburgh and other less fleshy varieties. It cannot be too often repeated that the chief cause of their cracking is entirely atmospheric, for this variety will not stand a continued humid atmosphere and fluctuating temperature, such as are caused by the orthodox closing of the vinery. If the vinery has until now been kept close a sudden change of atmospheric humidity to aridity will certainly crack the best lot of Madresfield Court Grapes ever seen. The wise cultivator will try to avoid these conditions, and, as he cannot control the elements, he will be on the look out for the tinge of colour in the first berry, and immediately commence to change gradually the atmosphere of the vinery. There must at all times be some warmth in the pipes; only close the house for a few hours at the usual closing time, and open again for the night. Open the ventilators as much as possible in advance of sunshine, so as to prevent sudden fluctuations both of humidity and of temperature—the stumbling-block to cracking of the berries. I receive many letters of enquiry upon this important subject, which is my apology for giving such minute details. WILLIAM CRUMP.

Madresfield Court Gardens.

THE FLOWER GARDEN.

SUMMER BEDDING will demand attention for the next few weeks, and much will depend on the preparation of the beds and borders as to their ultimate success. Where spring bedding is not carried out little difficulty will have been experienced in having all in readiness; but where the beds have done duty to the last moment, and the best results are looked for during the summer, it is quite essential that good half-rotten manure and leaf-mould be worked in plentifully, and the ground well trenched; then make firm by treading, raking the soil neatly down.

It is yet rather too soon to plant out many of the most tender plants, such as Heliotrope, Iresine, Alternanthera, Coleus, Dahlias, and many others of like nature; they are far better left where they can be afforded shelter in case of cold winds or frosty nights. How often do we see plants put out too soon receive a severe check, from the effects of which it takes them a long time to recover.

ANNUALS.

Those sown early and pricked out in frames or boxes should now be ready for planting in their permanent quarters. Choose showery weather for the purpose if possible, but should the weather be dry at the time of planting the young plants should be damped overhead for a few days; this will encourage a free start, a little extra trouble taken at first will be more than amply repaid by their quick and rapid growth. Keep a sharp look out for slugs, they are often most troublesome to annuals; a little fresh lime or finely-sifted wood ashes sprinkled about them will keep them away and prove most beneficial to the border.

CYPRIPEDIUM SPECTABILE.

This interesting North American Orchid is now throwing up strong growths and will soon make a grand display in the flower garden. This plant loves moisture, and should have several good soakings during the growing season. Give a top-dressing of rotten leaf-mould, and liquid manure from the farmyard will do it no harm. For years I grew

this plant in pots in a cold frame, and generally managed to get one or two blooms every season. The flowers and foliage, however, never were strong and healthy under these conditions. I now grow them in the open border, giving them a mixture of loam, peat, and rotten leaf-mould, mixing with this plenty of broken potsherds and coarse silver sand; treated in this way the plants give very little trouble and the results are very satisfactory. I have now one clump throwing up twenty-five strong growths about the size of one's little finger.

T. B. FIELD.

Ashwellthorpe Gardens, Norwich.

MISCELLANEOUS.

AN ANCIENT HERBARIUM.

IN a recent issue of "Nature" (vol. lxvii., page 181) there is an account of a paper by Professor B. Schorler on a history of systematic botany prior to Linnaeus. In the list given of the most ancient existing herbaria, no mention is made of that of Ferrante Imperato, which is among the oldest extant. This ancient herbarium, the remains of which are preserved in the National Library of Naples, is also overlooked in the interesting paper, now in course of publication, in the "Magyar Botanikai Lapok" (Budapest, 1902), by Alföldi Flatt Károly, "Zur Geschichte der Herbare."

An incidental notice of the herbarium of Ferrante Imperato was published by me in "Nature" (vol. lxiii., November, 1900) in an article on Domenico Cirillo, and the chemical action of light, in connexion with vegetable irritability.

Ferrante Imperato, a Neapolitan simpliciata, born in 1550, lived in Naples, where he died in 1625. In those days, museums of natural history began to be formed in Italy, the most famous being those of Aldovrandi in Bologna, the museum of Pisa, where Andrea Cesalpino (1519-1603) taught, and the museum of Ferrante Imperato in Naples. In Ferrante's book, "Dell' Historia Naturale, Libri XXVIII.," edited by his son, Francesco Imperato, in 1599, is given a picture of the museum at Naples. This museum, as the author says, contained "Natural plants artificially preserved, attached to the pages of special books, and besides, terrestrial, aquatic, and flying animals; moreover, gems, marbles, and divers stones, earths, minerals and metals, and preserved seeds and rare leaves, and extracts of divers earths and plants."

At the end of the sixteenth century a Genoese nobleman, Giovanni Vincenzo Pinelli, formed in Naples a botanical garden or "Orto dei Semplici," in which many rare plants were collected under the care of Bartolomeo Maranta, of Venosa (who died in 1570), Ferrante Imperato, and Fabio Colonna (1567-1650), an active correspondence and exchange of materials being kept up with other collectors. As Imperato puts it in his book, "Human sciences grow by communion among men; this do I say and confess because our studies, and the matters of which we write, have developed by the help of friends who have concurred in procuring for us things from divers parts of the world, or have been companions and fellow labourers." Besides G. V. Pinelli, the chief helper in collecting foreign objects, and Maranta and Fabio Colonna, who lived in Naples, Imperato records among his correspondents Pietro Andrea Mattioli, of Siena (1500-1577); Melchiorre Guilandini, of Padua (1520-1589); Jacopo Cortuso, also of Padua (1513-1603); Ulisse Aldovrandi, of Bologna (1522-1605); Carlo Clusio; Kaspar Bauhin, of Bale (1560-1624); and Colantonio Stelliola, "Professor of Recondite Sciences, to whom I have communicated the greater part of the discoveries made by me." One does not understand why some authors attribute the work of Imperato to this Stelliola.

The herbarium was perhaps the more important part of this Neapolitan museum, being contained in eighty volumes. The museum of Imperato got dispersed during the great plague of Naples in 1656, and only nine out of the eighty volumes of the herbarium were saved, passing into the hands

of Nicola Cirillo (1671-1734), a physician and botanist, who possessed a private botanical garden, and was a Fellow of the Royal Society of London, for which society he collected data on the climate of Naples, and wrote a treatise on the application of cold in the treatment of fevers. Remaining in the Cirillo family, the herbarium was finally bequeathed to the celebrated botanist, Domenico Cirillo, who preserved these volumes as the most precious treasure in his collections. In 1783, Martin Vahl, a friend of Linnaeus, saw Imperato's herbarium in Cirillo's house, and it is said that he fell on his knees in reverence before the ancient relic. In 1799, when the Royalist mob sacked Cirillo's house, and Cirillo himself was hanged, all his collections were dispersed, including the herbarium of Imperato. Of the nine volumes only one was saved, and finally came into the hands of Camillo Minieri-Riccio, who in 1863 published a short account of this botanical relic (C. Minieri-Riccio: "Breve notizia dell' Erbario di Ferrante Imperato," "Rendiconti dell' Accademia Pontaniana," xi., 1863). Minieri says that Imperato's name is written in the volume.

The collections of Minieri-Riccio were finally sold to the National Library at Naples, where the volume of Imperato's herbarium may now be seen. The volume of 268 pages is bound in parchment, and is labelled "Collectio Plantarum Naturalium." It contains 440 plants, glued to the paper, each with one or more names. There is an alphabetical index, probably written by Imperato himself.

The authorities in the Naples library do not seem aware of the importance of the relic they possess, for the herbarium is kept as an ordinary book, and the plants are exposed to inevitable damage and decay. Several of the specimens have already been eaten up by insects.

ITALO GIGLIOLI, in *Nature*.

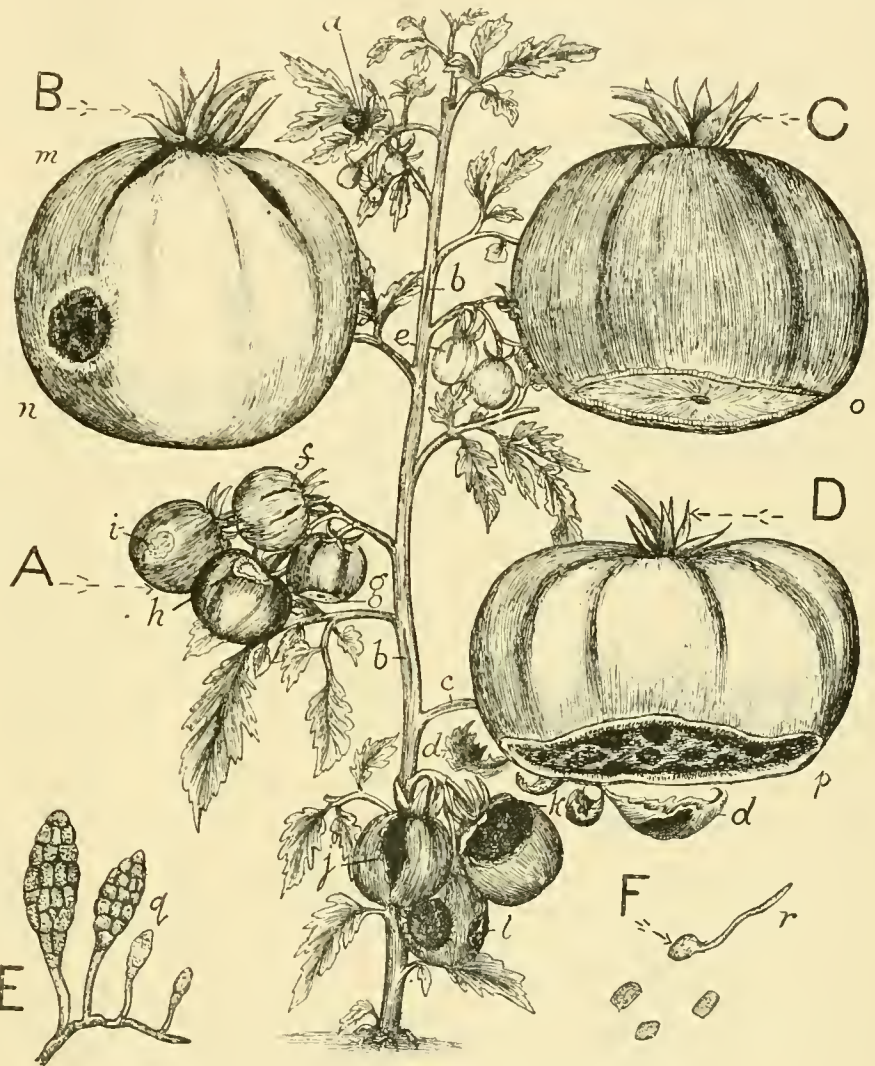
Tomato if placed on a surface susceptible to entrance.

PREVENTION.

All diseased parts should be cleared away and burned, otherwise the fruits of the fungus continue to be produced on shrivelled fruit, stems, and leaves. Besides, the spores persist through the winter on fragments of stems and leaves and fruit, hence to prevent a repetition of the disease the tops or whole plant should be carefully collected and burnt. Seed should not be saved from diseased fruit or even from apparently healthy plants in the immediate neighbourhood of any diseased. As there is danger of mycelium becoming latent in the seed, all the seeds with a dark spot or stain in them should be rejected, only retaining those that are sound and clear.

on fruit, and do not allow water to rest upon it for any length of time.

Thorough spraying with potassium sulphide, 1 oz. to 2½ gallons of water at frequent intervals prevents attack from and spread of the disease. The potassium sulphide, popularly known as liver of sulphur, should be dissolved in a quart of hot water, then make up to 2½ gallons with cold water. Ammoniacal carbonate of copper solution may also be used as a preventive, and being a clear liquid does not stain the fruit. Its formula is: Water, 9 gallons; aqua-ammonia (26 degrees strength), 12 fluid oz.; copper carbonate, 1 oz. Form the copper carbonate into a thin paste with 6 fluid oz. of water, add the ammonia water slowly, and to the deep blue clear solution thus obtained add the water and stir well. It is sufficient in spraying



THE TOMATO BLACK SPOT. (See notes for explanation of letters.)

THE KITCHEN GARDEN.

TOMATO DISEASES.

TOMATO BLACK SPOT (MACROSPORIUM TOMATO).

MORE or less present wherever the Tomato is cultivated is the disease known as "black spot" or rot, also as "black stripe" or blotch. It is caused by the parasitic fungus named *Macrosporium Tomato*, but is closely allied to, if the same as, the Potato leaf curl fungus, *M. solani*. The fruit is most frequently attacked, but the fungus is also often present on the stem, producing the well-known "black stripe," and on the leaves, causing the condition termed "curl."

The fungus has been regarded as a wound-parasite, and thus gets into the tissues of the Tomato plant through minute cracks in the cuticle or skin. This is emphasised by the fact that the fruit is usually affected round the style, or at the point of insertion of the stem, where minute cracks frequently occur. The fungus, however, appears on any part of the fruit and also on any portion of the stem and leaves. It appears that the chief seats of disease are where moisture has rested in the part for some time, and the germ-tube of a spore of the fungus being present may either have entered by a minute crack in the cuticular cells or directly pierced the softened cuticle.

The affected part has at first a white blister-like appearance as if due to scorching or scalding, and is a little below the general surface of the healthy part of the stem, leaves, or fruit. As the dark-coloured mycelium of the fungus forms in the tissues, the diseased spot assumes a dark or black colour, for the parasite rapidly destroys the cells, and consequently the affected part sinks, forming a depressed blotch, spot, or stripe. Later, the sunken surface becomes covered with a delicate velvety pile in places of a brownish or blackish-olive colour. This outgrowth is, under microscopic examination, found to consist of closely-packed, dark-coloured conidiophores, each bearing a dark, many-celled conidium at its tip. The conidia when mature germinate quickly in water, each cell or spore producing a germ-tube capable of infecting a

In the matter of cultivation avoid forcing treatment, such as the use of fresh or green stable or farmyard manure, which has a tendency to induce gross growth and cause the stems, leaf-stalks, and fruit to crack; also maintain a close and moist atmosphere, or do not admit air early to dissipate moisture, which is thus deposited on the cooler surfaces of the plant, as this favours the germination of the fungus spores. Keep the atmosphere arid, and restrict the supplies of water for a time and then return to genial atmospheric conditions. This with generous feeding at the roots may result in cracking and render the plants very susceptible to attack. Indeed, immunity rests mainly upon a free atmosphere with extremes of heat and cold, moisture and dryness, prevent moisture condensing

to coat the plant with the finest possible film of the solution, and not to use it after the fruit has developed to three-quarters its proper size.

EXPLANATION OF ILLUSTRATION.

A, affected Tomato plant; a, in setting fruit causing it to turn black; b, attacked stem called "black stripe," the mark running in line of stem; c, stripe on petiole of leaf, which also occurs on midribs and veins of leaflets; d, leaflets affected with "curl," and producing brown or blackish blotches; e, black stripe on young fruit; f, attack in ribs of fruit called "black stripe"; g, fruit attacked at eye; h, fruit infested at heel; i, fruit attacked on side; j, black stripe more advanced; k, black blotch more developed; l, black spot more

characterised. *B*, fruit affected with "black stripe" and "spot"; *m*, "black stripe"; *n*, "black spot." *C*, fruit affected at eye with blotch in early stage, then resembling a blister, but depressed; *o*, blotch. *D*, fruit affected with black spot in an advanced stage; *p*, black spot. *E*, black spot fungus (*Macrosporium Tomato*); *q*, conidia in various stages of development $\times 300$. *F*, detached conidia of *Macrosporium Tomato*, one germinating; *r*, germ tube.

LARGE ONIONS.

In nearly every household these are much appreciated, and during recent years great strides have been made in producing them. Notwithstanding this there is room for their extended culture in this country, for even now we have to depend largely on foreign importations. Why farmers and market gardeners do not pay more attention to their cultivation I am at a loss to understand.

Almost any land may be brought into condition for Onion culture, and when once this is accomplished it may be utilised for the same purpose for any number of years, a point worthy of observation, for, providing it is liberally treated as to deep tillage and kept well supplied with good farmyard manure annually, the crop does equally well, and indeed often much better, than on fresh land.

The chief points to bear in mind in the production of large bulbs are the selection of suitable varieties, especially those with good keeping qualities, sowing the seed early under glass, planting out about the middle of April, early harvesting of the crop, and proper attention as to storage.

Onions grown in the ordinary way frequently suffer considerably from the ravages of the Onion fly, but early raised plants are seldom affected to any extent. Plants which were sown during January and February and duly pricked off should by now be sturdy plants, and be gradually hardened off before planting in their permanent quarters. From the middle of the present month till the end of the first week in next this should be accomplished. Much will depend upon the date as to the locality, the land, and the weather.

PREPARATION OF THE GROUND.

The soil should have been deeply worked during winter and well enriched with manure. The Onion roots much deeper than many suppose, and during spells of dry, hot weather it is surprising what a long way down the roots will travel in search of food and moisture when the soil is deeply dug. The more uneven the surface the better, as the various samples of weather which we generally experience during March will have the desired effect of breaking up and sweetening even the most stubborn.

Choose dry weather for finally preparing it for receiving the plants. Point over with the garden fork and rake it down level. Allow a distance of 1 foot between the rows and 10 inches from plant to plant. This will be ample for all ordinary purposes, but when extra large specimens are wanted for exhibition 15 inches between the rows and 1 foot between the plants should be given. Before planting give a good surface dressing of soot and burnt garden refuse, and on heavy soils finely sifted mortar waste and road grit will be very beneficial.

The day previous to planting the roots should receive a thorough soaking with water. Lift carefully with as much soil as possible and plant firmly, using a garden trowel to make the soil very firm about the roots, and unless the weather is showery give a good watering in. In a few days the surface soil should be stirred up with the Dutch hoe, after which apply a slight mulching of sifted horse manure, and unless extra large specimens are required, except giving a slight dressing of soot and patent vegetable manures occasionally during showery weather, little further trouble will be required till the time comes round for lifting and harvesting the bulbs.

We often hear complaints that large Onions keep very badly, which is unquestionably due to improper ripening, caused by leaving them on the

ground till too late in the autumn. This and roughly handling the bulbs are the chief causes of failure.

As soon as the growth is practically completed lose no time in lifting the bulbs carefully and expose as much as possible to the influence of the sun. Turn the bulbs over carefully every other day and do not bruise them. When the ripening is complete remove them under cover to a cool, airy position, where on wet days the specimens can be cleaned and placed away for use as required. It often happens that Onions are kept in too close and warm a place during winter. Cold or even frost will do them no harm provided they are kept dry. By this method of treatment there is no reason why these may not be kept sound till the end of March and beginning of April.

A good strain of Ailsa Craig is one of the best, and when the soil is not unduly filled with artificial manure will keep well. The Wildsmith, Veitch's Maincrop, and Brown Globe are also excellent, as indeed are many others.

E. BECKETT.

Aldenham House Gardens, Elstree, Herts.

BOOKS.

The Journal of the Royal Horticultural Society.—The quarterly volume of the Journal contains the usual list of good papers, which are of both a practical and scientific character. Dr. Cooke's notes about "Fungoid Pests of the Garden" are continued. Mr. A. Worsley gives valuable advice about "Germination in Amaryllids." Mr. James H. Veitch describes some of the recently introduced "Japanese Trees and Shrubs." A most carefully written review of the life and work of Sir William Jackson Hooker is given by Mr. Lynch, the excellent Curator of the Cambridge Botanic Gardens. Two practical contributions are those by Mr. Owen Thomas upon "Wasted Opportunities of Fruit Growing," and by Mr. H. E. Molyneux upon "Rose Growing near Towns." There is an account of the American Hybrid Conference, to which Mr. W. Bateson and Mr. Nicholson went as delegates from the Royal Horticultural Society, and it is pleasant to know that we have a permanent record of the proceedings. The volume contains the usual features, such as commonplace notes and abstracts from current horticultural periodicals. It is only repetition to write that the volume is edited by Mr. Wilks in a masterly way.

SOCIETIES.

RICHMOND HORTICULTURAL SOCIETY.

THE twenty-ninth annual flower show will be held in the Old Deer Park, Richmond, Surrey, on Wednesday, July 1. The districts embraced, besides Richmond, are Twickenham, Isleworth, Mortlake, East Sheen, Kew, Petersham, Ham, Barnes, and Roehampton. Mr. C. R. King, 61 and 62, George Street, Richmond, is the honorary secretary.

EASTBOURNE FLOWER SHOW.

THIS will be held on Wednesday, August 19, in the grounds of Compton Place, by kind permission, and under the patronage, of the Duke of Devonshire. The secretary is Mr. Henry J. Capon, 75, Terminus Road, Eastbourne. Double entrance fees will be charged after August 12.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.

THE usual monthly committee meeting of this society was held at the Caledonian Hotel, Adelphi Terrace, Strand, on the 11th inst. Mr. Thomas Winter presided. Six new members were elected, making fifty-one this year. Eleven members were reported on the sick fund.

BATH AND DISTRICT GARDENERS' ASSOCIATION.

A NEW association with the above title has been formed at Bath; three successful meetings have been held, and interesting papers read by members. We are very glad to be able to chronicle the formation of another association for the mutual improvement of gardeners, and trust it will be a great success. The last meeting was held at 1, Argyle Street on the 6th inst., when Mr. Clark read a paper on the subject of "Rock Plants." There was a large attendance, over which Mr. F. W. Cooling presided, Messrs. A. A. Walters, W. Langdon, R. W. Rogerson, A. E. Marshall, J. Milburn, E. N. Brown, and others. Mr. Clark gave a most interesting lecture on rock and alpine plants. At the

conclusion of the lecture further remarks were made by Mr. Walters, Mr. Milburn, and others, and a hearty vote of thanks was passed to Mr. Clark. The next monthly meeting will be held at the Foresters' Hall on June 11, when Mr. Marshall will read a paper on "Tomatoes." Mr. R. W. Rogerson, 13, Northgate Street, Bath, is the honorary secretary.

EAST ANGLIAN HORTICULTURAL CLUB.

AT the May meeting of this club, held at the Shirehall Hotel, Norwich, a goodly number of members assembled. The chief subject was an essay competition upon "The Cultivation of the Vine Inside and Out." Four papers were received by the secretary, and after having been adjudicated upon by Messrs. T. B. Field, J. W. Church, and E. Walker, the prizes were awarded as follows:—First, William Smith, Pine Banks, Thorpe; second, William Palmer, Fern Hill Gardens, Thorpe; and third, H. B. Dobbie, Thorpe, Norwich. These papers were read in order of merit, and listened to with marked attention. A capital discussion followed. The president, Mr. J. Powley, in his remarks advocated the three course system, whereby every third year the oldest rod was cut out, the succeeding one taken on, ensuring by this system healthy young wood able to produce the finest berries. Mr. T. B. Field, Ashwellthorpe, in his remarks, denounced the waste of labour and material in forming concrete bottoms to Vine borders in many cases. Far better, he said, to keep the surface soil rich and healthy and the roots would have no desire or tendency to go down to the subsoil. Mr. J. W. Church, The Vineyards, Braconash, one of the largest Grape growers in East Anglia, spoke at some length upon the subject; his methods of treatment are quite up-to-date, and were much appreciated. He fully explained the causes of such evils as shanking, scorching, and mildew, also the best way to get the canes from eyes. Mr. F. G. Cole (Hobbies, Limited), Mr. J. C. Abel, and others also took part in the discussion. The first of the sectional competitions for the silver challenge bowl offered by Mrs. Louis Tillet, Old Catton, took place. Cut flowers was the subject for May display; these are judged by points. Mr. C. H. Hines taking the lead with twenty-two out of a possible twenty-four. Mr. W. Rush staged a well-shaped plant of zonal Pelargonium of the variety *Coleridge*, profusely covered with its deep mottled salmon blooms. Mr. D. Howlett, Thorpe Hamlet, had some good flowering plants, a pot of *Polyanthus* gold-laced and thrum-eyed being very attractive. Mr. T. B. Field brought up for inspection two large leaves bearing perfectly-formed plantlets on the edges of *Bryophyllum calycinum*. Mr. C. H. Fox, gardener to Sir E. Maosel, Bart., Catton House, placed before the Floral Committee plants and trusses of a new seedling bedding zonal Pelargonium, a cross between John Gibbons and Mrs. Miller. The trusses are very large, freely produced, and of glowing deep scarlet. A cultural commendation certificate was awarded. Fruits and vegetables were not so numerous as usual, the most noticeable being fine bunches of Asparagus.

The summer excursion of the club will take place on July 16, and will be to Westwick House.

ROYAL HORTICULTURAL SOCIETY.

SCIENTIFIC COMMITTEE.

PRESENT: Dr. M. T. Masters, F.R.S. (in the chair), Messrs. Bowles, Odell, Hooper, and Saunders, Drs. Cooke and Rendle, Revs. W. Wilks, and G. Henslow, hon. secretary.

Aconite and caterpillars.—Mr. Holmes reported upon the specimens sent to the last meeting as follows: "The moth that attacks the Aconite flowers when in bud is *Plusia moneta*, one of the *Noctua*. The grub appears about the middle of April, and its presence is recognised by the young leaves above the bud being fastened together, and later on by the black tips of the young leaves, where they have been eaten. A few years ago it first appeared in this country, feeding both on the Aconite and Delphinium when high prices (from 5s. upward) were paid for British specimens. Now it is so common around London that I have found nearly a dozen in Chelsea Physic Garden, and an acquaintance collected during a cycle ride in the neighbourhood of London recently as many as 500 larvae, so that it is spreading rapidly. The furthest point north that I have seen it is Robin Hood's Bay in Yorkshire. The single specimen seen there was attacked by ichneumon, which I gave, when hatched out, to the Zoological Department of the Natural History Museum, South Kensington. The eggs are laid on the fruit of the Aconite singly, here and there, and the young caterpillar apparently eats its eggshell, as so many caterpillars do, but I was not able to trace them, and do not know what they feed on in the autumn, when the Aconite is withered, since the moths come out in June, and I have never found an autumn brood."

Fuchsia malformata.—Mr. Holmes sent a photograph of a blossom having two stamens with cobweb filaments outside the base of the flower. It was received from Mr. W. H. Hammond, of Canterbury. Mr. Holmes observes: "It is difficult to understand the position of the stamens unless the leaves, which are alternate, are considered as the sepals of the flower, the carpels of which may be developed into a second flower by a prolongation of the axis."

Tulostoma mammosum.—He also showed specimens of this little "stalked puffball," and observes: "The stalk is usually hidden by the moss and herbage amongst which it grows. I found it at Braunton Burrows, North Devon, during Easter. It was growing scattered over a space of several yards on a rabbit warren, and the rabbits' manure, being bleached, presented almost exactly the same appearance. Indeed, I should have passed the fungus by, except that each seemed to have a dark spot in the centre (where the spores escape). One can hardly see the size to such a rare plant of protective mimicry; but the likeness was most remarkable in size, colour, and shape."

Acer Volcani frostbitten.—Dr. Masters showed sprays of this plant from the Caucasus, severely cut by frost. The leaves were dead, but the shoot was uninjured. It was the

first time that this species has been known to be cut. Japanese Maples were severely injured a few weeks ago near Bury St. Edmunds.

DRILL HALL MEETING.—FLORAL COMMITTEE.

Present: Charles E. Shea, Esq. (chairman), Messrs. C. T. Drury, John Green, J. F. McLeod, James Hudson, William Howe, J. Jennings, C. R. Fielder, Charles Dixon, Charles Jafferis, George Gordon, Charles E. Pearson, R. C. Notcutt, W. P. Thomson, E. H. Jenkins, Charles Blick, George Paul, and Edward Malwey.

Hardy plants were less numerously represented on this occasion, the chief groups coming from Woking and Christchurch. In both the examples were well done and finely displayed.

The group from Messrs. Jackman and Sons, Woking, was replete with beautiful things in flower, some of which we give below with preference to comparative novelties. Of these Achillea ligulata var. unguicosa with white corymbs of flowers 1 foot high was very noticeable, and so, too, the rare Aquilegia Scutellaria with rich blue and white blossoms on 6-inch stems. Trillium grandiflorum roseum was charming. We also noted Ramondia; Trillium stylum, with pink flowers; the charming Rhododendron Wilsoni, with pink blossoms; Gentiana verna, Dianthus Atkinsoni, with its vivid flowers; and Achillea rupestris, white, with green entire leaves. There were also hardy Cypripediums, for instance, C. acule, C. spectabile, and C. parviflorum. Incarvillea Delavayi was grand in a group, the stems nearly 2 feet high, a very handsome lot. A single plant of Ostrowskia magnifica carried a solitary bell of huge size, while Primula sikkimensis was very good.

Malmaison Carnations from Messrs. Cutbush and Sons, Highgate, made a good show. Nell Gwynne, white, is of the true type, while Sir Charles Freemantle, scarlet; Nautilus, deep pink; Churchwarden, crimson-scarlet; Maggie Hodgson, deep scarlet; Gemma, pink; Mrs. Martin R. Smith, rosy pink; and Princess May, scarlet, were the best. The border sorts, Lady Hermione and Cecilia, yellow, were also shown.

The hardy group from Mr. M. Prichard, Christchurch, was full of interesting material, among which we noted Anemone sylvestris var. baicalense, white, with rose-tinted flowers; Phlox amena; Gentiana verna, very fine; Theropsis montana, a fine yellow perennial; Anemone sulphurea; Trillium grandiflorum, very fine; Anemone palmata alba, always good from this source; and Thalictrum adiantiforme, a very beautiful lot. The double yellow Alyssum, Saxifraga peltata, Hyacinthus amethystinus, Euphorbia pilosa, Paonia tenuifolia plena, and Eryngium bromeliifolium were among the most striking of those shown.

Messrs. J. Peed and Sons, West Norwood, also set up a grouping of alpines, Saxifrages, Sedums, Aubrietias, alpine Phloxes, Candytuft, and allied things in small pots in a bed of moss. Only a portion of those shown were in flower.

Mr. H. B. May, Edmonton, showed Ferns and Begonias, small Maidenheads, heavily tasselled Petises, Adiantum farleyense, with Asplenium and others. Baskets of the foliage Begonias interspersed amid the Ferns gave a very pretty result.

Messrs. T. S. Ware, Limited, Feltham, upon this occasion came out in quite a new rôle, in the exhibiting of a large collection of Tea and Hybrid Tea Roses. The plants were small, but in this way an education of what may be done with freshly-grafted Roses, the young plants of three months from the graft carrying good flowers. There were many other beautiful things in this large and representative gathering.

Good Roses were also exhibited by Messrs. E. Cant and Co., Colchester. Among the more beautiful were Mme. Ravary, Duke of Wellington, Antoine Rivoir (white), the new semi-double pillar Rose Maharajah, which may be described as a rich-coloured Bardon Job, and a larger flower. Anna Olivier, Mrs. Grant, Fisher Holmes, and Captain Hayward were others shown in capital form, and all fresh and beautiful. The blush Rambler was delightful in the background.

Messrs. Paul and Son, Old Nurseries, Cheshunt, had a collection of Lilacs from the common cottage sort to the newest and best. The imperial white Persian is an elegant sort, but the finest in point of truss and blossom were alba grandiflora, Comtesse H. de Chuseuil (white), President Grévy, and President Carrot, all coloured except where stated. Philemon is very dark; ao, too, is La Tour d'Auvergne. Pyrus nigra is a pretty plant apart, also shown by this firm.

Messrs. James Veitch and Sons, Limited, Chelsea, exhibited in fine condition a series of Pelargoniums of the scented-leaved section. There were some twenty-six sorts shown in dwarf, compact, well-grown examples that are distinctly pleasing and attractive. P. crispum is among the smallest-leaved ones, and of others we select P. radula, P. F. major, P. quercifolium, P. filicifolium odoratum, Rollisson's Tunique (one of the old sorts), P. tomentosum (a broad, soft-leaved one), P. capitatum, and many others. The fragrance emitted by the group was very pleasing.

Messrs. Cannell and Sons, Swanley, showed a large batch of cut Pelargoniums, of the decorative class mostly. Of Phyllocactus, Pterisidii a dozen handsome flowers were shown, the huge white, strangely-scented flowers having an outer series of brownish sepals. The tube is about 7 inches or 8 inches long. Several forms of Myosotis pyramidalis were shown in blue, white, and pink.

Cut Gloxinias in boxes were from Messrs. J. Peed and Sons, West Norwood. Spotted ones were plentiful; also selfs.

The cut Roses from Messrs. Frank Cant and Co., Colchester, were very beautiful. Some vases were filled with Irish Beauty, single white, large; R. out Chauvry, orange; W. A. Richardson, the lovely Lady Roberts, and Jersey Beauty, a single white of the wichitana class. A large collection of Hybrid Perpetuals was shown. Austrian Copper was also very fine, while Maman Cochet and its white form were alike good.

Mr. G. Renthle, Keston, Kent, again showed hardy and alpine plants, in which Gentiana verna was a delightful

unit, brilliant, and without a rival. Calochortus Benthani, Onosma lauricum, Primula japonica, Iris lingitana, Gerbera Jamesoni, Mertensia virginica, Viola pedata, with Anemone alpina, A. a. sulphurea, and Ourisia coccinea were all finely shown.

Mr. Anker, Baker Street, showed miniature Cacti in large numbers.

Cut Begonias from Messrs. Blackmore and Langdon, Bath, were in grand form. There were singles in all colours, orange, white, scarlet, yellow, huge flowers, and of good form. Of doubles Frilled Beauty, a light scarlet, very large; Ida, salmon; Mabel Keevil, white; Fairy, light salmon; and Flambeau, dazzling scarlet, were some of the more telling in this remarkable lot. There were many good things unnamed.

Messrs. J. Cheal and Sons, Crawley, showed sprays of cut shrubs in flower, Lilaca, Genista, Berberis, Acers, Magnolia soulangeana nigra, M. Lunell (large pink flowers), Cytisus albus, with Heaths and other things.

Mr. W. Baylor Hartland, Cork, had a small group of cut Tulips, Macrospila, Gesneriana, Ixioides (a fine yellow), T. billietiana Cloth of Gold, T. gesneriana lutea pallida, T. neglecta picta, and T. gesneriana Summer Beauty, a finely painted flower, being among the more showy.

Messrs. B. S. Williams, Upper Holloway, showed two dozen plants of Verbena Miss Willmott, which with their large heads of pink flowers made a good display. It is, indeed, one of the most showy Tulips of recent date.

Messrs. William Bull and Sons, King's Road, Chelsea, showed a small group of cut Tulips, in which were Darwin sorts, also Parrot Tulips, Byblomeos, Bizares, &c. The single late ones were very showy, and of these Bouton d'Or and Golden Crown were conspicuous.

A large display of Tulips of several sections of the flower came from Messrs. R. and G. Cutbush, Southgate, Middlesex, Yellow Queen, a fine glistening shade, Bonfire, an orange-red; Yolk of Egg, a name we do not admire, though the flower in its buff-rose shading and yellow cup is good; Striped Beauty is showy; Rose Mignonette, delicate primrose and rose; Rose Queen, a showy Darwin; Psyche, a fine rose Darwin sort; Negro, very good; The Shah, also dark; G. D. Cordons, vermillion, very fine, were of the best in a large array of colour.

The group of Tulips from Messrs. Barr and Sons, Covent Garden, was a formidable one, the flowers fine, the colours good in the extreme. In the Darwin sorts we select Orange Beauty, Queen of Roses, Hecla, very dark; Suzon, a lovely shade of deep salmon with whiter external shading; Salmon King, Anthony Rozzen, cerise and rose; Loveliness, Dorothy, a late one; The Sultan, very dark; Joseph Chamberlain, vermillion-crimson; and Mrs. Krelage, rose with white edge, very fine form, being among the best. A large variety of English Tulips were also set up, and these, too, embraced many fine forms. The Cottage Tulips were also a showy lot, and here again a great variety of colour was to be seen.

Messrs. R. W. Wallace and Co., Colchester, had a group of Tulips, of which the finest were Innovation, white, splashed carmine; Mrs. Moon, rich yellow; Flava, lemon-yellow; Doris resembling Fawn, but darker; La Merveille, salmon-red; and Fairy Queen, carmine, edged old gold.

Messrs. B. S. Williams and Son, Upper Holloway, N., had a very bright display of Tulips. Among the Darwins were Emily Scripel, rose-pink; Mrs. Farncombe Sanders, Colonel Buskin Hilt, ruby-red; Angelina, pale pink; Princess Olga, carmine; and of the May-flowering Picotee, Orange King, Inglecombe, scarlet; Coronation, scarlet; Kate Connor, Cottager, gesneriana Major, g. lutea, g. Mrs. Moon, g. elegans pallida; and among the Parrots, lutea major, Mark Graaf, and Perfecta. Spanish Irises, notably King of the Blues, Snowball, Louise, and Thunderbolt were also shown.

Messrs. James Veitch and Sons, Limited, Chelsea, showed a representative display of Tulips. Virginalis, Summer Beauty, Isabella, Flava, hilleitiana Sunset, La Merveille, gesneriana aurantiaca, g. lutea, g. lutea pallida, platystigma, and the Fawn (May-flowering); and of the Darwins, Early Dawn, Clara Butt, Salmon King, Zephyr, and Phyllis, as well as the brilliantly coloured Parrot Tulips.

Mr. R. H. Bath, Limited, Wisbech, had a fine display of Tulips in many good sorts. Of the late-flowering, Mrs. Moon, Isabella, Parisienne, La Candeur, Picotee, Marriage de ma fille (double), The Fawn, Bouton d'Or, and Fairy Queen; and of the Darwins, May Queen, Margaret, and Europe, as well as the Parrot Tulips.

Mr. G. Renthle, Keston, Kent, showed Tulips, of which the most striking were Edmee, hilleitiana, Harry J. Veitch, Bouton d'Or, Fairy Queen, virginalis, and others.

NEW PLANTS.

The following received an award of merit:—

Rebus moluccanus.—A rather striking species from the Malay Archipelago. The plant was shown on May 5, but was referred to this meeting for more information to be given concerning it. It is of climbing habit, with roughish, densely hirsute stems and palmate five-lobed leaves. It is said to be somewhat variable, and particularly so in the marking of the leaves. In the plant shown the leaf centres were olive green, merging into white or cream towards the margin. This latter shade, however, was not conspicuous, and may with age become more decided. The plant is suited to the warm greenhouse. Shown by F. G. Lloyd, Esq., Langley, Bucks; and by Messrs. Veitch and Sons, Limited, Chelsea.

Hippeastrum Julius.—A good variety of vermillion-scarlet shade with distinct well-defined margin of white. From Messrs. Veitch and Sons, Chelsea.

Rose Souvenir de Pierre Notting.—This is a charming rich yellow Rose, raised by crossing Maman Cochet and Maréchal Niel. The flower is long and pointed, partaking more of the first-named parent, while the colour most strikingly favours the rich yellow of the second parent. It was raised by M. M. Soupert et Notting, of Luxembourg. Shown by Mr. George Prince, Longworth.

Rhododendron Yunnanense.—A pretty and hardy plant with compact pink and white trusses of bloom, freely spotted on some petals with yellow. The plant has been flowering for some time past at Kew, and is a valuable addition to the

smaller flowered forms. Shown by Mr. F. W. Moore, Botanic Gardens, Glasnevin.

Helicoma Brasilensis.—A showy species with creamy flowers and lobster-red bracts; these latter form the plant's chief attraction. The foliage is some 2 feet long and 4 inches or 5 inches broad. This fine stove plant was shown by Mr. F. W. Moore, Glasnevin.

Carnation Alna.—A medium-sized flower of crimson or maroon shade, the most charming feature of which is the intense Clove perfume, stronger indeed, we think, than in the old crimson Clove, while the flowers are of better form. The calyx was not quite intact in any of the flowers shown. From Messrs. Blackmore and Langdon, Bath.

Aubrietia Prichard's Al.—A large deep violet flower that assumes a purplish tint with age. Curiously enough this rich and deep-coloured form is a seedling from Souv. de W. Ingram. The flowers are nearly an inch across, the rich violet colouring is much enhanced by a ring of white at the centre. Exhibited by Mr. M. Prichard, Christchurch, plants.

AWARDS.

Silver Flora medals to Messrs. M. Prichard, Christchurch; George Jackman and Sons, Woking; H. Cannell and Sons, Swanley; J. Veitch and Sons, Limited, Chelsea; Blackmore and Langdon, Bath; Frank Cant, Colchester; B. R. Cant and Son, Colchester.

Silver Banksian medals to Messrs. J. Cheal and Sons, Crawley; Ware and Co., Feltham; W. Cutbush and Son, Highgate.

Bronze Banksian medals to Messrs. H. B. May, Upper Edmonton; John Peed and Sons, Norwood; Paul and Sons, Cheshunt.

ORCHID COMMITTEE.

Present: Harry J. Veitch, Esq. (chairman), Messrs. James O'Brien, de B. Crawshaw, Norman C. Cookson, Jas. Douglas, Walter Cobb, H. Ballantine, E. Hill, G. F. Moore, A. A. McBean, H. F. Pitt, F. W. Ashton, M. Gleeson, J. W. Odell, T. W. Bond, F. J. Thorne, W. Boxall, W. H. Young, H. J. Chapman, J. Wilson Potter, H. Little, J. G. Fowler, H. M. Pollett, and Francis Wellesley.

H. T. Pitt, Esq., Rosslyn Gardens, Stamford Hill, N. (gardener, Mr. F. W. Thurgod), showed a mixed group of Orchids, that comprised Lelia purpurata (well-flowered plants and good forms), Odontoglossum crispum, O. cirrhosum, O. Adiamae, O. spaeclatum, Miltonia vexillaria, Trigonidium spatulatum (botanical certificate), Anguloa Clowesi, Cattleya Lauro-Mossie, Dendrobium rhdopterigium, various Cypripediums, and others. Silver-gilt Flora medal.

Notman C. Cookson, Esq., Oakwood, Wylam-on-Tyne (gardener, Mr. H. J. Chapman), showed a group of Orchids, comprising several fine forms of Odontoglossum crispum, Cypripedium bellatulum (bearing five flowers), several fine forms of Phaius Humboldtii hybrids, Dendrobium Venus Cookson's var., Cypripedium callosum Sandersi, O. excellens Princess Christian, &c. Silver Flora medal.

Walter C. Walker, Esq., Percy Lodge, Winchmore Hill, N., showed a group of Odontoglossums, forms of O. crispum. Few of them were spotted, but the plants were well flowered and many of the flowers of good shape. Oncidium marshallianum, O. concolor, and Vanda teres were also shown in this group of well-grown plants. Silver Flora medal.

Messrs. Hugh Low and Co., Bush Hill Park, Enfield, exhibited two splendid plants of Cattleya Skinneri, C. intermedia alba, Lelia purpurata alba, Vanda lamellata, and Dendrobium Bensoniae, as well as Dendrobium glomeratum, which was given an award of merit. Silver Flora medal.

A group of hybrid Masdevallias was shown by the Hon. Walter Rothschild, M.P., Tring Park, Herts (gardener, Mr. E. Hill). Several flowers were of very good colouring, bright and fairly large. M. ignea Eckhardii x M. Lindenii is rich purple marked with deep rose-coloured lines; M. x gavia is rich yellow densely covered with small purple dove hairs; M. x Henrietta has spreading flowers, rosy purple-buff; M. x Fraserii is pale lily-red; Xylobium squalens, with pinkish buff flowers, was also included.

F. Wellesley, Esq., Westfield Common, Woking (gardener, Mr. J. Gilbert) showed Cattleya Mossie arnoldiana Westfield variety, L.-C. Zephyra alba, and Cattleya Skinnerii alba var. Minnie.

Erica Kingii, bearing racemes of small greenish yellow flowers with purple lip, was shown by Mr. F. W. Moore, Botanic Gardens, Glasnevin.

Odontoglossum Hallii-crispum Venus was shown by de B. Crawshaw, Esq., Rosefield, Sevenoaks (gardener, Mr. J. Stables).

H. J. Elwes, Esq., Colesborne, Westonbirt (Orchid grower, Mr. Alexander), showed cut racemes of Thunia, some of which were rather damaged. They were F. marshalliana var. aurantiaca, T. Bensonii, T. marshalliana, T. brymeriana, and a seedling between T. marshalliana and brymeriana.

Leopold de Rothschild, Esq., Gunnersbury House, Acton, W. (gardener, Mr. J. Hudson), showed a well bloomed plant of Lelio-Cattleya Phoebe.

Several good cut racemes of Odontoglossums were shown by Sir Robert D. Moncreiffe, Bart., Moncreiffe, Bridge of Eam, N.B.

CERTIFICATED ORCHIDS.

Odontoglossum crispum Lady Moncreiffe.—A pretty, symmetrical flower with broad petals, the sepals being considerably narrower. The latter are marked with large blotches of rich chocolate-red, the petals being less heavily blotched. The lip is also well marked with the same colour. From Sir Robert D. Moncreiffe, Bart., Bridge of Eam, N.B. Award of merit.

Odontoglossum crispum Harold.—A well-formed flower, with prettily crinkled edges to petals and sepals. The broad petals are white, while the sepals are spotted with chocolate-red. The lip is fairly large and heavily spotted. From Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne (gardener, Mr. H. J. Chapman). Award of merit.

Dendrobium glomeratum.—A richly-coloured Dendrobie from the Moluccas. The flowers are produced in bunches from the nodes, and the sepals and petals are a rich rosy purple, with a tinge of red. The very small lip is orange-

scarlet. This Dendrobe is rarely seen, and is difficult of culture or, at any rate, to establish. Out of an importation of some 2,000 plants we believe Messrs. Low succeeded in establishing very few. The one shown on Tuesday was a large, fine form. From Messrs. Hugh Low and Co., Bush Hill Park, Enfield. Award of merit.

Odontoglossum wattianum cravshawianum.—This is a home-raised hybrid between *O. lindleyanum* and *O. harrayanum*, and appears to have produced a finer flower than the parentage would lead one to expect. *O. wattianum* was generally supposed to be a natural hybrid, with *O. harrayanum* as one of the parents. The flowers of the home-raised hybrid are almost entirely deep chocolate-brown on petals and sepals, the greenish yellow colour showing through in places. The oblong-shaped lip is large, light yellow, blotched beneath the column with dark crimson. Shown by de B. Crawshaw, Esq., Rosefield, Sevenoaks (gardener, Mr. J. Stables). Award of merit.

FRUIT COMMITTEE.

Present: G. Bunyard, Esq. (chairman), Messrs. H. Balderson, George Woodward, W. Bates, S. Mortimer, Alexander Dean, A. Melville, Horace J. Wright, Edwin Beckett, Henry Esling, P. C. M. Veitch, James H. Veitch, J. Jaques, G. Reynolds, F. L. Lane, J. Willard, George Wytches, Owen Thomas, Joseph Cheal, and George Kelf.

The Hogg Memorial medal for fruit was given to Mr. James Hudson, gardener to Leopold de Rothschild, Esq., Gunnersbury, for a group of fruit trees in pots, which included Cherries Empress Eugénie, Guigne d'Annonay, Bigarreau de Schrecken, Frogmore Early Bigarreau, and Governor Wood (the latter bearing a particularly heavy crop), and Cardinal Nectarine. Splendid fruits in boxes were also shown of Lord Napier and Cardinal Nectarines, Early Prolific Plum, Royal Sovereign Strawberry, and several varieties of Cherries, a very fine lot, denoting the best culture.

A silver Knightian medal was given to Mr. J. Hodges, Rusper Vineries (gardener, Mr. T. M. le Pille), for an exhibit of Black Hamburg Grapes in baskets.

The "Pattison Lawn Boots" were shown by Mr. H. Pattison, 55, Killiesier Avenue, Streatham Hill, S. W.

Mr. Peter Blair, Trentham Hall Gardens, sent a dish of a seedling Apple, but no award was made.

Dishes of Radishes were shown from the Royal Horticultural Society's Gardens, Chiswick.

NARCISSUS COMMITTEE.

Present: H. B. May, Esq. (chairman), Messrs. Charles H. Curtis, J. D. Pearson, James Walker, Richard Deau, P. Rudolph Barr, Walter T. Ware, Robert W. Wallace, A. Kingsmill, John Boscaen, George S. Tetheradge, G. Reuthe, Jan de Graaf, and Robert Sydenham.

Tulip Zomerschoon.—A large flower of rich scarlet and yellow, the petals pointed and feathered. Internally the feathering is yellow and near the margin. Shown by Miss Curry, Lismore, Ireland.

Tulip Gulu.—As may naturally be expected, this fine Darwin Tulip is a dark flower; indeed, it is one of the darkest, and one of the best in form and shape.

Tulip May Queen.—A good Darwin variety of soft rose colour, the base inside being almost Cambridge blue. The large bud is very handsome.

Tulip The Fawn.—The name is somewhat descriptive, but not fully so. The colour is whitish buff of a rather deep tone. It is of excellent form.

Tulip stragulata maculata.—A large and showy Tulip of soft yellow colour with conspicuous and large blackish base. The above four Tulips were shown by Messrs. Barr and Sons, King Street, Covent Garden, W. C., and Ditton, Surrey.

Tulip Orange King.—A rich orange flower with bold perianth. It is of good size and habit. From Messrs. Wallace and Co., Colchester. Messrs. Wallace also showed Tulip The Fawn noted above.

AWARDS.

Silver Flora medals to Messrs. Wallace and Co., Colchester; R. H. Bath, Wisbech; Barr and Sons, Covent Garden.

Silver Banksian medals to Messrs. W. Baylor Hartland, Cork; James Veitch and Sons, Chelsea; R. and G. Cuthbert, Southgate.

NATIONAL TULIP SOCIETY.

WHAT attraction the show Tulips themselves may have had for visitors to the Drill Hall was entirely discounted by the disgraceful manner in which they were exhibited. Some were in boxes, some simply in vases, some in moss in vases, others in tubes—in fact, they could not possibly have been presented in a more untidy or disreputable manner. Many have doubts as to the suitability of the Tulip as a show flower at all; but surely if the National Tulip Society has any objects, one of them should be to display their flower before the public in as pleasing a way as possible. If fancy Tulips cannot be shown in a more satisfactory manner than that seen in the Drill Hall on Tuesday last, they certainly ought not to be publicly exhibited.

Twelve dissimilar rectified Tulips: First, Mr. Bentley, Middleton, Manchester; this exhibit included the premier feathered flower Stockport, marked with dark crimson; second, Mr. A. Chater, Cambridge.

Six dissimilar rectified Tulips: First, Mr. C. W. Needham, Hale, Cheshire; second, Mr. J. W. Bentley; third, Mr. A. Chater, Cambridge.

Three feathered Tulips: First, Mr. C. W. Needham; second, Mr. J. W. Bentley; third, Mr. W. Peters.

Three flamed Tulips: First, Mr. W. Peters, Cambridge; this exhibit contained the premier flamed flower Samuel Barlow, beautifully marked with deep red and black upon a yellow ground; second, Mr. J. W. Bentley; third, Mr. C. W. Needham.

Six dissimilar Breeder Tulips: First, Mr. J. W. Bentley; second, Mr. Needham; third, Mr. A. Chater.

Three dissimilar Breeder Tulips: First, Mr. W. Peters; second, Mr. Needham; third, Mr. J. W. Bentley.

OPEN ONLY TO GROWERS OF LESS THAN 400 BLOOMING BULBS OF ENGLISH TULIPS.

Six dissimilar rectified Tulips: First, Mr. W. Dunn, Cambridge; second, Mr. W. Peters, Cambridge.

Three feathered Tulips: First, Mr. W. Dunn.

Three flamed Tulips: First, Mr. Dunn; second, Mr. W. Peters.

Three dissimilar Breeder Tulips: First, Mr. W. Peters; second, Mr. Dunn.

Two rectified Tulips: First, Mr. Peters; second, Mr. Dunn.

In the single bloom classes for feathered bizarres, roses, and byblcemens, flamed bizarres, roses, and byblcemens, the chief prize winners were Messrs. Bentley, C. W. Needham, G. Edom, J. Percival, A. Chater, and A. W. Hall.

The Samuel Barlow prizes for the best pair of rectified Tulips were awarded as follows: First, Mr. C. W. Needham, Hale, Cheshire; second, Mr. J. W. Bentley, Middleton, Manchester; third, Mr. W. Peters, Cambridge; fourth, Mr. A. Chater.

ANSWERS TO CORRESPONDENTS.

RULES FOR CORRESPONDENTS.

Questions and Answers.—The Editor intends to make THE GARDEN helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object will make a special feature of the "Answers to Correspondents" column. All communications should be clearly and concisely written on one side of the paper only, and addressed to the EDITOR OF THE GARDEN, 20, Tavistock Street, Covent Garden, London. Letters on business should be sent to the PUBLISHER. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper.

Name of plant.—T. Taylor.—The scarlet flower is the true *Tulipa gesneriana* major.

Roses from cuttings (H. S. N.).—The correspondent you allude to was not far wrong when he said Roses could be rooted as freely as zonal Pelargoniums. There are a few very important points to remember in order to be successful. I will endeavour to explain briefly methods which have been found successful, and you will be able to judge which plan is most attractive and suitable to your own circumstances. For the choicest Roses I am strongly in favour of a green cutting, that is, one taken from a plant that has just blossomed or about to blossom. This kind of cutting can be taken either from forced Roses or from those growing outdoors. The former is the best method, as by obtaining rooted cuttings in March one has the long period of spring and summer weather in which to develop the little plants, so much so that some may be even planted outdoors in June and July, and thus become well established before winter. In order to obtain such cuttings they should be inserted in January from plants flowering then. If this is not practicable they may be inserted as late as March and April, and will make very good plants, which, however, should be housed until the following year, and planted out in May of that year. Now the essentials are good healthy cuttings and bottom heat of about 60°. The former can be secured from well-grown plants, those that have been cared for and whose roots are in a thoroughly healthy condition. The foliage must be clean, free from blight, and perfectly healthy. I may say very small, weakly cuttings will root, but they have a tremendous struggle for existence, so that to insert such is labour thrown away. Put in cuttings of wood, such as you procure when purchasing the fine blossoms that find their way into the markets and florists' shops. The cuttings are made from two eyes if wood is plentiful, but one eye is sufficient if wood is scarce. The foliage must be retained, as this assists to keep life in the cutting while the callus is produced, from which roots are formed. Now, as bottom heat is wanted, how is this best provided? Some may say from a manure bed, but

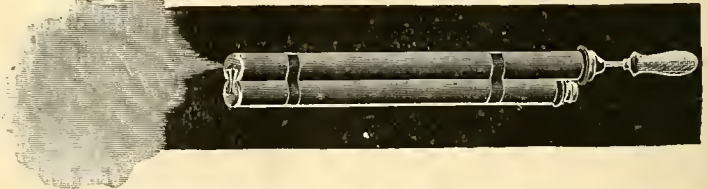
I would prefer a pit in a greenhouse, in which 2 feet or 3 feet of tan could be placed, and in which a 3-inch hot-water pipe is found. Rose cuttings root readily when a bottom heat of 60° can be maintained night and day. The top temperature should be 10° less. The best medium to root the cuttings in is clean sharp sand. If you have a propagating frame under glass, with a hot-water pipe running through, place a few inches of crocks in the frame, putting very fine ones on top. Beat these down perfectly level with a flat brick, then put on 3 inches of clean silver sand. Insert the cuttings about 1 inch deep, 1 inch apart, and in rows 2½ inches apart. Make them quite firm and give a good watering. They should be sprinkled two or three times a day if the weather is bright, and be careful to shade with newspapers when the sun is out. The cuttings do not require an excess of water, only just enough to keep the foliage fresh and the sand from getting dry. In about four weeks roots will appear. When about half an inch long, pot off the cuttings into 2-inch pots, using sandy soil, and keep near the glass in the same temperature. As the roots appear near the side of the pit give another shift, and from June to August they may be planted out or grown in under glass, in which case the cuttings must be potted into 5-inch

pots. If a manure bed would be preferred, dibble the cuttings around 3-inch pots, using plenty of small crocks and sandy soil. After the cuttings are potted on and almost ready to plant out many growers plunge the pots upon manure beds in order to give the plants bottom heat. This answers very well up to a certain point, and that is when the roots begin to find their way into the manure. A soft, unnatural growth is started, which the plants succumb to when taken off this bed in the autumn. Of course I am supposing one is desirous of striking Roses in a wholesale manner. If only a few are desired, they may be inserted similar to Geranium cuttings and plunged in the propagating frame, where other subjects are rooted in early spring. If the healthy cuttings are inserted which I have attempted to describe failure is almost impossible. The condition of ripeness is that when the flower is just ready to cut, or about a day after it has been cut, or, in other words, such wood as one would use for budding. Now there is another plan I can recommend, which is as follows: Some shallow frames are placed in full sun outdoors. They should be sufficiently deep to hold 1 foot of stable manure trodden firm. Upon this put 2 inches of loam and 3 inches of sand, or some 2-inch pots may be filled with very sandy soil, and stood as close together as they can be packed, then a little sand sprinkled all over, so that the interstices are filled up, and about half an inch on top of the pots. When the cuttings are inserted the foliage should be very near the glass. The cuttings are obtained from the outdoor plants, preferably the first growth. They must be in a firm condition, similar to those described above. If the cuttings are put in the sand they are inserted as close as practicable without cramping the foliage, and if the pots are used one cutting is put in each pot. Now the secret, if any, is to maintain a humid atmosphere inside the frame until the cuttings are rooted, and to do this they must be lightly sprinkled every half hour during sunshine. The glass should be shaded with newspapers until roots are formed, and even then great care is necessary that the foliage be not scorched. Quite 90 per cent. of the inserted cuttings will root in this manner. The great difficulty is the wintering. They should be housed where a very gentle heat is maintained, just enough to keep root action going. Those not in pots should be potted on as soon as the roots are half an inch long, and either grown in the frame or transferred to a greenhouse. These, then, are the main methods employed, but it is quite possible to obtain own roots of the hardy kinds, Ramblers, Penzance Briars, and such like, by inserting outdoors the hard wood in September and October; but the many choice Teas, Hybrid Teas, and Hybrid Perpetuals are best rooted in the manner described previously. The *Marchal Niel* is evidently in bad health or it would not produce these pinkish blossoms. After flowering cut back rather hard to induce some new wood. When the new shoots are a few inches long give a good sprinkling of bone-meal, and a week or so afterwards give some liquid manure made from cow manure and soot. You could vary this with some liquid made from sheep manure. Two or three pecks placed in a porous bag and dropped into a 50-gallon barrel will make a useful liquid, which can be given half strength to any Roses that need it. You must remember it is the strong and healthy that need it most.—GROWER.

TRADE NOTE.

WEST'S PATENT AERATED SPRAY SYRINGE.

WEST'S SYRINGE is one of the best of its kind in the market. It is excellent for watering seedlings, diffusing insecticides, and general greenhouse use. The West's Aerated Spray Syringe is an ordinary syringe, but with an extra cylinder fastened to it for holding the liquid firmly, and is connected with the cylinder by two tubes as shown in the illustration. As all syringes are powerful pneumatic pumps, and as the water in the cylinder is connected to the syringe in the same way as a scent sprayer is done, when the plunger is worked in the syringe a big force of air is got, which aerates the spray in the same way as a scent sprayer, and thus gives off the same kind of spray. But as the syringe is so many times larger and stronger than a scent sprayer, the syringe gives a much better spray and cannot get clogged up, and the cylinder holds as much liquid as will last an hour or so of spraying. It can be also used as an ordinary greenhouse syringe, and,



WEST'S PATENT AERATED SPRAY SYRINGE.

being serviceable, it can be used to do all the syringing in a greenhouse. *Directions.*—Unscrew the cap and fill or half fill the cylinder with liquid; when filled, remove rubber band, and work the plunger of the syringe up and down. This gives an aerated spray, so do not dip the syringe into the water, but for a heavy spray dip into water in the usual way. The full length is about 23 inches; length of barrel, 18½ inches by 1½ inches; and the price 5s. 6d. each, carriage paid. Mr. West's addresses are Roundhay, and Higham Hill, London, S. E.

* * * The Yearly Subscription to THE GARDEN is: Inland, 15s.; Foreign, 17s. 6d.

THE GARDEN

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[MAY 30, 1903.]

THE TEMPLE SHOW.

OF the sixteen exhibitions that have taken place in the Temple Gardens that of the present year stands out as the most enjoyable and refreshing. It was enjoyable because brilliant sunshine, tempered with a cooling breeze, made the sequestered spot a pleasant place, and because the exhibits, both within and outside the tents, were of general excellence.

Of course the exhibitors complained of want of space, but the accommodation is limited, and becomes more so as the demands of the trade and amateurs increase. But in spite of this the exhibits were delightfully displayed, and as varied and bright as the most ardent horticulturist could desire.

One Temple show is much like another, but this year there was certainly a marked improvement upon the wearisome bunching of flowers, as familiar as the Dandelion of the field, that visitors have complained of upon past occasions.

Exhibitors have taken to heart the great lesson we have tried for years to teach, and that is, the public care more for a few good things well shown than a hundred jammed together without a thought of their natural charm.

The Society is prospering; next year the new hall will probably be available for the fortnightly shows, and it caters in the best way for the wants of its supporters. Before another month is over the Society holds a great show in the gardens of Holland Park, Kensington, by kind permission of Lord Ilchester, and throughout the year events follow in quick succession.

Subscribers have full value for their money, and the wonderful display of this week will be remembered as a show of great charm and of exceptional interest.

There were flowers to satisfy all tastes—Roses, Orchids, exotics, trees and shrubs, hardy flowers and fruits, and the pleasant weather brought together large crowds, which filled the tents and lawn throughout the three days.

A full report of the exhibition is given in the portion of the paper set apart for the purpose. We have given as much space as possible to this great and memorable exhibition, but, as our readers must be aware, it is not possible to describe every interesting and beautiful exhibit so fully as we would desire.

The new plants were numerous and noteworthy, and are also described on another page,

but these are always a feature of the fortnightly displays of the Society in the Drill Hall, proving probably the chief attraction to the visitors. Without novelties in all departments of the garden horticultural exhibitions would soon cease to exist.

We again heartily congratulate the council and other officers for their untiring zeal in a good horticultural cause. The Society represents horticulture in this country, and the beautiful display of the present week will prompt, we hope, those who have not subscribed to the new hall to do so. The crowds of flower lovers must have seen, from the tents and groups stocked with the rarest of things from British nurseries and gardens, that the Society has, or should have, the support of all interested in horticulture.

The Rev. W. Wilks, the secretary; Mr. Wright, the garden superintendent; Mr. Humphreys, the assistant superintendent; and all who have worked towards making the exhibition so conspicuous a success, deserve thanks for their efforts.

COLOUR IN THE SPRING GARDEN.

A CAREFUL observation of colour effects carried on for several successive years during the months of April and May has served to deepen a first impression to the effect that the greatest pleasure we can obtain from gardening with the flowers of spring is to be had by using those of tender rather than of strong colourings.

A little space of garden ground, where spring-blooming plants are mostly used, has taught me this lesson, and it is all the more distinctly borne in upon me by a consideration of the colouring of our wild spring flowers. Primrose, Cowslip, Wood Sorrel, Wood Forget-me-not, Hedge Parsley, and then in every garden Apple blossom. Following this apparently natural law it would seem wise and fitting to adapt it to our garden's needs rather than to strain after the stronger colours that naturally follow in due course. It is not to be denied that there are early-blooming flowers of stronger colouring, for among the Anemones alone there are *A. fulgens* and *A. græca* of brilliant scarlet, and an equal brightness among the varieties of *A. coronaria*; there are early scarlet Tulips, both Dutchmen and species, and there are the brilliant red-mahogany Wallflowers. These are all indispensable, and must have a place among our spring flowers, but it might be as well to reserve a space where they may be grouped together a little way apart from the main planting.

For, looking at our gardens in the spirit of truest sympathy with Nature, and perhaps in a somewhat poetical aspect, we find the whole

sentiment of spring-time to be in favour of the tender colourings, and I think I may venture to advise those who are finding happiness in their spring gardens now, and are planning how to better them to their still greater enjoyment in years to come, to give a certain preference to the tender colourings, at any rate as to the main spaces. The stronger colours will come in their due time; the Oriental Poppies and the grand old Crimson Pæony; the field Poppies in the growing Corn.

For the help of those who care to be advised let me recommend a mixture of *Myosotis dissitiflora*, with pale yellow bunch Primroses and Foam Flower (*Tiarella cordifolia*)—not exactly mixed up, but cleverly intergrouped, or, better still, in related drifts—with a backing of the important foliage and cream-white bloom of *Myrrhis odorata*, the Sweet Cicely of old English gardens. And next to this a planting of the pretty early pink Tulip *Rose Gris de lin* or *Rosa Mundi*, to be followed by a drift near or next to them of the later Tulip *Picotee*. The blooming time of the Forget-me-not and *Tiarella* extends throughout that of both early and late Tulips. Behind and among the *Myrrhis* there might be a group of the pale yellow Crown Imperial and the grand foliage of *Veratrum*.

Other plants for the same kind of grouping—I have them all in use in the border in question—are the beautiful *Mertensia virginica*, *Dentaria diphylla*, *Uvularia grandiflora*, *Woodruff*, *Omphalodes verna*, pale yellow and flesh-coloured Wallflowers, *Adonis vernalis*, *Alyssum*, *Primula denticulata*, *Aubrietias* in the paler colourings, and the fine white double *Arabis*, with a few purple Wallflowers. There are some other flowers, but I name the more important only for the sake of simplicity.

There are several groups and drifts of Daffodils of the lighter colourings, such as *Minnie Hume*, *Leed-i-amabilis*, and *Consul Crawford*, and Tulips *retroflexa*, *Silver Crown*, and the pink ones before-named, and, grouping with purple Wallflower and forming the deepest colouring in the whole border, the fine tall May-blooming Tulip *Bleu Celeste*, a misleading name, for the colour is a rather slaty purple that harmonises well with the purple Wallflower. This year I have noted to add to my spring border some of the excellent hybrid Irises raised by Mr. Caparne; for beauty in the May garden they cannot be too highly commended.

At the back of my main spring border is a northward-facing wall. On the wall *Morello Cherries*, *Rubus deliciosus*, and *Clematis montana* add their flowers to the mass and effect of those in the border.

G. J.

EDITOR'S TABLE.

PRIMULA GIBBONICA.

Mr. Strugnell, Road Ashton Gardens, sends a beautiful selection of this *Primula* with the

following note: "Though not such a favourite as when first introduced by reason of its poisonous leaf properties, still it is very widely grown, and will undoubtedly continue to be so because so useful. There is scarcely another flowering plant that resists the influence of gas so well as this Primula, and there certainly are very few plants that will continue for so long a time in a fresh and full state of blossom. A difficulty that often presents itself is the raising of seeds in spring time.

I have found this to be easily overcome by sowing the seeds fresh from the plant. New seeds germinate readily, while those which are kept for some months are sometimes very stubborn, often so much so that only a solitary plant or two is obtained from the purchased packet. A new use has of late been found for this Primrose in the flower garden in summer, and



ROSE BUSH RAMBLER.

(This variety was in the group from Messrs. B. R. Cant and Co., Braiswick Nurseries, Colchester, at the Temple exhibition).

very effective it is for such a purpose. Mr. J. Crook, of Forde Abbey, has for several seasons used it in this way with telling effect. I have myself a good batch of plants raised from home-saved seed sown last summer intended for the flower garden, where, it may be said, a change is as much appreciated as in the greenhouse. Some plants left in an open, though sheltered, border have survived the winter without any covering, and at the present time are flowering freely. Tender leaves and flower-spikes quickly succumb to frost, but a change to milder weather soon results in fresh growth. Considering there were 20° of frost on at least two occasions this Primula certainly must possess a hardy constitution to survive it unprotected.

TROPEOLUM BALL OF FIRE.

Besides the finely-coloured Primula obconica flowers, Mr. Struggell also sends a few blooms of this brilliant Tropæolum. Our correspondent mentions that it has given "a touch of colour to the greenhouse roof for many weeks, and in dull winter days is particularly bright and cheery."

FLOWERS FROM SOUTH DEVON.

Mr. S. W. Fitzherbert sends a few welcome flowers from Kingswear. The sprays of Veronica hulkeana were cut from a plant 4 feet by 4 feet, and absolutely a cloud of pale lavender, some of the bloom sprays being 20 inches long. Ourisia coccinea was also sent, the stems having been cut from a plant 2 feet long, 8 inches broad, and carrying twenty flower spikes, some of which are 15 inches high, each with over a dozen blooms. In this gathering were also Calceolaria violacea, the blue Ixiolirion tataricum, and the buff Homeria collina.

TUFTED PANSIES.

From "B. M. B.," Kempston Hoo, Bedford, we have received a box of Tufted Pansies, indispensable among early summer flowers. "B. M. B." says: "Self colours are preferred, and the bronzy varieties are special favourites. Growth is wonderfully vigorous this year, many of the stalks being 6 inches long." The varieties sent comprised several of excellent colouring; there were rich yellows, creams, whites, browns, dark velvety purples, light purples, and some quite black, except for a small yellow eye and a little purple colouring immediately above.

PRIMULA PARRYI.

We receive from Herr Heinrich Henkel, of Darmstadt, a plant in bloom of the uncommon Primula Parryi. It is a handsome species, a native of the Rocky Mountains, with smooth leaves somewhat like those of a narrow-leaved Auricula, and several deep rose-coloured flowers with a bright yellow eye, on a firm stalk about 9 inches high. It thrives in moist, peaty ground.

KEW NOTES.

INTERESTING PLANTS IN FLOWER.

Temperate House.

BEAUMONTIA GRANDIFLORA, Begonia coccinea, B. glaucophylla, Datura chlorantha, D. sanguinea, Macleana insignis, Passiflora racemosa, and Ranunculus cortusæfolius.

Palm House.

† Clerodendron cephalanthum and Faradaya splendida,

Water Lily House.

Clerodendron speciosum, Ipomœa digitata, Nymphæas in variety, Solanum seafortianum, and S. Wendlandii.

Orchid Houses.

Erides Fieldingii, Brassia caudata, B. verrucosa, Calanthe Domini, Cattleya labiata var. Mossie, Cœlogyne dayana, C. swaniana, Cypripedium barbatum, C. bellatulum, C. Curtisii, C. sanderianum, Dendrobium chlorops, D. Draconis, D. mutabile, D. secundum, D. transparens, Epidendrum armeniacum, E. Hartii, E. nocturnum, E. radiatum, Lælia cinnabarina, Lycaste jugosa, Masdevallia Chimæra var. Rozzii, M. courtauldiana, M. muscosa, M. Peristeria, Maxillaria parva, Miltonia vexillaria, Neodyras sacciana, Oncidium caminophorum, O. Cebolleta, O. luridum, O. macranthum, Ornithocephalus grandiflorus, Pelexia maculata, Pholidota imbricata, Physisiphon Loddigesii, P. Moorei, Polystachya pubescens, Renanthera Imshootiana, Selenipedium caricinum, S. dominianum, and Thunia alba.

† Range.

Echmea glomerata, Anthurium scherzerianum varieties, Areca Micholitzii, Clerodendron Thomsona, C. umbellatum, Cotyledon Corderoyii, Dionæa muscipula, Dorstenia Phillippsæ, Drosera binata, D. capensis, Euphorbia Caput-Meduse, E. ceriiformis, Galtonia princeps, Hibiscus liliiflorus, Miconia desmantha, Oldenburgia arbuscula, Ornithogalum lacteum, Pelargoniums in variety, Pitcairnia xanthocalyx, Primula imperialis, Scilla pendula, Stigmaphyllon ciliatum, Tillandsia (various hybrids), and Tulbaghia natalensis.

Greenhouse.

Abutilon megapotamicum variegatum, Begonia Corbeille de Feu, Cannas in variety, Celsia Areturus, C. cretica, Collinsia bicolor, Euryops pectinatus, Jacobinia magnifica var. carnea, Linum grandiflorum var. rubrum, Senecios in variety, Statice, and other things.

Alpine House.

Achillea ageratifolia, A. holosericea, A. Huteri, A. rupestris, A. umbellata, Æthionema pulchellum, Alyssum spinosum, Anthemis styriaca, Anthyllis montana, Antirrhinum glutinosum, Arenaria setacea, Asperula suberosa, Aster alpinus, A. baldensis, A. subcœrulea, Celmisia Munroi, Dodecatheon Meadia, Erinus glaberrimus, Gypsophila repens, Hesperochiron californicum, Lilium tenuifolium, Linum arboreum, Meconopsis heterophylla, Morisia hypogæa, Omphalodes Lucilia, Phlox canadensis var. alba, P. ovata, Pyrola rotundifolia, Saxifraga aretioides, S. rotundifolia var. glandulosa, Scilla verna, Scozonera aristata, Silene acaulis, Symphytum orientale, Tanacetum argenteum, and Vinca herbacea.

Rock Garden.

Anemone alpina, A. narcissiflora, A. polyanthes, Æthionema cordatum, Aster alpinus var. superbus, Cardamine latifolia, Cerastium alpinum var. villosum, C. grandiflorum, Cheiranthus alpinus, C. Marshallii, Delphinium nudicaule, D. trollifolium, Dicentra formosa, Disporum lanuginosum, Erigeron flagellaris, E. glabellus var. asper, Geranium rivulare and others, Geum triflorum, Hieracium villosum, Houstonia cœrulea, Iris verna, Linum capitatum, Mathiola varia, Meconopsis aculeata, Melittis Melisophyllum, Ornithogalum arcuatum, Potentilla splendens, Primula Sturii var. purpurea, Ranunculus aconitifolius, Saxifraga taygetea, Schizocodon soldanelloides, Sedum asiaticum, S. spatulifolium, Tulipa australis, and many other things.

Herbaceous Ground.

Allium in variety, Asphodeline liburnica, Asphodelus albus, Camassias in variety, also various species of the following genera: Geranium, Hedysarum, Pœonia, Thermopsis, Trollius, Viola, and others.

Walls.

Anthyllis Barba-jovis, Ceanothus integerrimus, C. papillosus, C. thorsiflorus, C. vetchianus, Choisya ternata, Corchica cotoneaster, Discaria Toumaton, Fendlera rupicola, Helichrysum rosmarinifolium, Olearia myrsinoides, O. m. var.

erubescens, *Ribes speciosum*, *Solanum crispum*, *Teucrium fruticans*, and *Viburnum odoratissimum*.

Arboretum.

Numerous species and varieties of *Crataegus*, *Cytisus*, *Genista*, *Helianthemum*, *Pyrus*, *Prunus*, *Rhododendron*, and many other things.

NOTES ON HARDY PLANTS

TROLLIUS ORANGE GLOBE.

NO doubt the best place for the Globe Flowers is at the water's edge, but they will succeed well in the herbaceous borders, and during the spring months make fine patches of colour. There is something so distinct from everything else about their globe-shaped flowers that recommends them to all, and the above is certainly one of the best of this family. *T. Orange Globe*, as its name implies, is a fine deep orange in colour, and the individual flowers are exceptionally large. It grows about 18 inches to 2 feet high, and has stout branching flower-stems, which are freely produced for a considerable period at this season. The most pleasing results are obtained by planting this *Trollius* in groups of three or more, and when the flowering period is over a fine mass of foliage appears, which remains in good condition throughout the summer, so that bare places do not result, and the effect produced by arranging this in groups bears no comparison to the older plan of dotting plants singly in the borders. This *Trollius* does not reach perfection until three years after planting, and to retain its vigour division is necessary every three or four years. To those who have not yet obtained this variety I cannot too strongly recommend it as one of the best hardy plants we have, and the recent severe frosts have not damaged it in the least.

Elstree.

A. E. THATCHER.

TULIPA SUAVEOLENS PLURIFLORUS.

This Tulip, sent out by Max Leichtlin in 1902, is now in bloom. It has beautiful fine scarlet flowers, a sturdy stem and two flowers, one coming a little before the other, and the secondary one taking its place as it withers away. The flowers are rather pointed in form, and the interior is of a much brighter scarlet than the exterior. At the base of each segment inside is a small black mark which helps to make the flower more beautiful, though the dark zone is less pronounced than in the case of some of these Tulips. It first flowered here about the middle of April this year.

Carselhorn, by Dumfries, N.B.

S. ARNOTT.

OLD DOUBLE CRIMSON SWEET WILLIAM.

I SHOULD be very grateful for any hints as to the successful growing and flowering of this old favourite. With me it exists, and that is all I can say. I have tried it in every sort of soil and position.

LATHYRUS PUBESCENS.

THERE is no doubt that this is a most beautiful and welcome addition to our list of perennial climbing plants, and as there seems to be considerable doubt as to its hardiness in this country I venture to think that a brief account of my experiences with it in Kent may be of use. I grew some from seed in the autumn of 1901, keeping the seedlings in a cool greenhouse through the winter, and planting out four of the best in the spring of 1902, three in warm sunny corners and one in a sheltered nook in semi-shade. The latter and one of the former flowered nicely, though sparingly, in the summer, and I was able to save some seed. The only protection these four plants had during

the winter of 1902-3 was a small pile of peat and fine ashes over the roots. The plant in semi-shade has succumbed, but the other three have come up strong and healthy, and look like business this summer. From this it would appear that *L. pubescens* is very nearly, if not quite, hardy in warm sunny situations in the southern counties; and everyone should try it, even in the north, as it would be a simple matter to give it better protection during winter than I vouchsafed to it.

I have planted it now in every kind of place where natural or artificial shelter is available, and have given away many seedlings to gardening friends and neighbours. It is a glorious thing, which when once seen in bloom can never be forgotten or left out of the smallest garden.

Yalding, Kent.

S. G. R.

CREEPERS AND CLIMBERS FOR ALL.

"Our tallest Rose Peeped in at the chamber window."

No cottage, villa, hut, or any other human dwelling, however small and gardenless, need be without some leaves and flowers, for it must have walls, and up them may the Ivy wander and the Jasmine cling. Quaintly enough, both Vine and Fig tree are tolerant of town air, and, suggestive as they are of sylvan and patriarchal life, might flourish in Seven Dials if there were room enough for them to grow. The Vine, in fact, is one of the best climbers it is possible to find for London and the suburbs. One regrets that it is not oftener made use of, for, to say nothing of its fruits, the foliage is so exquisitely decorative, in summer of a lovely green, and in autumn rich in yellows, reds, and crimsons. The Fig tree is another handsome plant, well worth growing if only for the sake of its comfortable triple leaves that in Eden were found so useful. There is no occasion to mention Virginian Creepers; everybody already knows and appreciates them. The large-leaved, loosely-flowing common one is preferred by some, but is not so neat and compact as the small-foliaged *Ampelopsis Veitchii*, which clings wherever it can place a finger with extraordinary tenacity, and never needs a nail. Naturally this clinging habit makes *A. Veitchii* very popular where gardeners are scarce.

In planting creepers and climbers we find it the best of methods always to put in two or three at a time; winter and summer ones grow happily side by side, and, like the ballet dances in grand opera, after one has had his turn of "showing off," another takes the floor, and things are always lively. Even in drear November there are berries whose shining colours are contemporary with the bright yellows of the Winter Jasmine, and these together provide a feast of colour from October to the end of January.

On taking possession of a house near town, or in any of the suburbs, we must consider well its different aspects before we choose our creepers, and after that must settle on the best means of training them. Some people like to have a trellis-work of wood against the walls, and upon grey or white old-fashioned houses this looks very well. Others will stretch wire netting against the walls, a method convenient in one way, because a width or two can always be added as it is wanted and it is cheap, but wire is not a very genial support to live on. Many plants do not like it, and I am not at all fond of it myself, but it comes in useful sometimes if a very ugly bare side wall has to be hidden by degrees. Virginian Creepers do not disdain to use it when they want to climb, but others turn from it most amusingly. The other alternative is the ordinary garden nail

and shred, and a very good one too it is. Every gardener should be generously supplied with nails of different sizes, and strong, clean shreds of cloth. In stormy weather they save many and many a wreck. Sometimes stout string will be required and stakes, and something in the nature of a pad to soften the impact and rub of the support against the stem. Cloth shreds must be looked to now and then and renewed when necessary, for the ravages of moth and rust are only to be expected. For tying it is good to use the tarred string, which is very wholesome and durable.

Roses certainly do better against wood than when growing flush against the brick of any wall, especially if it happens to be an old one: they keep more free from insects. How different from Ivy, whose feelings are deeply hurt and injured if it is torn from its dear walls, where it so gladly feeds on lime and air, and loves to make a clustered home for twilight moths.

Many plants that find a place on walls are really not wall plants at all; they neither climb nor creep: these must be strongly held in place. Of such are the Winter Jasmynes, and the Cape and Yellow Summer Jasmynes, many Roses, Forsythia, the Firethorn (*Pyraecanthus*), and Cotoneaster, whose soft berries, with a crimson bloom upon them, are a pleasant change from the Firethorn's brilliant red and the scarlet of the Holly.

Jasmynes and other plants that have the same habit of growth must not be allowed to run too much to riot. They should be well cut in every autumn as soon as frost is threatening; the new growths of each recurring season amply suffice to provide the graceful trails that hang about with great luxuriance, and will be full of flowers.

A delightful plant to cover a house wall, and one that is quite content to live in London and its suburbs, is the evergreen *Magnolia grandiflora*. Our own was planted in the first instance against a south wall, where afterwards we put a Passion-flower, and have now two sorts of Jasmine. In this aspect the *Magnolia* did not thrive at all. Then we moved it to the west, where it started growth at once, and rose with wonderful rapidity house-high and thickly branched. It is a lovely place for blackbirds; they never fail to build in it, so we get music as well as scent, but the birds have flown before the flowers come. These hang out their ivory chalices from August to October, sweetening every dwelling-room that is near them; and everyone loves to watch the waxen buds as they unfold so softly, to show their satin linings and the big gold jewels that lie inside each cup.

Both on our north and south and west walls we plant Gloire de Dijon Roses, along with purple Clematis, not for a succession of flowers, but so that they may bloom together. Few things in nature are more truly satisfactory than the way these two plants have of blooming at the same time, the colours contrast so perfectly.

Passion-flowers and Clematis montana are two creepers that, as a rule, do well on warm south walls. For a long time we revelled in these upon the house; but both are delicate. Even so far south as Surrey we found a very cold, damp winter would kill them, and it is dreadful to see an empty wall, which once was full of leaves and blossoms, so we now grow these creepers in some sheltered corner; "arch of door and window mullion" must have plants of more endurance.

Nothing is harder than the *Ampelopsis Veitchii*, which hangs its wreaths above the

porch. More than once its shelter has been chosen for a rare bird's nesting, and the author of a gardening dictionary once fell so much in love with it that he begged for its photograph as an illustration of that particular creeper in his book. I have never known anything to kill this plant except drought or sunstroke. Do give it a little water in the dry, hot weather. Our south wall has been the scene of many adventures in the plant world. There is a family legend about the Passion-flower that for years grew high enough to look in, along with the Roses, at our chamber windows. It did not survive the foot-treads of Mr. Peace, the thief and murderer, who one fine day, at the luncheon hour, climbed up by it over a portico and into a bedroom, whence he made off with all the jewellery he could find; die the Passion-flower certainly did, and that before the following winter's frost.

Another creeper of great value to the suburban gardener is Honeysuckle; the Dutch variety for its sweetness, the Japanese for its leaves of yellow, green, and gold. Not for the house, but for pergolas, or as a blind to hide "next door," or for a rustic arbour, what is more cheerful than the Hop, which climbs to the height of many yards in one season, and drops its pretty blooms, that have so queer and pleasant a smell, as merrily in a sunny corner of any town garden as if it were clambering up the Hop-poles of Kent or Sussex. Hop-vines might be used a great deal more freely than they are to hide unsightly outhouses and barren places; yet even Hops want a little care—they must have some good stuff to grow into and they must have sunshine. Gourds are magnificent for all these purposes. I know one gentleman who so much admires the leaves and flowers of the common, domestic Vegetable Marrow that he cultivates it as an ornament and not for eating, much as the King of Siam grows carrots, with whose pretty foliage he fell in love when sojourning in England.

Of all creepers we are familiar with, Clematis montana is least tolerant of the knife. If we happen to meet with a very old one that has been allowed to wander unchecked all over the place and is untidy at the bottom, it is quite useless to attempt to cut and prune it into shape. Such treatment would be certain to destroy; it is better to take it away bodily and put in a new one. The yearly pruning already spoken of may be pursued in safety. Honeysuckles behave much in the same way as to their dislike of too much cutting, otherwise they give no trouble at all and thrive in any decent soil.

Ivy deserves a chapter all to itself; it is the kindest and most beneficent climber in all the world, never shabby, never tired, blooming in November and December, when flowers are scarcest, and it owns such an endless variety of leaf-forms and colours that one might make an interesting garden by filling it with nothing but different kinds of Ivy. And the same Ivy behaves so differently at different periods of its life that sometimes one can hardly believe one is not being cheated by a changeling. See the Ivy that is busy climbing up a tree or wall, how tightly it catches hold, and how sturdily it wins its way to the very summit. No leisure now for play or flowering; it is a steady onward march—eyes right, no looking round; but once the top is reached there is a change. Like a successful man of business whose work is done, there is time now for life's graces; the Ivy settles down and clusters, and bears flowers and berries. It loves pretty shapes and pictures—in short, takes kindly to the Arts.

For the borders of shrubberies no edgings

are prettier than gold and silver Ivies trailed over stones or rockwork, and these mix well with the Ivy of the pointed leaf. Strong-growing Irish Ivy is invaluable to fill bare patches under trees on lawns, where nothing else will grow, or for covering up old tree stumps, or unsightly barns or sheds. Ivy at first grows slowly. Anyone who is impatient for immediate effect had better buy well-rooted plants of it in pots. By this means a good long length can be secured at once. If a small piece is planted, a little lime rubbish in the ground is a great help, and it wants watering for a week or two till well established, after which any Ivy can be trusted to look after itself.

F. A. B.

NOTES OF THE WEEK.

FORTHCOMING EVENTS.

June 2.—Meeting of the Amateur Gardeners' Association.

June 5.—A course of lectures upon "Plant Adaptations," by Professor W. B. Bottomley, M.A., F.L.S., in the museum of the Royal Botanic Gardens, every Friday afternoon at four o'clock to July 10.

June 6.—Meeting of the Société Française d'Horticulture de Londres.

June 9.—Meeting of the Royal Horticultural Society.

June 10.—Meeting of the East Anglian Horticultural Club.

June 10.—Exhibition of Rhododendrons throughout June in the Royal Botanic Society's Gardens, Regent's Park, by Messrs. John Waterer, Limited, Bagshot.

June 23.—Oxford Horticultural Show.

June 24.—York Gala (three days); Gardeners' Royal Benevolent Dinner.

June 25.—Holland House Show (two days); Isle of Wight Flower Show.

The English spring.—A well-known gardener writes: "Never was such a wretched spring for flowers—no *Choisya*, no Tulips."

Odontoglossum crispum Mabel Claes.—On Monday last at a sale of Orchids at Messrs. Protheroe and Morris this variety realised a sum of £168.

Fruit Show at Chiswick.—Exhibitors are requested to notice that Class 52 of the above show, on September 29, is an open one, and is not confined to amateurs. The schedule can be obtained by sending a postage stamp to the Royal Horticultural Society's office, 117, Victoria Street, S.W.—W. WILKS.

National Horticultural Hall.—All interested in or benefited by horticulture in its various branches, and especially the Fellows of this society, are earnestly asked to help towards the completion and equipment of a long-felt want. £16,000 still urgently needed. Subscriptions should be sent to G. J. Ingram, 117, Victoria Street, S.W. The building has already been commenced, and the contractor is under promise to have the whole completed and ready for use for the summer of 1904.

Aponogeton distachyon.—In THE GARDEN for May 23 I see mention made of *Aponogeton distachyon*, the Cape Pondweed or Dragon's Tooth. In a lake at Thorpe-le-Soken, Essex, I had one which had been established there for many years. It was a perfectly healthy plant, but did not appear capable of much extension, and was never more than about 4 feet in diameter on the surface of the water. Yet I am told that a lake of many acres on the Duchess of Athole's property at Dunkeld is entirely covered with it. It flowered three times in the year—in April, July, and September—with from twelve to twenty blooms at a time, and the sweet Lily-like perfume on a warm summer evening was perceptible at some distance away, but I found that the rats and some wild duck I had on the lake were much addicted to nipping off the buds, and I had to protect it with wire netting. In the grounds of my present house I

have, unfortunately, no water, but last autumn I improvised two tiny ponds with the two halves of an oil-cask, and got a couple of plants from Messrs. Veitch and Sons. I sunk the tubs in a shady lawn to within 2 inches of the rim, put 4 inches of heavy soil at the bottom, in which I embedded the tubers and filled up with water. The plants have now thrown up a few leaves, and have each of them five or six blooms, and will no doubt make a better display in July and September. The cultivation of them in this way is so simple that I thought some of your readers might be glad to hear of it.—R. S. STANDEN, *Townlands, Lindfield, Sussex.*

Refreshments at the Temple show.—A Fellow writes: "On Tuesday at the Temple show of the Royal Horticultural Society, a party of five and myself, *i.e.*, six in all, secured a table in the afternoon on the lawn near the refreshment tents and ordered tea for six. It was forty minutes before we could get served and nearly thirty before, with much trouble, we found a waitress to take the order. Finally, in two instalments, we were served with six small teapots containing just one cup each; milk was lacking and led to another wait. On the table were four or five pieces of cake and some dusty bread and butter, to which were eventually added a few more pieces of both. The available supply per individual was one cup of tea, two small slices of thin bread and butter, and about one piece of cake, since there were three more ladies at the table to partake of this sumptuous repast. The charge for this was *nine shillings—i.e.*, 1s. 6d. per head—which, apart from the wretched attendance, is, I submit, an extortion to which the Royal Horticultural Society's authorities should not lend their sanction in the interest both of their Fellows and their visitors. In my opinion it is nothing less than disgraceful that such a charge should be made for such an utterly inadequate return, to say nothing of the mismanagement of the refreshment (?) department which must underlie such attendance."

The Kew Guild.—The annual dinner of the Kew Guild, an association of those who have worked or are working at Kew, was held at the Holborn Restaurant on Monday evening last, and was generally conceded to be the most successful yet held. About 140 past and present Kewites were present. Dr. D. H. Scott, F.R.S., presided, and was supported by Sir W. T. Thiselton-Dyer, K.C.M.G., C.I.E. (Director of the Royal Gardens), Sir Thomas Eliot (Secretary to the Board of Agriculture), Mr. W. Botting Hemsley, F.R.S. (Keeper of the Kew Herbarium), Dr. Henry, Mr. W. Watson (curator), Mr. W. J. Bean (assistant-curator), and numerous others well known in the world of horticulture and botany. One of those present from abroad was Mr. W. N. Sands, Curator of the Botanic Station, Antigua. After the usual loyal toasts, Dr. Scott proposed the toast of "The Kew Guild," to which the Director, Sir W. T. Thiselton-Dyer, replied. The chairman also proposed the health of "The Visitors," and Sir Thomas Eliot replied. The toast of "The Chairman" was given by Mr. W. Watson. Appropriate music added much to the enjoyment of the evening, and all agreed that the Kew Guild does a good work in endeavouring to bring together, just once a year, those who rarely have an opportunity of meeting friends made in the Royal Gardens, it may be, many years ago.

Abbotsbury Castle Gardens.—We understand that Mr. J. Benbow, head gardener at Abbotsbury Castle, the Dorsetshire seat of the Earl of Ilchester, is about to relinquish charge of the gardens there.

Experiments with *Oncocyclis Irises.*—My experience with these plants is as follows: They prefer a well-worked soil, but hate manure. Superficial planting—that is, rhizomes just covered slightly—is preferable to deep planting. The addition of mortar rubbish is preferable to bone-meal. Failures are more attributable to our changeable and uncertain climate than to any other cause.—MAX LEICHTLIN, *Baden-Baden.*

Thinning Strawberry blossom in the open ground.—Many may say that the early flowers were unfortunately so thinned by the

frost that thinning is needless, and doubtless in the southern portions of the country this was so, but in the north the plants were not sufficiently advanced to get injured. It is well known that the Strawberry plant when well grown produces a great quantity of bloom, and this happens more in the case of older plants than yearlings, which well repay thinning. It is not only necessary to reduce the flower-spike, but also the flowers on the spike if the fruits are required for dessert or for special purposes. For preserving a small fruit cooked whole is best, whereas large fruits of good shape are required for the table. By thinning there is no loss of crop; indeed, the reverse, as it will be found that the plants cannot well mature all the flowers; they are far too numerous, and when they are placed so thickly in wet seasons they decay badly, and in dry ones a good portion are almost worthless. In thinning the work cannot be done at once, but twice or thrice, and it takes very little time when the good results secured are taken into account. Of course all the best placed and largest blooms are retained, and by the room given these to develop they are much better in consequence. Some varieties throw more spikes than others, and here thinning is an advantage.—A. C. M.

The late-flowering Apples.—The late Apples are not only of great value for cooking and for dessert, but many kinds bloom late, and a crop is secured when the earlier kinds are killed by severe weather. In the Thames Valley in this portion of Middlesex the severe weather during the middle of April did much damage to the earlier-flowering varieties, and more so than usual, as owing to the mild winter the trees were quite three weeks earlier than usual, and the fruits that had just formed were completely frozen through. These have recently dropped wholesale; indeed, as regards Pears, I have never seen such wholesale destruction. This is most disheartening after such a poor season last year. Of course, my note concerns the early Apple crop only, and refers to this district. In the north the season is later. Some of the autumn Apples bloom later than others, and this is fortunate, as in a week or two the crop will be saved. I recently noted a few kinds that have escaped, and it is very strange these are called both kitchen and dessert. The names are Cellini Pippin, Sandringham, and the popular, and deservedly so, Lane's Prince Albert; indeed, I think in a great measure the free-fruiting qualities of the two last named in all soils and situations should make these two late Apples more widely planted, as there is often a good crop when others fail. At this date (May 17) both Prince Albert and Sandringham are beautiful in bloom. Newton Wonder is not far behind. On trees that have been planted a few years this variety competes with the Wellington, and is a sterling garden or orchard variety. Cox's Pomona, another of the dessert and kitchen fruits, blooms late and promises well, and Seaton House, a variety that rarely fails with us, is quite as good. In the dessert section there are many late-flowering kinds that promise a full crop. One of the best is James Grieve. This variety, even in the worst seasons, has never failed since the trees were two years old. It is most productive. Allington also blooms late and bears grandly. No one need be afraid of this variety failing to crop, and the popular King of the Pippins is fortunately later than others, and I think the crop will be very good. Margil, one of the useful small dessert varieties, is safe this season owing to its late blossom. This is much liked for its Ribston-like flavour. The popular Cox's Orange Pippin with us, I fear, a light crop, owing to the flower being more advanced. Sturmer Pippin is good, and several of the Russets, and I find there is a great saving by growing well-known varieties in different positions, as by so doing there is later bloom.—G. WYTHES.

Sub-tropical gardening.—A new work on sub-tropical planting will be published immediately by Mr. Elliot Stock, under the title of "A Gloucestershire Garden, with some Extraneous Matter." It will contain occasional digressive chapters on subjects which are the outcome of the account of the garden itself, and will be illustrated

by numerous photographs of scenes in the garden at different seasons.

The late Mr. J. D. Pawle.—At the meeting of the floral committee of the Royal Horticultural Society held on the 19th inst. it was proposed by Mr. C. E. Shea, who acted as chairman in the absence of Mr. Marshall, that a vote of condolence be sent to the relatives of the late Mr. Pawle. Mr. George Paul seconded the motion, which was unanimously passed.

A suggestion for Mr. Peter Barr.—Mr. Peter Barr, V.M.H., who has been on a globe-trotting tour for four or five years past, is expected home in London this month. The veteran should now write a book on his experiences, and what he saw of horticultural interest abroad, which, to judge from his several communications to the technical press, must have been a great deal.—*The Florists' Exchange, New York.* [We are very pleased to see that Mr. Barr has returned from his long journeyings in the best of health.—Ed.]

Walton-on-Thames and District Rose Society.—This society will hold its annual exhibition of Roses, Sweet Peas, &c., in the grounds of The Chestnuts, Walton-on-Thames, on Saturday, July 4. There are separate classes open to All England amateurs and nurserymen, also local classes open to amateurs residing within five miles of Walton Station. Prizes consisting of a silver cup, silver bowl, three medals of the National Rose Society, money, &c., will be given. Schedules and full particulars may be obtained from the Hon. Secretary, A. Savidge, Esq., Ingleside, Walton-on-Thames.

Eucryphia pinnatifolia.—I notice that "H. P." expresses surprise on page 329 that in a paragraph which appeared on page 257, entitled "Flowering Shrubs at Truro," it was stated by "A. C. B." that "the snowy-white Eucryphia was quite charming." This is evidently a *lapsus calami* of the writer's, for Sir Arthur Pendarves Vivian's first prize stand of hardy shrubs grown in the open, to which "A. C. B." alludes, very naturally did not include the August-flowering Eucryphia in March. I detected the error at once, and concluded that "A. C. B." had unintentionally written Eucryphia for Eurybia, Olearia (Eurybia) Gunnii being in the stand. I examined the collection carefully, and made a note of the forty-nine species and varieties which it contained.—S. W. FITZHERBERT.

Popularity of early-flowering Chrysanthemums.—Years ago the few growers who were then endeavouring to make known the beauty of these plants saw that there was a great future before them. All that was needed to give an impetus to their culture was for a few others to also take in hand a limited collection of plants, and as this desirable result was achieved their growth in popularity has been almost phenomenal. The only satisfactory way to grow them is outdoors. The present keen demand for the early-flowering Chrysanthemums may also be attributed in a degree to the splendid work of such pioneers as the late Mr. W. Piercy of Forest Hill, S.E., who was often ridiculed for his pains, and his exhibits also frequently described as "rubbish" and "weeds." The last few years have shown a wonderful advance, so much so, in fact, that Japanese sorts in almost endless variety, both in colour and form, may be had for a small outlay. The early sorts are being taken up by growers all over the country, and this is not surprising when one remembers their profuse display during the dull months of the year. There is no better time than the present for planting outdoors.

Sweet Peas and the weather.—The Sweet Peas promise to be quite as late in flowering as they were last year. For a week or two during cold, wet, and frosty weather the plants appeared to be at a standstill, and it is only within the last week or ten days that any advance has been noticed. These remarks apply in particular to Sweet Peas raised in pots in heat in February and March last, and after hardening off in cold frames, transferred to their flowering quarters in late April and early May. Last year our plants came into flower during the second week in July, although some of the clumps were planted out in the earliest days of April. This early planting



ROSE ENCHANTRESS.

(In Messrs. Wm. Paul and Son's exhibit at the Temple Show.)

was quite an experiment, our garden being very open and exposed. It was not a success, however, and for this reason planting has only recently been done. If the plants are to bloom before the end of June next there is much to be accomplished in the interval.—D. B. C.

Flowers in Kensington Gardens. How delightful was a saunter through the well-known flower walk here recently. Masses of late-flowering Tulips were still in perfection. Beautiful, too, were the scattered colonies of the Great Bell-flower (*Campanula grandis*), with its charming pale violet-blue flowers in profusion—a capital plant for margins of shrubberies or the mixed border. What can rival the beauty of the deciduous Yulan (*Magnolia conspicua*) in full flower, a leafless mass of white, with its great ivory-white flowers? Doubtless this glorious spring-flowering tree was not considered quite hardy at one period, for if the writer remembers aright it is planted against a wall in the historic gardens of the Royal Horticultural Society at Chiswick, in association with *Wistaria sinensis*—an appropriate place for this very fine climber, with its large bluish lilac racemes of beautiful flowers, bearing in mind that it was one of the many good introductions in this way by Robert Fortune, at that time one of the Horticultural Society's most successful collectors. Rich yellow Laburnums make yellow groups amongst sombre-foliaged trees and shrubs. Lilacs, too, were just bursting into beauty, altogether making a visit here a very enjoyable one.—Quo.

Mr. Robert Fenn, V.M.H.—We have pleasure in placing before our readers this week a portrait of this eminent Potato hybridist. It is said of the man who makes two blades of grass grow where only one grew before that he is a benefactor to his country and deserving of his country's honour. Such a man is the subject of our illustration, now a veteran of upwards of eighty-five summers. From earliest manhood he

has devoted his life's energy and labours to the service of his country in the attempt to benefit his fellows by the improvement of the staple food of the poor (next to that of bread), namely, the Potato. How well he has succeeded is a matter of history, and Fenn's name in this respect will be handed down to posterity as a benefactor of his race, horticulturally speaking. The council of the Royal Horticultural Society must have had a difficult and delicate task from time to time in selecting candidates worthy of the distinction of receiving the medal of honour in horticulture, commemorative of the illustrious life and memory of her late Majesty Queen Victoria. In this case we are sure their selection will meet with unanimous approval, and the recipient will receive the sincere congratulations of a host of friends. It is not only with the improvement of the Potato that Mr. Fenn's services have been closely associated, but also in the improvement of the edible Pea, many of our best varieties being due to his and Mrs. Fenn's labours in careful hybridisation. The wide diffusion and simplification of the art of bee keeping is due mainly to Mr. Fenn's labours many years ago, and the services he has rendered to our country cottager in teaching him how to manufacture wholesome and palatable wine from British-grown Grapes (out of doors) and other hardy fruit is not the least of his services to his fellow men. Mr. Fenn has contributed largely to the horticultural press, thereby stimulating many others to follow his example in the improvement of the Potato and many other vegetables. Born at Rushbrooke, near Bury St. Edmunds, two years after the Battle of Waterloo, the whole of his life has been spent in the service of horticulture, to which he is still devotedly attached. So wonderfully well preserved and vigorous is Mr. Fenn, that he is able to attend to the cultivation of the half-acre garden attached to his picturesque cottage at Sulhampstead, Berks, besides filling the important office of assistant-overseer to a large parish. Such is a brief and imperfect outline of the life of one of England's sons of the soil. Let us hope his example may be followed by many others, and may he live long to enjoy the honour conferred on him by the Royal Horticultural Society.

Three-flowered Tulip.—Mrs. L. Ingham Baker sends a photograph of Tulip Proserpine with the following note: "I shall be obliged if you will inform me whether three flowers on one Tulip stalk is not an uncommon sport in a Tulip, never having seen one before. It was a Tulip named Proserpine, and two others in the group had two flowers each." [Interesting, but we have seen three flowers on more than one occasion this spring.—ED.]

THE HAMMOCK UNDER THE OAKS.

ONE night last summer I sat a long time on the verandah in the moonlight when everyone else was asleep. And I noted how much more beautiful the grove and garden looked in that dimness than in the clear light of day. The day aspect of the place was like a fair woman, healthy and human, but at night she seemed to change places with a celestial being "from some happier star," some creature of ethereal and mysterious loveliness.

The moon was in her second quarter; the outlines of the bushes were vague and blended. The great Oaks looked quiet and solemn. Nothing stirred except myriads of fireflies and flitting bats, who live in the eaves of the verandah. And I began to plan in my mind a moon-walk. It is so pleasant and so easy to plant gardens in the mind.

The Japanese have a pastime which they call "moon-viewing." "The more important dwellings," says Mr. Conder in his book on "The Flowers of Japan and Art of Floral Arrangement," "have a special chamber with open galleries from which the sight of the moonlit landscape can be enjoyed. The floral arrange-

ment appropriate for the occasion occupies the recess of the chamber, and has no connexion with the outside prospect; but in the flower composition itself the idea of the moonlit landscape is expressed. A branch of a Pine tree is used, and between the principal and secondary lines of the composition a special branch is introduced, fancifully called the 'moon-shadow branch'; a gap is also formed between the foliage, bounded by the special branch called the 'dividing branch.'

"In the composition the idea is to suggest both the opening, through which the moon can be partially observed, and the dark branch which appears to cross its surface. To appreciate fully the analogy one must be familiar with the scenery of Japan, and have seen the irregular Pine trees standing out against the starry heavens."

Mr. Conder goes on to tell us that after this floral arrangement has been completed and duly admired, the guests turn their attention to the moon herself, in her silent wandering through the sky, and to the beauty of the foliage of the trees through which they observe her luminous course, and to the effects of light and shade in the scene spread out before their gaze. This is moon-viewing in far Japan. "And why should not I have a moon-walk?" I said to myself, and straightway proceeded to picture one in my mind. Indeed, I have one already, but it is susceptible of much improvement.

A moon-walk, I continued, should be elevated. If possible, it should be on the ridge of a hill, so as to command an extensive view of dale and upland, distant woods, and sleeping mountains. A part of it may wind through a little valley, having many open glades; but this valley should lead by a gradual ascent to a breezy, open plain.

All this I have in the little footpath that ascends the rising ground, and runs along the ridge of the hill through the upper part of the grove. This path leads to steps in the stone wall that bounds the pleasure grounds on the west, and is the beginning of the short cut to the village across pasture fields. From this rising ground the view on the one hand is of the grove, with its gentle undulations, and on the other it is an extended prospect of field and marsh and distant village, with its twinkling lights, its dim roofs and spires, all in the embrace of the protecting mountain chain.

When you reach the stone steps in the wall you see in front of you a quiet pasture, with grazing cattle, sloping down to the road, and beyond are the trees of the village graveyard, all softened in the tender light.

Little is needed to make complete the moon-walk except some groups of such plants as are best adapted to emphasise the purity of the light, as Yuccas do. These, indeed, true children of the moon as they are, are the best plants to use for this purpose.

Already there is a large group of Yuccas not more than a hundred steps from the house, where the path meanders over a little knoll. I shall plant more of them next autumn in scattered groups among some evergreens to the south of the moon-walk, which runs nearly due west. These will cost me nothing but the trouble of planting them, after due enrichment of the soil, for

they can all come from the old garden, the ancient enclosure at the back of the house, where they grow singly and in families on the grassy banks, their roots wandering lawlessly into the vegetable beds, and where they send up flower-stalks as thick as the arm of a child and as tall as the tallest man.

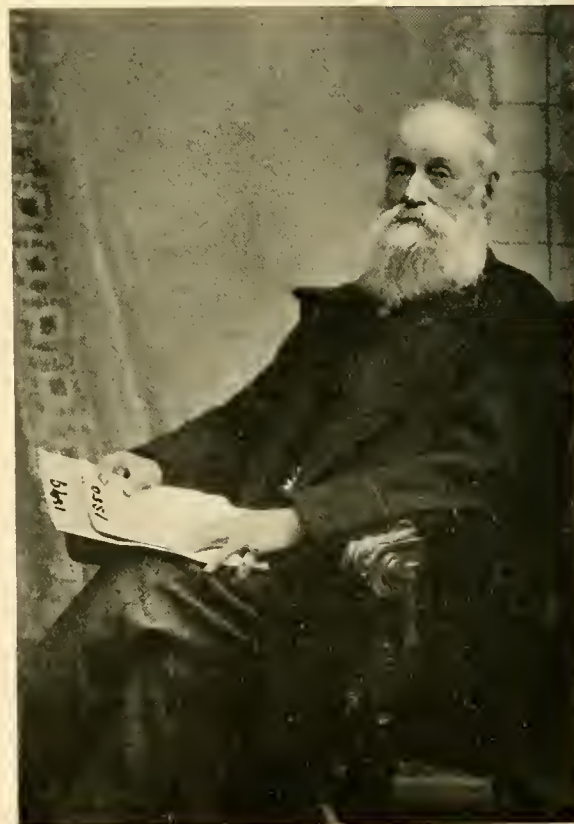
All large white flowers, and small ones, too, in groups and masses are effective in the moonlight; and some trees are transformed into rare charm of foliage and outline by the moon's witchery that one would pass by with scarce a glance at noonday. The Cut-leaved Birch, with its white stem, and the delicate, airy poise of its spray, is beautiful at any hour; but under the moon's influence the open character of its foliage gives room for much play of silvery light, and soft, not dense, shadow effects.

This little tree stands out prominently on the north of the moon-walk just before the Yuccas are reached. Not far from it is a Maidenhair tree, the *Salisburia adiantifolia* of the botanists, of odd, distorted shape, the effect of an accident, or, to speak plainly, of a cow, that in the tree's unguarded infancy took a fancy to taste its aspiring young leader.

Thus crippled, instead of growing upward, after the manner of its kind, in fastigate, tame symmetry, the Ginkgo stretches out long arms, almost at right angles to the trunk, which catch the moonlight in lustrous drifts, reflected almost as on water, on the smooth surface of its leaves.

Very fantastic, also, at this time is the appearance of the Weeping Hemlock, neighbour to the Ginkgo; and the Japanese Weeping Cherry, farther along the path, finds a new way to be Japanesque that would astonish one who only knew it in its ordinary daylight aspect.

In one place across the moon-walk a light pergola might be introduced to give variety,



MR. ROBERT FENN, V.M.H.

There are two large groups of evergreens about 300 feet apart bordering the path. A pergola might connect these groups. It should be covered with climbing Roses that have white flowers, such as Mme. Alfred Carrière and the white Musk Rose, with perhaps some Clematis, Jessamine, and Moon-flowers. A heavy pergola would here be out of place, for no dense shade is desirable in a moon-walk, or else a light arbour of Cedar boughs might be erected at the side of the walk, open to the view. The white-flowering variety of the Wistaria would be a beautiful climber to train over the supports of such an arbor.

Flowers which give forth their fragrance to the night, such as the night-blooming Stock, Daturas, and Evening Primroses, might border such a walk. Nicotianas should have places there, and there are others, which do not have white flowers, but which might be admitted for their fragrance.

In choosing flowers for their effect by moonlight white should be the first choice, and yellow the next. Pale yellow is almost luminous on a bright night, but red and blue are dull and indistinct.

In one place the path might wind through beds of Lily of the Valley, while Lavender, Rosemary, Thyme, Cistus, and Balm, planted thickly, should encroach on the walk, so that the feet of the passer-by might press out the aroma, which is always strongest when the plants are heavy with the dews of evening.

Tall white Foxgloves might be sentinelled by the side of the walk, backed by dense, shady bushes in a bay between shrubs, and some 6 feet or more off the path.

In such bays many Lilies should find a home. There might be groups of the Madonna Lily, the white Martagon, the noble Auratum, and light-coloured varieties of Speciosum Lilies.

Most delightful of all would be a clump of the stately Giant Lily, 8 feet in height, set well back in a dim recess, with a background of the foliage of young trees.

Such shrubs seem when they are in flower as if they had white foliage, such as many Spiræas, the Xanthoceras, Hybrid Deutzias, and Mock Oranges, which have a place along this walk. White Lilacs, such as Marie Legraye, might be admissible, and perhaps some fruit trees; some Almonds, Plums, and double-flowering Cherries might be admissible for their April loveliness. A choice place should be reserved for the Chionanthus, whose common name ought to be Bridal Veil.

Where the path approaches the house and more formal gardening is permissible might be set pots of the beautiful Belladonna Lily and white Crinums, large Orange trees and white Oleanders, with night-blooming Cereus to make memorable at least one perfect summer night.

I have long destined the end of this walk, where it approaches the stone steps over the wall, for a garden of Michaelmas Daisies; and these, with some white Chrysanthemums, which are never lovelier than by moonlight, would be a proper finish to the little journey.

At present the young trees by the old stone wall are wreathed with Clematis paniculata, which leaps from limb to limb, and depends in graceful festoons from the branches, forming a fairy-like drapery of lacework when it is in flower. Other vines, such as the white variety of Passion-flower, Honeysuckle, and white Jessamine, should be thrown over the trees and bushes along the way. It would not be difficult to make the moon-walk ideally beautiful.

It will be necessary to observe the effect of all these plants that I have mentioned, and

many more, such as Hydrangeas and Hibiscuses, by moonlight, in order to select the choicest for this choicest spot; and this will give a new interest to life.

That is what we have to thank our gardens for. No one grows tired of living who enjoys every step his garden takes throughout the season as it advances with leisurely pace from beauty to beauty; who in December begins to



TULIP PROSERPINE WITH THREE FLOWERS.

be impatient for the spring to come that he may judge of the effect of his autumn plantings; and who is always preparing for fresh delights throughout the months of the garden's rest.

It may be easy to overdo the plantations of the moon walk. But it must be remembered that a succession of bloom is to be desired there, and that many of the shrubs and little trees, after their flowering season is over, will be useful to give the necessary backing to the groups of herbaceous plants.

I am well aware that the ideal moon walk should lead to a clear sheet of swan-haunted water, with Lilies, and Arums, and beds of Reeds and Iris, and that, if possible, it should wind for some distance along the courses of a Mint and Fern-bordered stream, and through a ravine where the water foams down over mossy boulders in silvery cascades. But this is not possible in my planning, and it must be left for some more favoured mortal to enrich such a spot.

Where water adds its charm to a moonlit scene the beauty is doubled, and entrances eye and ear alike. I wonder if anyone ever yet planted the banks of a little lake with a view to its effect on clear moonlit nights? If not, I hope the pleasant task is reserved for some beauty-loving soul to accomplish, and

that it may be my privilege to admire the finished work. One of our poets has thus expressed her sense of the charm of the white Rose, Mme. Alfred Carrière, on a wonderful moonlit night in June:

THE WHITE ROSE.

I see, in the garden border,
A dream of beauty there,
For the white Rose blooms in order
That the moon may call her fair.

In the tangled garden lonely,
No other bloom is nigh;
The trellised Roses only,
And the white Rose in the sky.

And all the night is sleeping
Except the whippoorwill,
And the distant mountains keeping
A drowsy vigil still.

Come out to the garden, lover,
And drink the dreaming Rose,
And bid the moon discover
The secret that she knows.

Then turn to the lady tender,
And read in her eyes' love-light
The meaning they surrender
Of the Rose, and the Moon, and the Night.

DANSKE DANDRIDGE.

Rose Brake, Shepherdstown, West Virginia,
U.S.A.

THE FLOWER GARDEN.

SOME GOOD CARPET
BEDDING PLANTS.

WE have had many different styles of summer bedding, and in deference to vigorous onslaughts from several pens the *bond fide* carpet style has in a measure disappeared from the garden, but I am strongly of opinion that at its best it was far more attractive than a system now too much in vogue—*i.e.*, of indiscriminate and incongruous mixtures. To heap together in one large bed stove, greenhouse, and bedding plants, with a few annuals thrown in, and all so crowded that the proper development of each is quite impossible, is, I think, a mistake. For isolated beds on lawns, whether on a large or small scale, there is hardly a better plan than to have a few plants of fairly bold and vigorous habit in each bed in proportion to its size, and carpet with dwarf things that will harmonise well with the plants of taller growth.

The best carpet plant in the blue shades, apart from Violas, is a very dwarf Ageratum, barely 3 inches high, that is seldom found in gardens. It is a little late, but when once established becomes a dense mass of colour, lasting until the end of September, and forming an admirable carpet to scarlet and white Fuchsias and scarlet and pink Ivy-leaved Pelargoniums. It is so floriferous that cuttings are not always obtainable in quantity in autumn; in this case old plants may be lifted, kept dry through the winter, and started early in spring. Of Lobelias the best I have found are the new Mrs. Clibran and Barnard's Perpetual. For dwarfier isolated plants in the way of scarlet and pink Begonias or dwarf bronzed-leaved Cannas, there is nothing better than the variegated Mesembryanthemum, Mangelsii Pelargonium, or a good strain of white Phlox Drummondii, the two latter to be kept well pegged. E. BURRELL.

CARNATIONS IN THE GARDEN.

(Continued from page 313.)

CUTTINGS.

If one wishes to strike as cuttings any of the grass you have been unable to layer have a bed prepared with leaf-mould and road scrapings, or a preparation similar to that used when layering, only with more sand added. Trim off the lower leaves from the shoots and cut the stem off through a joint. Split, the stem slightly, and insert it 2 inches deep in the soil, which should be firmly pressed round

the cutting (a position should be chosen where they will not be exposed too much to the sun), and keep them well watered in dry weather. I have struck cuttings of the Raby Castle in the open in this way in April, and they have bloomed in the following August, but, as is the case with cuttings of all plants, they are easier to strike in a frame or pit, and are always uncertain; besides this, they do not form such good plants as layers.

EXHIBITING.

I think the way Carnations are usually exhibited leaves much to be desired. Why should there be so much difference between the way the flowers are arranged for competition at a show and in the rooms at home? Surely in both cases they should be set out so that their natural beauty of form and colour can be well seen.

I will not describe the methods of dressing the blooms, since I must say, with all due respects to opinions differing from my own, I have no sympathy with the system. Undesirable petals are removed, and the rest set out on a flat card, like slates on a roof. Surely it is possible to arrange the flowers in such a way that they can easily be compared and judged, and I do think that all Carnations, especially the border varieties, should be exhibited with their stems cut long, and with their own foliage.

CLASSIFICATION OF FLOWERS.

Selfs.—These have one colour only.

Flakes are white ground flowers with streaks of another colour along the petals.

Bizarres have two colours running lengthwise on a white ground.

Picotees have the colours on the edge of the petals, some with heavy, some medium, and others light edges, on a white or yellow ground.

Fancies include all those which have coloured markings on a coloured ground, except the yellow ground Picotees.

MARGUERITE CARNATIONS.

These are effective in the border, and should be treated as annuals; they are of little use a second year. The seed should be sown in the way recommended for sowing border Carnations, and the plants will flower the same season from August until winter. The flowers are of varying colours, some being flaked and striped, and are very pretty, but not so substantial as the ordinary Carnation, and there is one thing greatly against them, they hardly last a day in water.

DISEASES AND PESTS.

I will now mention some of the diseases and pests which the Carnation grower has to contend with. First of all I will take wireworms. These are too well known to describe. They are very fond of the roots and lower parts of the stems of Carnations, but I have noticed they generally attack the weakly or diseased plants in preference to the stronger ones. If there are many in the ground intended to be used for Carnations give a good dressing with gas lime, if not too near the house, as it has a very disagreeable smell. Allow this to remain on the ground some time, and then dig it in. Never put the plants out for, say, three months after spreading gas lime on the ground. Soot and wood ashes help to make the plants distasteful to wireworms, and they may be caught and destroyed by burying small pieces of Potato or other suitable vegetable just beneath the surface with sticks through them, so that they can easily be found and examined, and any wireworms that may be feeding on them destroyed. Another remedy which I believe to be effectual, though I have not tried it myself, is rapecake broken up

into small pieces and scattered over the soil. Of this the wireworms are very fond, and they eat so greedily of it that they burst.

Slugs, especially in damp soils, are very troublesome. A dressing of soot will keep them away from the tops of the plants, but the young ones, which are generally found below the surface, are more difficult to deal with. I find that boards, slates, or old boxes laid among the plants during winter, with Cabbage leaves, pieces of old Carnation plants, or any other suitable bait placed under them, form good traps, as the slugs will be attracted to them to feed, and will remain beneath their shelter during the daytime, when they can be easily found and destroyed. I have caught as many as fifteen at a time under one of these traps baited with the foliage of some old Carnations.

The Carnation maggot is the grub of the Carnation fly; it is of a yellowish white colour, about three-eighths of an inch long, and rather difficult to find. It feeds on the centre of the stem, and should be searched for carefully and destroyed in the way previously described.

Sparrows are a great nuisance in early spring, and do a good deal of harm by pecking off the young foliage. If, however, the plants have been well dusted over with soot after rain they will not touch them.

Hares and rabbits are during the winter and early spring the most destructive of all, and must be kept out with wire netting. Soot will save the plants considerably, but cannot be absolutely relied on. A single hare or rabbit will clear a bed in hard weather in a night or two, and they are sure to begin on most treasured plants.

Earwigs and ants are annoying during the flowering season, spoiling many a good bloom by eating the petals off near the seed-pod. Earwigs should be trapped previously with flower-pots filled with hay, inverted and placed on sticks among the plants. These should be searched frequently and the earwigs destroyed. I do not care to destroy ants, but this can be done by pouring boiling water into their nests; they do some good by destroying the aphides.

Spot.—This is a disease which attacks the foliage of the plants generally during winter, in damp situations, in cold heavy soils, or wet foggy weather. It is also caused by overcrowding. The only thing to be done is to cut off and burn all the affected leaves, and trust to their growing out of it in the spring.

Gout.—If the plants show signs of gout—which is the swelling and bursting of the stem near the ground—pull up and burn them. If it attacks a plant of a variety of which you have but few, you may save some of the growths and make cuttings of them if healthy.

Thrips.—Very troublesome when the blooms are opening, doing much damage by eating off the petals. Syringe the buds well before they open.

Cuckoo spit, or Spittle fly.—This is the well-known little green grub which surrounds itself with froth, and is easily found and destroyed.

Green fly is sometimes troublesome in dry weather. It should be well syringed off, and a little tobacco powder dusted over the plants. Do not crush the fly, as it contains a juice very injurious to the plants.

I think I have now enumerated most of the natural enemies of the Carnations, at any rate those which are most usually met with, but the plants are always liable to casualties of various sorts, and I will instance a narrow escape some beds of seedlings of mine had the year before last. They were visited during the night by three young heifers which had broken through the garden hedge, and, strange to say,

though they walked through several beds which were in full bloom, the only traces I could find of their presence were their footprints in the soft soil, and of these there were plenty. Not a plant had been broken. What would have been the result if they had thought fit to rest awhile among the remaining blooms can easily be imagined; perhaps the wire stakes were not to their taste.

Having now completed my survey of the yearly round of work among the plants, I will conclude these articles by expressing a hope that the few hints I have given may be of some service to readers of THE GARDEN, and by wishing to all who will take the necessary care in the cultivation of these plants, which so well repay a little trouble, the success which seldom fails to attend the efforts of those who study the needs of their favourite flowers. I must say that the pleasure of growing Carnations has always well repaid me for the time and care I have devoted to them.

Bronwylyfa, St. Asaph. W. A. WATTS.

TREES AND SHRUBS.

NEW SPECIES AND VARIETIES OF THE LAST TEN YEARS.

WITHIN the last ten years the many additions that have been made to our hardy trees and shrubs may be briefly divided into two groups—(1) true species and varieties introduced from their natural habitats, and (2) those which have been obtained in cultivation either by hybridisation or as sports from existing forms.

Towards the first-named group China and Japan have contributed the larger share, and in all probability this will still continue, for we have as yet seen few of the trees and shrubs sent home by Mr. Wilson, while collecting in Western China for Messrs. Veitch, who have again sent him to that far-away region. The propagating houses at Coombe Wood could, however, probably tell a different tale, and in due course we shall doubtless make the acquaintance of some of their contents. The fact that the only two first-class certificates awarded by the Royal Horticultural Society to trees and shrubs last year were obtained by Messrs. Veitch's introductions from that region—viz., *Buddleia variabilis veitchiana* and *Libocedrus macrolepis*—is quite sufficient to arouse hopes of other good things to follow. While many of the trees and shrubs from Western China have proved to be hardy, some of them may perhaps be rather tender. Nearly all those from Japan are fitted for our climate.

The portion of the second group that we owe to the skill of the hybridist contains many beautiful forms, particularly among the *Deutzias*, *Lilacs*, *Philadelphus*, and *Weigelas*. With the production of these the name of M. Lemoine of Nancy is associated, for he has given us many valuable flowering shrubs, which will at least hold their own for years to come. Several other hybridists have also contributed their share, but in the production of the best flowering shrubs for English gardens the first place must undoubtedly be given to M. Lemoine.

In enumerating the trees and shrubs of the last ten years, it is not easy to draw a hard and fast line, for some may be known to botanists for years prior to their introduction, and then when this takes place the propagation may occupy some considerable time, hence the actual year cannot be accurately determined. In the following list I have, however, as far as possible, endeavoured to confine myself to those of the last decade, but in such a difficult matter any small errors will, I am sure, be pardoned. At the same time, it does not aim at being a complete list of all subjects introduced within the stated time, but rather of those that are proved to be good, or, at all events, full of promise.

ACER.—Most of the Japanese Acers that we are familiar with are forms either of the extremely variable *Acer palmatum* or polymorphum, and the nearly allied *Acer japonicum*, but there are some of the larger ones which are ornamental. One of the most vigorous is *A. Miyabei*, a good-sized tree somewhat in the way of the European *A. platanoides*. This is altogether a promising sort. *Acer distylum* is a handsome tree with ovate leaves richly coloured in autumn. Of the Negundo section, *A. Nikoense*, which is widely distributed in Japan, is a welcome addition to the genus, and one unsurpassed for the brilliancy of its autumn colouring. In Western China many new forms have been discovered of late years, and the best of them will doubtless in time make their way into gardens.

AKERIA LOBATA.—This differs from the older species in the leaflets being three instead of five, in being quite deciduous, while *A. quinata* is evergreen or almost so, and in the female flowers being larger. *A. lobata* grows rapidly.

BERBERIS DICTYOPHYLLA.—A pretty, deciduous species from Yunnan, which first flowered at Kew a couple of years ago. It belongs to the deciduous-leaved section, is of a graceful habit from the arching character of its branches, and produces bright yellow flowers in May. *B. pruinosa* is a large bold-growing species, sub-evergreen in character. The flowers of this are of a citron yellow, and begin to open at the end of April. It also comes from Yunnan.

BETULA MAXIMOWICZI.—A Japanese species and one of the most distinct of all the Birch family. In Japan it forms a large tree 80 feet to 90 feet high, and 2 feet to 3 feet in diameter, with yellowish bark. The prominent feature of this species is the size of the leaves, which greatly exceed those of any other Birch, being in the case of vigorous examples as much as 7 inches long and 5 inches wide. It is thoroughly hardy and of very free growth.

BUDDLEIA VARIABILIS.—A decided acquisition to our hardy shrubs, seeds of which were first sent to Europe by M. Pabbé Soulié from Western China in 1893. It forms a free-growing shrub, from 5 feet to 8 feet high, furnished with lanceolate leaves, dark green above, and clothed on the undersides with a whitish felt-like substance. The flowers, which are borne in elongated panicles, vary from pink to lilac, with an orange throat. The variety *veitchiana* represents a very superior form, with rich lilac-coloured blossoms.

CARPINUS CORDATA.—This member of the Hornbeam family is, like *Betula Maximowiczi*, remarkable for the size of its leaves, which are thin in texture, heart shaped, 6 inches to 8 inches long, and nearly as much in width. It forms a tree reaching the height of 40 feet.

CERCIDOPHYLLUM JAPONICUM.—This is said by Professor Sargent to be one of the most interesting deciduous trees of Japan, which more than any other of its inhabitants gives to the forests of Yezo their peculiar appearance and character. In moist

situations, and in a deep rich soil, the *Cercidophyllum* often grows to a height of 100 feet, and develops clusters of stems 8 feet to 10 feet through. Sometimes it forms a single trunk 3 feet or 4 feet in diameter, and unbranched for 50 feet above the ground, but more usually it sends up a number of stems, which are united together for several feet into a stout trunk, and then gradually diverge. In this country *Cercidophyllum japonicum* forms a freely-branched specimen, with ruddy-tinted unfolding leaves, which in general appearance suggest those of the Judas Tree (*Cercis Siliquastrum*).

CLETHRA CANESCENS.—This may have been introduced more than ten years ago, but in such a small way that it can be regarded as an introduction of the last decade. It somewhat resembles the White Alders or Pepper Bushes of the United States, but is altogether of larger growth, indeed, in Japan it forms a tree 25 feet in height. Like the other hardy species, the flowers are white, and borne at the end of the summer and in early autumn.

CORNUS MACROPHYLLA.—By far the most imposing of all the Dogwood family, this forms in Japan

spring gales, and therefore are less liable to be damaged during the treacherous weather often experienced in April. H. T.

NOTABLE GARDENS.

CLARE LAWN, EAST SHEEN.

THE gardens at Clare Lawn, the residence of Sir Frederick Wigan, Bart., are notable chiefly on account of the collection of Orchids they contain. This collection is of interest for several reasons. It is extensive and representative both in species and hybrids of the better known genera, as well as of some obscure Orchids and others of notoriously difficult culture, while there is an added interest in the fact that they are grown within a few miles of Charing Cross. The Clare Lawn Orchids also afford another instance of the astonishing results which have attended the

USE OF LEAF-SOIL,

instead of the time-honoured mixture of peat and sphagnum moss as a rooting medium. Mr. Young, who has superintended the culture of Sir Frederick Wigan's Orchids for many years, pointed out to us time after time plants which have benefited remarkably by being transferred from the usual compost to that which is called leaf-soil. With respect to Orchid culture, however, leaf-soil is a very misleading term, for really leaf-soil only forms one-third of the mixture, the remainder consisting of peat, sphagnum moss, loam (in some cases), broken charcoal, and sand. It may be worth while to mention a few instances in which the new rooting medium quickly brought about good results. Most striking proof, perhaps, was given by a number of plants of *Cattleya Mendelii*, *C. Mossiae*, and others. Half the plants were growing in peat and sphagnum and half in the so-called leaf-soil, and the difference in appearance between the two lots was remarkable. The leaves of those growing in leaf-soil had that dark green colour and firmness which is characteristic of good health, while the others had limp yellow foliage, which just as surely indicates indifferent health. Some plants of *Lælio-Cattleya highburiensis* also offered conclusive evidence upon this subject. In 1899 they were first potted in leaf-soil, which consisted solely of

DECAYED BEECH LEAVES,

and even in that rude material the plants visibly improved in vigour. Subsequently the newer leaf-soil compost was used. The pseudo-bulbs of 1899 still remain in the centre of the plants, so that one is able to compare them with those since formed. The comparison is all in favour of the latter, which are two or three times as large as the early ones, and from several of the pseudo-bulbs formed last year two growths are now proceeding.

Perhaps still more astonishing is the case of *Lælio-Cattleya Decia*, which the first year after being potted in leaf-soil produced no less than



RHODODENDRON ROSA MUNDI IN FLOWER AT KEW (APRIL). (The plants are from 18 inches to 2 feet high.)

a tree 50 feet in height, with branches arranged in distinct tiers, and when studded with flattened clusters of white flowers it is very conspicuous. In this country it flowers freely when small. It is also known as *Cornus brachypoda*, and a variegated leaved variety of it is in cultivation. T.

(To be continued.)

RHODODENDRON ROSA MUNDI.

Few dwarf hardy shrubs produce such a profusion of flowers in spring as the *Rhododendron* shown in the accompanying illustration. The photograph, which was taken in April, shows a bed filled with *Rhododendron Rosa Mundi* in the Royal Gardens, Kew. The plants are not more than 18 inches to 24 inches high, and, as may be seen, were blooming splendidly. Such a bed is a pleasing change from *Narcissi*, *Hyacinths*, and other spring-flowering bulbous plants, beautiful though these may be. Owing to the dwarf compact habit of the plants the trusses of bloom are not much exposed to the

SEVEN GROWTHS FROM TWO PSEUDO-BULBS, and this without cutting the rhizome. Again, a plant of *Cattleya Mossiæ* that in 1899 had three small pseudo-bulbs only now fills a large pot, and last year bore twenty-six flowers; this development Mr. Young attributes to its having been potted in leaf-soil. *Laelia lobata*, notoriously difficult to grow, has also proved a great success in leaf-soil, while in peat and sphagnum it thrives indifferently. The concolor section of *Cypripediums*, which includes *C. niveum*, *C. bellatulum*, *C. b. album*, *C. Godfreyæ*, *C. G. leucochilum*, and *C. concolor* are unusually successful at Clare Lawn. These are among the most beautiful of the *Cypripediums*, and at the same time the most difficult to cultivate. Mr. Young's success with them is well known. At a recent meeting of the Royal Horticultural Society a small group of them was much admired.

They are grown in the leaf-soil mixture, which appears to suit them well. A plant of

C. BELLATULUM potted in



ANDROSACE GLACIALIS. (Natural size.)

leaf-soil some two years ago has not since been disturbed, and on our recent visit to Clare Lawn carried three good flowers. Among *Phalaenopsis* in bloom were *P. luddemanniana*, the flowers heavily marked with bars of purple on a white ground; *P. sanderiana*, purple bluish; *P. Mannii*, *P. fuscata*, and *P. grandiflora*. *Cymbidium*s appear to be amid very congenial surroundings here; there are several remarkably fine plants, of *C. lowianum* particularly. The best bore no less than eleven racemes. But even better results have been obtained in previous years; in 1898 one plant produced 447 flowers in twenty-seven racemes, the finest of these carrying no less than thirty-six flowers. Other *Orchids* in bloom were *Erides Fieldingii*, several forms of *Laelia purpurata*, *Scuticaria Hadweni*, and *Celogyne pandurata*, an exquisitely beautiful *Orchid*, marked with black upon rich green, a most effective contrast.

THE MILTONIAS,

although they had been in flower for some months, were not yet over. *M. chelsiensis* and *M. Alfred*,

with almost white lip and rich rose sepals and petals (both varieties of *M. vexillaria*), *M. blewana* Our Queen, with chocolate-red blotch on the disc of the lip, and others were still attractive. All the *Miltonias* are now potted in the leaf-soil compost, and are growing much better than formerly. Among *Odontoglossums* in bloom were several good and valuable forms of *O. crispum*, *O. Rolfeæ*, *O. ruckerianum*, &c., and the good effect of using leaf-soil instead of peat and sphagnum was perhaps most noticeable here. The collection of *Masdevallias* is unusually representative, and among the many curious flowers we saw none was more interesting than *M. muscosa*, whose blooms have a sensitive lip: the least touch causes this to rise and almost hide itself within the petals. Last to mention shall be

EPIDENDRUM (NANODES) MEDUSÆ,

a very slow-growing *Orchid* of difficult culture. It has fleshy, drooping stems, which when about three years old produce somewhat remarkable flowers from their apices. They have a large fringed lip, and to all appearances are of a dull, ruby-red colour. If, however, the flowers are held up to the light the dull, ruby-red is transformed into the most brilliant crimson and purple. The plants grow best in baskets, and these should be so placed that the flowers have daylight above them. When looked down upon their unique beauty is not apparent.

THE ANDROSACES.

GROUP II.

A. ALPINA (Lam.) syns. *A. pubescens* (DC.), *A. pennina* (Gaud.), *Aretia glacialis* (Mut.), *A. pubescens* (Lois.).—Limestone Alps, between 2,000 and 3,000 metres, and the Pyrenees, in the fissures of rocks. It forms a small, close tuft, with hairy foliage, stems numerous and closely packed, making a thick cushion-like turf; leaves small, ovate-lanceolate, obtuse, imbricated, and closely pressed upon one another, the upper ones forming a persistent rosette, which turns red in autumn, while the older ones remain attached to the stem in a dry state, forming cylinders. Flowers nearly sessile, solitary, white. May and June (July and August). It requires rockwork or a wall or rock fissure, exposure either to east or west or even to the north; scarcely any soil; only some *débris* of limestone and sand, with perhaps a little peat, but very little. A position in a vertical fissure of a wall is what suits it best.

A. Charpentieri (Heer) syn. *Aretia brevis* (Heg.).—From the bare and arid summits of the granitic mountains that dominate the Lake of Como in Lombardy, between 1,200 and 2,500 metres

and on the Camoglié in Switzerland.*

It is a densely tufted plant, forming a turf of closely compressed herbage. The leaves are obtuse, pubescent, small, ovate-elliptical, short, in tight rosettes; the flowers are solitary on pedicels twice the length of the leaves; corollas relatively large, bright rosy carmine, petals emarginate. March and April (June and July). Rockwork, in the cracks of

* A pretty story is told of this plant, which was discovered by Heer in 1833. Muret, the botanist, who made a special study of the Swiss flora, could not help regretting that this beautiful plant did not grow in Swiss territory. It grew just a stone's throw beyond the limit of the Confederation at the top of the Monte Albano. He transplanted a certain quantity on to the Swiss side in order that it might fall within the Swiss flora. Since then the species has been found in considerable quantity on the Camoglié, near Bellinzona, well within Swiss territory, so that the worthy botanist's innocent subterfuge was not needed in order to establish the plant as a Swiss species.

a non-calcareous rock or wall, in half sun. Increased by seed.

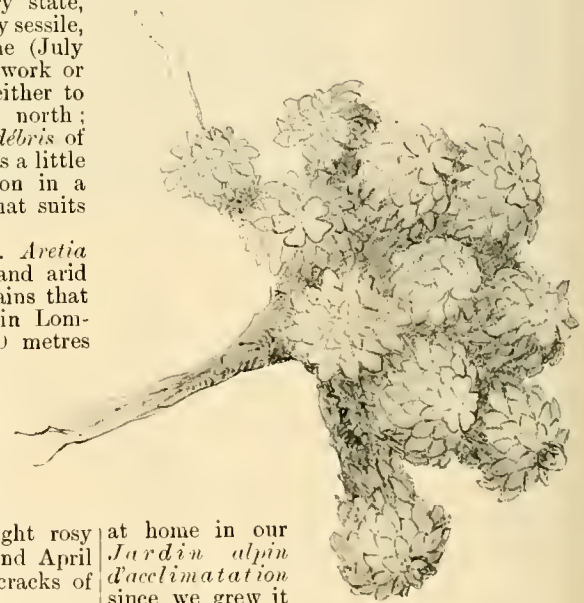
A. ciliata (DC.) syn. *A. alpina* (Lapeyr.).—From the high summits of the Pyrenees in rocky *débris*. A caespitose plant, sometimes forming large turfy tufts composed of a greater or lesser number of rosettes of leaves of a dull



PORTION OF A PLANT OF ANDROSACE CHARPENTIERI.

deep green colour, just a little larger than those of *alpina*; they are imbricated, ovate-lanceolate, glabrous, ciliated; pedicels the same length as the leaves; calyx pubescent; flowers fairly large, sessile, of a strong carmine or pure white colour. April and May (July and August). Rockwork, in a niche of small stones and gravel, either granitic or calcareous, or in the joints of a wall; in half sun. Increased by cuttings and seed.

A. cylindrica (DC.) syns. *A. frutescens* (Lap.), *Aretia cylindrica* (Lois.).—From calcareous rocks in the Oule du Marboré (Hautes Pyrenees). Rare. A caespitose plant forming a small, dense, dwarf tuft; leaves imbricated and extremely closely packed; elliptical, linear, more or less obtuse, studded with stellate hairs or with rare hairs; flowers white, small, solitary, borne on a long, slender peduncle studded with hooked hairs. April and May (July and August). This plant has made itself



ANDROSACE HAUSMANNII. (Natural size.)

at home in our *Jardin alpin* *d'acclimatation* since we grew it in an absolutely perpendicular crack in limestone rock. The removal of the garden to Floraire, where we have grand rocks fully

exposed to the sun, will enable us to grow it well. Those that we cultivate to send away are grown in fine sand without any nourishing soil and kept well watered as soon as germination begins. It is increased by seed.

A. glacialis (Hoppe), syns. *A. pennina* (Gaud.), *A. alpina* (DC.), *A. pedunculata* (Clairv.), *Arctia alpina* (Wulf.), *A. glacialis* (Reich).—From the high granitic Alps, between 2,000 and 3,000 metres, in the fissures of rocks and the heaps of rocky *débris*, and on the edges of glacial moraines. The plant is caespitose and turf-like, forming dense, close tufts, like cushions, from the innumerable shoots tightly packed together, that bear small rosettes of leaves at their extremities. They are ciliated, pubescent, ovate-lanceolate, and have numerous solitary, sessile flowers of a more or less bright rose colour, sometimes a pure white. March and April (July and August). Rockwork, in a dry, half-sunny niche. This should be filled at the bottom with small stones or non-calcareous gravel, with a poor soil of peat with half its bulk of granitic sand (and for dry climates one-third of chopped and sifted sphagnum). It is increased by seed only. It is one of the most brilliant and remarkable of the high mountain plants, grouping and contrasting charmingly with *Ertrichium nanum*, *Saxifraga Seguieri*, and *S. oppositifolia*, and forming pictures of such beauty that they can never be forgotten by those who have seen them. The tuft is sometimes so completely covered by the blossom that the foliage cannot be seen, and that it forms, as it were, a brilliant brush stroke in a wonderful picture.

A. Hausmanni (Leyb.).—From the calcareous Alps of the Tyrol (Dolomites), and of Styria, between 2,000 feet and 2,700 feet. A caespitose plant with foliage densely packed in rosettes; the leaves studded with stellate hairs, rather near to *helvetica*. Flowers rose colored, on pedicels (sessile in *helvetica*). Culture as for *helvetica*.

H. CORREVOX.

(To be continued.)

COLLETIA CRUCIATA.

This interesting Chilean shrub is not generally met with in gardens, but is hardier than its habitat would suggest, being rarely or never injured by the effects of the winter frost in the south-west. It was introduced nearly eighty years ago, and was also raised from seed of *Colletia horrida* or *spinosa*, a species bearing long awl-shaped thorns, at Bicton, South Devon, in 1849; but the laterally-compressed spines were so dissimilar to those of *C. horrida* that for a considerable period it was thought that some mistake had been made, and that the seeds sown did not belong to *C. horrida*, but to another species. Eventually, however, it was proved that Mr. Barnes, the head gardener at Bicton, was correct in his assertion, spines of the two forms, now known as *Colletia cruciata* and *C. horrida*, being found on the same branch. At the time that *C. cruciata* appeared at Bicton it was named *C. bictonensis* by Dr. Lindley, who failed to discover its identity with *C. cruciata*, which was introduced in 1824, one year after the introduction of *C. horrida*. On January 17 a correspondent writing to THE GARDEN on *Colletia cruciata* stated that the flowers did not add much to the effect of the shrub, and this assertion has been from time to time made by other writers in these pages. As a rule it may be allowed that the small, white, urn-shaped flowers, which are wax-like in texture and very lasting, remaining fresh for a

lengthened period, do not render the shrub a conspicuous object, since they are rarely borne in sufficient quantity; but in instances like the example from which the spray here illustrated was cut, the case is very different, the effect produced being distinctly beautiful and striking. The specimen in question is growing in a wide border at Kingswear, South Devon, and is about 8 feet in height, its diameter, which has since been reduced, being almost identical two years ago. In November and December this shrub was absolutely covered with flowers, and formed a charming picture at a time when scarcely anything was in bloom in the open. The spray figured, which was photographed during the first week of December, well represents the condition of the entire bush.

S. W. F.

NOTES FROM SWANSWICK.

MERTENSIA VIRGINICA is a Mecca for all the largest slugs about, and the vexation of seeing its delicate crisp leaves disappear, despite a zinc collar and all other possible precautions, almost makes me resolve to devote a large portion of my precious time—never more precious than when torrential warm rains are bringing up a perfectly tropic jungle of weeds—to the compilation of an encyclopaedia of the plants the slimy race dislikes, or, at any rate, neglect. *Viola pedata* and the various *Epimediums* are about the only rockery plants I have that are quite exempt from persecution, even in this garden of comparative freedom from vermin. *Polygonum vacciniifolium*, too, is left severely alone, and no doubt its little hard leaves, like those of the *Helianthemums*, are sapless and untempting. But the unfortunate alpine *Phloxes* have to bear the fiercest brunt of onslaught. Their first shoots are all invariably eaten off, a fact that adds considerably to the difficulty I have always experienced in establishing them when small tufts were in question. Some large "turfs" of mossy *Phloxes* I once had from Newry answered excellently, and became beautiful almost immediately without giving the least trouble.

We were warned by most seedsmen that germination would not be likely in all cases to occur satisfactorily this season, and certainly I have never known my small sowings so eccentric before. Tufts came up in the corners of boxes six or eight weeks ago, the remainder of the seeds either remaining dormant alto-

gether, or starting into life now, in some boxes thickly, in others with reluctance. *Romneya Coulteri* sown in March has not germinated so far; *Gentians*, of course, one expects to await, perhaps for a year, and so with some other alpine, but in the proper order of things the annual *Rose* should show a little more alacrity, nor is it agreeable to find one corner tuft the only occupants of a two months' sown pan of border *Pinks*.

Delphiniums and the invariably responsive *Pansy* and *Viola* are really the only thoroughly satisfactory among the earlier sowings, and perhaps this is another lesson in the futility of being in too great a hurry. At all events, I have recorded a resolution that no



FLOWERING STEM OF COLLETIA CRUCIATA.

hot-bed shall be started here next year before the second week in April at the earliest.

In this strong rich loam or clay Crown Imperials planted last year have done much better than those mentioned by a correspondent who asks for the experience of others. I was rather surprised to see the statement made by Mr. Goodwin that these would grow practically anywhere, because I had always been under the impression that they were rather difficult to establish, but no doubt he is right. I have, however, failed with them most utterly and completely on three separate occasions when I tried them in that dark sourish soil that so many town and suburb gardens have. Once they came up, turned yellow at 6 inches

high, and vanished never to return. Once they were dug up a mass of rotteness when they ought to have been blooming; and the third time they disappeared entirely and promptly, without getting anywhere near the surface. Last spring, after an interval of several years, during which I thought it useless to attempt them in our old garden, we put in a clump of a dozen (mixed colours) from Holland, and the result was fifteen lusty stems and twelve heads of very fine bloom, all exactly alike and red. The three remaining non-flowering stems must have come from offshoots very rapidly produced, because the bulbs were without offset when they were planted—on their sides and filled and surrounded with coarse sand—last August. One often hears of the unpleasant smell of these plants, but although I rather pride myself on well-developed nasal powers, I have never been able to detect anything unpleasant about them, except in the case of the rotten ones.

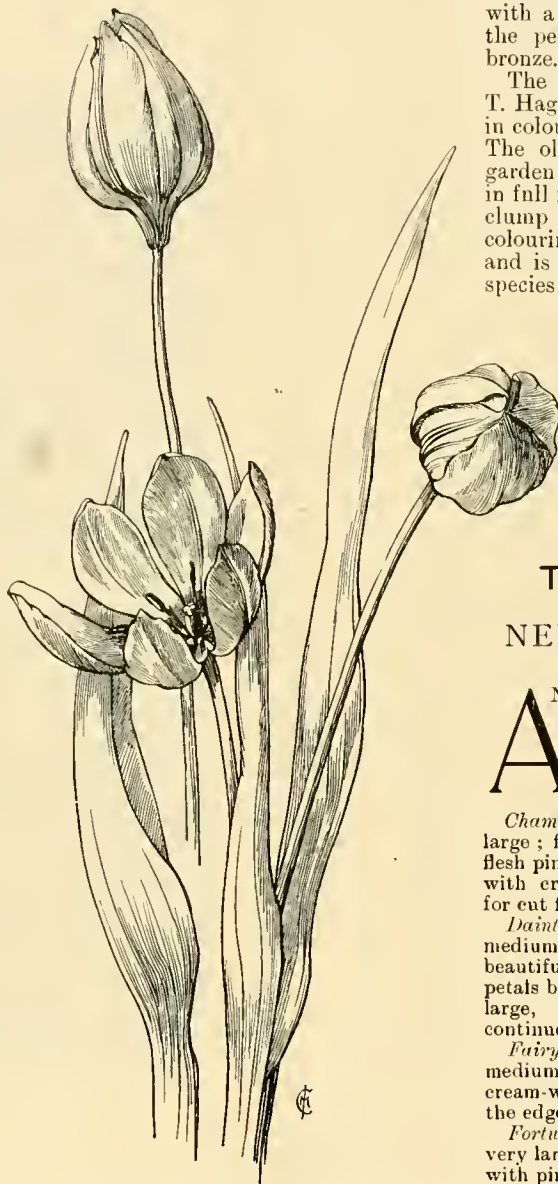
Among the *Fritillarias* (*F. Meleagris*) in the grass is one that is quite distinct. It is growing with the ordinary chequered dull pink form and a few whites, and shows up most clearly; for while their square shouldered petals are, of course, quite straight down, its segments are daintily recurved, while its colour, a faint flesh pink, without chequering or marking, also differentiates it. It is a very pretty thing indeed, and I should be very glad to know, if anyone can tell me, whether it belongs to a variety owing a name or whether it is likely to be a sport.

If slugs are clever at finding our choicest plants even when unlabelled, as some garden writer has justly remarked, they share their aptitude with puppies. I have a pretty puppy "going without reserve" on account of the discrimination with which it dumps its plump person about the rockeries. Three pounds of Pomeranian solidly deposited on a thriving little colony of *Soldanella*, and then moved abruptly on to *Hutchinsia alpina* in full flower, and subsequently rolling violently among *Primula Sieboldi* with a companion, is a sight to make a strong man weep for surprise at the power for evil so small a thing can exert in favourable conditions, the tall late Tulips in particular. I should like to know whether *Romneya Coulteri* is accounted a difficult thing to raise from seed. So far I have failed to get seed to germinate. It takes no notice of a hot-bed. *Eremurus robustus* has also shown itself obstinate, but one can imagine that a slowly maturing plant like this might be long about its beginning. The Poppyworts, however, generally spring up so quickly that I hoped for less procrastination on the part of the *Romneya*.

Lovers of variety ought to enjoy *Primula Sieboldi*. I believe I have as many shades of colour as plants among mine, and the size of the flowers varies wonderfully, also the amount of fringing. The perpetual rain suits these plants, and the mossy *Saxifrages* are spreading faster than would seem possible, seeing that, however long you sit by one, no increase is perceptible. I cannot keep *Dictamnus Fraxinella*, but the white form grows and does splendidly with me. It and *Callirhoë involucrata* are two useful things for raising from seedlings, but although I carefully saved seeds of the latter—which grows well in a wall, by the way, and looks extremely showy with its gay mallow-like blossoms hanging down against the stones—last autumn, and sowed them immediately, they are among the defaulters of this disappointing spring.

The book "Alpine Flora," lately reviewed in THE GARDEN, seems to me to be a most useful

one for beginners in alpine gardening, except that some of the pictures present, surely, very remarkably fine forms of familiar things—*vide*, for example, *Hutchinsia alpina* as there depicted. I may have a very poor *Hutchinsia*, but anyway mine is a tiny thing, not half the size of the figured plant. The specific use of the book to the home gardener, apart from its striking value to the tourist, lies in its depicting some things that numbers of people only know from catalogue descriptions, and will not buy unless they see them, and are attracted, as



TULIPA HAGERI (HELD.) VAR. NITENS (HORT. WALLACE). (Reduced.)

in many cases they cannot fail to be. As I suppose is the way of every garden-lover with a new book, I have been through "Alpine Flora" very carefully in order to make a note of anything desirable mentioned there that is not already in my possession. Perhaps the best thing about gardening as a life hobby is, that it can be as happily pursued away from the garden as in it, on occasion when absence is made necessary by the weather (the usual factor) or otherwise.

M. L. W.

AN ARTIST'S NOTE-BOOK.

TULIPA HAGERI (HELD.) VAR.
NITENS (HORT. WALLACE).

HAILING from the mountains of Asia Minor, this little Tulip should prove of considerable value as a garden plant, particularly for the rock garden and the warm border. In growth it most resembles *T. sylvestris*, the native species. The flowers are 3 inches across, borne singly, and coloured a rich flame-like orange-red; the base is furnished with a vivid black spot, and the exterior of the petals is heavily flushed with grey and bronze.

The plant is greatly superior to Heldreich's *T. Hageri* by reason of its greater refinement in colouring and the clearness of its basal disc. The old *T. Hageri* has but few claims to garden culture in comparison. A small colony in full flower of this new variety resembles a clump of *Anemone fulgens*, so vivid is its colouring. It thrives in any soil and situation, and is quite as accommodating as the native species as regards cultivation.

It received the Royal Horticultural Society's award of merit when shown by Messrs. Wallace and Co. of Colchester on May 5, and one can recommend it as a very attractive Tulip of medium size. Fortunately, it is plentiful in its native home, and is not likely to rank among the most expensive.

GEORGE B. MALLETT.

THE ROSE GARDEN.

NEW ROSES FOR 1903.

TEA ROSES.

ANGELA WELTER (*N. Welter*).—Very vigorous; long, erect bud; large full flower of the Kaiserin Augusta Victoria shape, and of a pale creamy colour, slightly tinted with yellow within; free flowering and fragrant.

Chameleon (*Paul and Son*).—Vigorous; bud very large; flower large, full, and well opened; colour flesh pink, variable, the edges of the petals tinged with crimson; a magnificent variety for beds or for cut flowers.

Dainty (*Paul and Son*).—Vigorous; flower medium size, very full, and well opened; colour a beautiful primrose-yellow, the centre egg-yellow, petals bordered with carmine; flowers produced in large, elegant tufts; a very hardy variety, continues in flower until the frost.

Fairy Queen (*Paul and Son*).—Vigorous; flower medium size; colour chamois-yellow, passing into cream-white, tinted with cherry-red, especially at the edges of petals; an excellent variety for beds.

Fortuna (*Paul and Son*).—Vigorous; flower very large and full; colour apricot-yellow, shaded with pink, edges of petals tinted with red; very free.

Herzogin Marie von Coburg-Golha (*N. Welter*).—Very vigorous and bushy; flower very large and full; colour pure white, passing to yellowish white, bordered with pink; free and very fragrant.

Ivory (*American Rose Company, 1902*).—White sport from Golden Gate. This Rose is of a pure ivory-white colour; the flower is extremely beautiful; it surpasses all other Tea Roses, and is very fragrant and free.

Lady Roberts (*F. Cant and Co.*).—Vigorous; magnificent bud; large full flower of exquisite shape; reddish apricot colour, shaded with copper-red.

Longworth Beauty (*Prince*).—Vigorous; flower large and full; colour apricot-yellow, bordered with red; very sweet.

Marie Bülow (N. Welter).—Vigorous; bud long; flower large, rather full; colour Chinese pink mixed with carmine and yellow.

Mrs. Oliver Amos.—Sport from Mrs. Pierpont Morgan; colour white, very lightly tinged with red; petals bordered deeper colour.

Morning Glow (Paul and Son).—Vigorous; flower very large and full; the petals large and stiff; colour crimson-pink and orange-yellow; a very good variety for beds and cut flowers.

Peace (Piper).—Vigorous; bud long; flower large, full, solitary, borne on a very straight and long stalk; the petals large and firmly attached; colour pale lemon; floriferous and of delicious perfume.

Salmonea (Paul and Son).—Vigorous; flower large and full; colour crimson, with a salmon-pink centre; a curious contrast of colours.

Souvenir de Pierre Notting (Souper and Notting, 1902).—Vigorous; flower very large, very full, and opening well; bud long, and of admirable form; colour apricot-yellow, tinged with golden-yellow and orange-yellow, the edges of the petals shaded with carmine-rose.

HYBRID TEAS.

Admiral Schley (Cook).—Vigorous; flower large, full, and of beautiful form; colour deep crimson-vermilion; very free and fragrant; a splendid variety for beds.

Alice Lindell (Dickson and Co.).—Vigorous; flower very large, full, and of fine form; colour cream-white, with reddish centre; very floriferous; a beautiful variety in every respect.

Angela Müll (Hinner).—Vigorous; bud long; flower very large, of magnificent form, opens well; colour pale yellow, deeper in the centre. This flower resembles in shape Kaiserin Augusta Victoria, but surpasses it in beauty and perfume; excellent for cutting.

Ard's Pillar (Dickson and Son).—Very vigorous and bushy; flower large and full; colour velvety crimson.

Edith D'ombrain (Dickson and Son).—Vigorous; flower large and full, borne on a long and strong stem; petals stiff and firm; colour white, sometimes tinged with pink.

England's Glory (Wood and Son).—Flower large, full, and of beautiful shape; colour copper-yellow, deeper than that of Gloire de Dijon outside, pale satin-pink inside; deliciously scented.

Frau Peter Lambert (Welter).—Very vigorous and bushy; flower large, full, and of fine shape; solitary, on a long, straight stalk; colour deep pink, shaded with salmon colour, still deeper inside; much resembles in shape Kaiserin Augusta Victoria; floriferous and sweet-scented; good for forcing and cutting.

Gainsborough (Good and Reese).—Bushy habit; large, full flower; flesh-pink, almost white.

Helene Welter (N. Welter).—Very vigorous; long, bud; very large, full flower, of fine form, solitary on a long and strong stem; colour lustrous pink, does not fade during the greatest heat; very free and sweet; a good variety for forcing and for cutting.

John Ruskin (Dickson and Son).—Very vigorous; large flower of magnificent form, and of carmine-pink colour; exceedingly free and fragrant; a new colour amongst Hybrid Teas.

Mlle. Suzanne Poterai (Moranville).—Vigorous, with beautiful clear green foliage; large, full, well opened flower of a beautiful tender pink colour, tinted with yellow; very free.

Marianne Pfitzer (Jakobs, 1902).—Vigorous; lengthened bud; very large, full flower on a straight and strong stem, of a tender pink colour

like Malmaison. The flower lasts long, and is of the shape of Kaiserin Augusta Victoria; an excellent variety for cut flowers and forcing.

Mark Twain (Hill, 1902).—Very vigorous; pointed bud; large, full flower of perfect form, on a long straight stalk, pink-rose, coloured like Belle Siebrecht, but the flower is fuller and lasts longer, very sweet; an excellent variety for beds, forcing, or cutting.

Max Hestürfer (Jakobs).—Very vigorous; long bud of perfect form; large, full flower of deep pink colour, deeper than La France; petals edged silvery pink; very floriferous; an extra good variety for cut flowers.

Mrs. Theodore Roosevelt (Hill, 1902).—Very vigorous; long and pointed bud; very large and full flower of fine form; colour cream-white, with pink centre; very good for cutting; very free and very sweet.



FORTUNE'S YELLOW ROSE OUTDOORS IN A BERKSHIRE GARDEN.
(It began to flower on the 1st inst.)

Morgenroth (P. Lambert).—Very vigorous; colour deep lustrous carmine-red, white centre; a very hardy variety.

Perte von Godesberg (Schneider).—Vigorous and bushy; large, full flower of fine form, golden-yellow, fading into clear yellow at the margin; a good variety for forcing and cutting.

Queen of Edgely (Hill, 1902).—A fixed sport from American Beauty, possessing all the good qualities of the parent Rose; the colour is pink, and recalls Mme. Caroline Testout; a good variety for forcing and cutting.

CLIMBING ROSE.

Waltham Rambler (Wm. Paul and Son).—A very vigorous shrub; it produces large bunches of pink flowers, slightly paler in the centre; stamens very conspicuous. It somewhat resembles Leuchstern, from which it differs especially in the more vigorous

growth, larger clusters of flowers, and their brighter colour; the flowers last longer also; a variety to be recommended.

BENGAL ROSE.

Janice Meredith (Hill, 1902).—A vigorous shrub like the parent Rose; large, full flower, opening freely, of a carmine-pink colour; an excellent variety for beds, and one that withstands well the greatest heat.

POLYANTHIA ROSES.

Aschenbrodel (P. Lambert).—Small, full, cup-shaped flower of a peach-pink colour, with the centre salmon-orange; very free; a good variety for beds.

Philippine Lambert (P. Lambert).—Moderately vigorous; small, well-filled flower of beautiful form, and of a silvery and pale flesh-pink colour, with deeper colour in the centre; very fragrant.

Schneekopf (P. Lambert).—Large, rather full, cup-shaped flower, all opening at the same time; colour snow-white; blossoms in large, erect corymbs; a very good variety for beds.

NOISETTE.

Virginie Demont-Breton (P. Cochet).—Large, double flower with large petals; the centre of the flower pink, with a suspicion of copper colour on opening, passing into pink, slightly tinted with salmon colour; very sweet; a good climber.

HYBRID PERPETUALS.

Bellefleur (Prince).—Vigorous; large single flower of a crimson-red colour; very floriferous; one of the most beautiful of the single Rosés.

Ben Cant (Benj. Cant).—Vigorous; beautiful bud; large, full flower of a clear crimson-red, with deeper tint in the centre; very free; one of the best deep-coloured Rosés.

Bob Davison (Dickson and Son).—Large, full flower of magnificent form; elongated and pointed bud; colour a dazzling scarlet-red, with crimson centre; a first-class variety.

Miss Marie Corelli (Prince).—Vigorous; large, full erect flower of salmon-pink colour; very free; a beautiful Rose for exhibition.—*Les Rosés.*

ROSE FORTUNE'S YELLOW.

I SEND you a photograph of Rose Fortune's Yellow growing on a south wall in a Berkshire garden. It was planted in March, 1902, and the first flowers opened on the 1st inst. It apparently enjoys the position in which it is growing, for it has now reached a height of 12 feet, and covers a space 6 feet wide. At the time of writing (May 21) there are still many fine blooms open.

Fortune's Yellow is one of the most beautiful of climbing Rosés, but is rarely seen outdoors in a satisfactory condition. It needs wall culture to bring it to perfection. ROSE GROWER.

ROUND ABOUT A GARDEN.

DEFECTS OF PUBLIC GARDENING.

COMING from the country to London one always expects to find the best of everything that money and skill can command, and is surprised to find that the garden work in the London parks and open spaces falls so far short of the highest standard attainable. The arrangements of some of the park flower-beds are more or less tasteful; but the majority remain common-

place and conventional from year to year, and if the tens of thousands of people who pass by daily scarcely bestow a thought upon them, it is because their beauty does not command attention. Allowance must be made, perhaps, for the London atmosphere, which not only clogs the pores of many delicate plants but diminishes the sum total of sunlight; even if you wander so far afield as Hampton Court where the pure air of the Thames Valley places no limit to the horticultural ambitions of riverside residents, you shall find shortcomings in plenty in the Palace Gardens, albeit these are the focus of special excursions from London.

BRILLIANT EXCEPTIONS.

At the same time there were one or two of the smaller flower-beds which fulfilled their function as examples to the public of the art of gardening. One of these was filled entirely with varieties of Wallflowers. From palest primrose-yellow, through apricot and crushed strawberry, to pink-bronze and dead magenta, and so on to rich crimson and purple and velvety puce, they made a mixture of quaint undertones of colour that was singularly pleasing to the eye, and so brilliant collectively that, viewing it from a distance, one could not help going thither to see how the curiously-glowing patch of subdued colour was produced. Another excellent spring pattern was that of an oblong bed dotted all over with clumps of purple Aubrietia and late Daffodils of the palest primrose-yellow, while a third was a happy combination of mixed Polyanthus with late Tulips, which struck the same key-notes of colour from white to damask brown. In supplying these happy examples of colour effects such gardens, in London and other great cities, as are open to the public fulfil their proper function, while their mixed borders should always exhibit the best results that can be thus obtained for the changing seasons. Instead of this the flower-beds of our parks blaze at intervals with hackneyed displays of commonplace bulbs and bedding plants, and betweenwhiles exhibit bare brown earth as a home for weeds and a playground for the sparrows.

E. K. R.

THE INDOOR GARDEN. PROPAGATION OF NEPENTHES BY CUTTINGS.

ALTHOUGH cuttings may be taken from the Pitcher Plant all the year round, it is best to perform this operation in December and January. The end of the year's shoots, cut with three or four leaves attached, according to the distance apart of the latter, but always at a point sufficiently mature, should be chosen for a cutting, because this is the part which takes root most freely. An exception to the rule, however, must be made with respect to *Nepenthes Sedeni* and *N. mastersiana*. Cuttings cannot be taken in this way from these varieties; the extremities of their shoots are much too tender. In order to propagate them a part of a shoot situated near the top of the stem and provided with two or three eyes must be chosen. The cutting having been neatly cut below a leaf, the leaves are gathered up around the stem and are kept in this position by raffia. The bed in the greenhouse destined to receive these cuttings should be heated from below; the tiles of the flooring of this hot-bed should be covered with a good layer of fresh sphagnum well pressed down. A box is then formed deep enough to allow the cuttings to be placed upright. As the cuttings are simply put upon the sphagnum, they are supported by twigs placed across the box. They can be kept in an upright position equally well by being passed

through small bottomless pots turned upside down upon the sphagnum. The latter method, while it keeps the cutting upright, also has the advantage of concentrating the heat around its base, and especially when it is covered with a bell-glass; but bell-glasses can only be used when a small number of cuttings are taken, for they occupy too much space. Ample moisture must be maintained by syringing the cuttings two or three times a day.

Rooting takes from six to eight weeks, sometimes more, according to the variety and the maturity of the cuttings when taken. The cuttings are potted when they have roots from two to three centimetres long. A special compost consisting of two-thirds fibrous peat to one-third of fresh sphagnum, with the addition of roughly broken wood charcoal and finely broken brick, is used for this. Generally the cutting back of established plants is taken advantage of for securing cuttings.

Nepenthes, in order to do well, require a moist atmosphere, and a temperature of from 20° to 25° (centigrade) during the summer and of 18° during the winter. They are always placed as near as possible to the glass so that they may be in the full light. During summer they should be shaded, and waterings and syringings should be frequent.

HENRI THEULER, FILS, in *Revue Horticole*.

THE FRUIT GARDEN.

PROGRESS OF HARDY FRUIT CULTURE IN IRELAND.

SOME GRIEVANCES OF IRISH FRUIT GROWERS.

THE date of the first attempt to effect an improvement in Irish fruit growing may be fixed at about twenty-five years back, when some enthusiastic growers in County Armagh stubbed out the trees in their old orchards and planted varieties which were then said to be the popular market sorts, but many of which have been found to be quite worthless. In fact, many who planted then have been obliged to head down in some cases almost half the original plantation, and regraft with up-to-date varieties. This, of course, means a very considerable loss to the growers; but it is the only course to pursue if one wants to keep to the front and be able to supply what is most in demand in the markets. The fruit growers in these days had no Government instructors to guide them, and many have dearly bought their experience. I know one large fruit grower who told me a short time ago that if he had only known half as much about fruit growing as the Department's lecturers are now telling the people, it would have been worth £100 per year to him now. Well, in spite of having to pay so dearly for this experience, very considerable progress has been made. The returns for the year 1901 show that a total of over 6,000 tons of hardy fruit were sent from the Loughgall district, in which the greater portion of County Armagh fruit is grown.

Of these, about 650 to 700 tons would be Strawberries. The Strawberry growing has been started only about fourteen years, and has spread with amazing rapidity. They are chiefly grown in one district, lying between Annaghmore and Portadown, on land that used to grow good Wheat. Five years ago, when 100 tons were despatched in one season from Annaghmore Station, it was thought by many that the trade was being overdone, but each year has seen about 100 tons added to this, till in the year 1901 the total quantity sent from this one station amounted to no less than 552 tons of an average value of £20 per ton, making over £11,000 for Strawberries alone.

Raspberries, Black and Red Currants, and Gooseberries are being largely grown. Damsons are planted along the hedges and outskirts of the orchards for shelter, and in some seasons give very profitable crops. Victoria and Early Rivers' Plums are also grown, but Pears of high-class quality we are unable to manage, our climate being evidently quite too cold for these, unless where they can have the shelter of a good wall.

The district around Drogheda has long been famed for Raspberries, but Gooseberries, Plums, Damsons,

and Apples, are also grown in fairly large quantities. Most of the orchards are very old, and it is impossible for trees which are cankered, moss-grown, and full of American blight to produce clean, well-coloured fruit, such as is now required in our markets. The following figures will give some idea of the extent of small fruit growing in this district: Amount realised for fruit in 1899—Raspberries, £4,436; Gooseberries, £2,281; Currants, £64; Damsons, £581; Plums, £1,432; Apples, &c., £1,052; total, £9,846. These figures show an average of a little over two acres for each grower, and a return of over £26 per acre all round. This amount might easily be increased by renewing the old orchards, which are now quite useless in most cases.

A great deal of writing has recently appeared in the public Press on the best means of stopping emigration and keeping the people on the land. Well, in my humble opinion, in any scheme that is being considered for the purpose, the growing of hardy fruit is destined to play a very important part. I know of nothing which is likely to give healthy remunerative employment to be compared with hardy fruit growing, when carried out on "up-to-date" methods, by industrious and persevering workers. And I invariably find that when I want an extra hand or so for work, that men who work these small plots are much more intelligent and better workmen than the ordinary labourer, who knocks off work when the bell rings or clock strikes, and spends his evenings loafing.

Portions of County Kilkenny, notably Pilltown district, and on to Carrick-on-Suir, are also celebrated for the very high quality of the fruit produced. The highest price ever obtained for Irish Apples was got for a choice sample of Peasgood's Nonsuch, grown in Colonel Villiers Stuart's garden, in September, 1901, when 6s. 6d. per dozen was received for them in the Dublin market; and at this fruit show now being held, first and third prizes for this Apple go to the same district, showing that it suits that part. Very fine Pears are also grown in parts of Kilkenny, and where soil and climate appear to suit these they should get some attention. Williams' Bon Chrétien, Beurré d'Amanlis, Doyenné du Comice, and Pitmaston Duchess all seem to grow clean and vigorous, and these are our best market Pears.

In many other parts of Ireland the new varieties are being planted freely, and enquiries are being made for information as to best kinds to plant, and how to form new plantations; but the districts I have mentioned stand out prominently as having taken a distinct lead, and owing to the growers in these districts adopting the improved methods of packing, they are able to obtain prices for their produce far in advance of those who are still inclined to stick to the old-fashioned methods in use for generations. That this exhibition of Irish fruit will be productive of far-reaching results I have not the least doubt, especially in the matter of packing and marketing, as, owing chiefly to the unattractive, untidy, and frequently dishonest methods employed in preparing fruit for market, our best fruit never reached the class of people that could afford to pay for good stuff.

FRUIT GROWERS' GRIEVANCES.

That fruit growers have grievances, imaginary and otherwise, is generally admitted, but as the trade develops it is hoped that many of these grievances will disappear. Without the assistance and hearty co-operation of the railway companies many of our attempts at improvement will be nullified. One of the most glaring acts in connexion with railway charges has just come under my notice. The Department of Agriculture has approved of a new system of packing fruit in light, cheap non-returnable packages. These packages are made in Dublin, and fruit salesmen living in Dublin can get these packages from the manufacturer and send them out to their customers in the country by rail at the returned empties rate, while growers sending direct to the manufacturers are charged full rates as for new empties, thus making the packages cost quite too much, and rendering the good intentions of the Department utterly useless. I have no doubt this matter will soon be remedied; but it is just as well publi

attention should be drawn to it. I could relate many other grievances of fruit growers against railway companies, but time will not permit. I might, however, just say that when railway companies are approached and asked for a special rate, their reply generally is, "Make the trade, and we will give you a rate." Well, I think it is about time this matter was reversed, and it would meet our case much better if the fruit growers said, "Give us the rate and we will then make the trade." Fruit growers cannot be expected to go on making money for railway companies while losing themselves, and unless cheap rates and speedy delivery are ensured the fruit growing industry cannot make headway.

STOCKS.

I will only touch on one more matter, which I consider of very great importance indeed, and that is the stocks used by nurserymen to work fruit trees on. It is generally acknowledged by experienced and scientific growers that stocks play a very important part, not only on the quality of the fruit, but also on the productiveness of the tree. Some varieties do better on one stock than another, and I do not think sufficient attention is given to this by many propagators. The idea with some seems to be to use a stock which will produce a strong, vigorous looking tree in the shortest possible space of time. A serious mistake has been made by using the Myrobalan, or Cherry-Plum stock, for Plums and Peaches, as this stock induces such a vigorous growth that at the end of the season, when the leaves begin to fall, the shoots are still green and full of sap, and the wood, not being properly ripened, cannot bear fruit. Such trees may show bloom, but have not enough stamina in them to bring the fruit to perfection. I am strongly of the opinion that the Department should establish a stock-testing station, for the purpose of experimenting with the different varieties of stocks, and publish the results for the information of planters.

I might, if time permitted, have touched on many other matters connected with our fruit growing industry, but I think I have mentioned enough to show that the fruit growers have some grievances which must be remedied. At the same time we must not ask that too much should be done for us. Rather let us rely on our own industry and perseverance. Remember that "the help we get from without is enfeebling in its effects, while that from within invigorates. What we get done for us to a certain extent takes away the stimulus and necessity for doing for ourselves."

It is most gratifying and pleasing to see the way this show has been supported by exhibitors all over Ireland. It must have been a genuine love for your hobby that has brought so many here, as no one can say you were enticed to come by the value of the prizes. Personally, I feel deeply grateful to you all for the hearty way you have supported the show, and I do hope the after results will amply repay you for the time and money spent in coming. Make good use of your time while you are here in carefully going through the exhibits, and note the varieties likely to be most in demand for market purposes, and which will best suit your soil and district. If you do this and plant carefully, cultivate properly, and market tastefully and honestly, I have no doubt whatever but that in a very short time you will be able to show the world that you can and will produce hardy fruit of such excellence as will enable you to get hold of, and retain, the markets of our country, which are now so largely supplied by foreigners.—*Paper read by Mr. W. R. Orr at the Fruit Culture Conference in Cork, October, 1902.*

THE COCOANUT AND ITS USES.

THE members of the natural order Palmaceae have been aptly described as princes of the vegetable kingdom, the truth of which cannot be gainsaid, whether we consider them from a decorative or from an utilitarian point of view. So vast is the order, and so varied are

the characteristics of the plants comprised, that Palms have an unique importance botanically, horticulturally, and commercially, and none more so from the latter point of view than the Cocoanut. We may justly call *Cocos nucifera* the king of Palms, for it is, economically considered, far and away the most important.

The Cocoanut Palm varies in habit in different countries and positions, though the trees are usually of a tall, slender habit, bearing a thin spreading crown of leaves at the top. Few Palms have such a wide geographical range as the Cocoanut, and, though often found inland for a distance of some 150 to 200 miles, it is essentially a coast plant, and luxuriates in tropical islands, especially those of the Indian Ocean. Though this Palm cannot be considered as a forest tree, as so many other Palms are, in India alone there are said to be some 480,000 acres devoted to its cultivation.

As a cultivated plant under glass in this country the Cocoanut does not usually fruit. There is, however, one instance of its fruiting in England some years ago, namely, in one of the conservatories of the Duke of Northumberland at Syon House, Middlesex. Under cultivation in the tropics the plant is very prolific. In India one plant is said to produce a spathe and a leaf every month, each flowering spike yielding from ten to twenty-five Nuts. The produce of a tree in full vigour may be from 50 to 120 or even 200 Nuts a year. The average, however, may be reckoned at 100 Nuts a year, and a tree will continue to bear well for 70 to 80 years.

The distribution of the Cocoanut Palm throughout tropical shores can be attributed to some extent to the adaptability of the nut for transportation from one coast to another, the triangular sharp-ridged fruits easily pass through water, one of the angles acting as a keel, and the mass of light husk as a float. The coat is almost impervious to sea-water, and within the husk is the hard, bony shell, and inside the shell the albumen, at the end of which the germ is seated. The vital portion is thus thoroughly protected. It is, therefore, reasonable to suppose that a fruit being carried by stream or tide might be washed to distant shores and there germinate. The economic value of this Palm cannot be fully treated of here. It will suffice to say that from the husk Cocoanut fibre is prepared for making matting and brushes, the residue of which is used for horticultural purposes. The



COCOANUT PALMS ON THE SHORES OF LAKE WORTH, FLORIDA.

hard shell has a multitude of uses, especially in the tropics, while the albumen, when fresh, is used in confectionery and cake and biscuit making, and when fully ripe and dry forms copra, from which Cocoanut oil, used in soap and candle making, is expressed. Shiploads of Cocoanuts are constantly arriving even in London, and deposits of Cocoanuts in the husk are sometimes seen in dealers' yards in the East End almost mountains high.

Lympstone, S. Devon. JOHN R. JACKSON.

ORCHIDS.

WHITE ORCHIDS AT THE WOODLANDS.

ADMITTEDLY one of the most comprehensive and select Orchid collections is that of R. H. Measures, Esq., The Woodlands, Streatham. Probably none other contains so many forms of the albino of *Cattleya intermedia*. No less than seventeen different plants, and nearly as many different forms, were in flower on the occasion of a visit made during the second week in May.

Cattleya intermedia alba, owing to the substance of the flower, is peculiarly intense in its whiteness, and in contrast appears purer than the albinos of the labiata section of *Cattleyas*. Mr. Measures' enthusiasm for the

rare and beautiful is evidenced by the number of albinos collected at The Woodlands, but in none is the collection so rich as in white varieties of *Cattleya intermedia*. The original plant, the variety known as *Cattleya intermedia Parthenia*, and of which, beyond the specimen now under mention, only two other plants, both obtained from this, are known to exist, was acquired by Mr. Measures some years ago, before *Cattleya intermedia alba* was known or thought of. Mr. Measures was walking through the St. Albans Orchid houses when, pointing to a plant of *Cattleya intermedia* newly imported, Mr. Sander informed him that his collector had sent it to him as being pure white. At the same time, Mr. Sander avowed his disbelief in the authenticity of the plant, and almost in the same breath drew Mr. Measures' attention to a variety of *Cattleya Mossiae*. Mr. Measures admired the *Cattleya Mossiae*, passed on through the remainder of the nursery, but all the time thoughts of the supposed white *intermedia* remained with him. Such a variety was not then known, but that was no reason why it should not exist, and Mr. Measures had noticed that the plant had not quite a typical appearance. Finally, he decided to acquire the plant, and broached the subject to Mr. Sander, who admitted that there was no reason why an albino of *intermedia* should not be found, and also the faint possibility of this plant being one, although he himself did not believe it. Fourteen guineas was fixed as the price, a high value if the plant proved typical, but absurdly low should the collector's assertion prove true.

Mr. Measures acquired the plant, and in due course the plant flowered, and a new, beautiful, and absolutely white variety it proved to be. This is the *Cattleya intermedia Parthenia*.

Other forms of *intermedia alba* have since then been added to the collection, for Mr. Measures believes in the duplication of all good things, but the original form *Parthenia* still holds its own in beauty and size, and is remarkable, not only for the substance and clear whiteness of the flower, but also for the wonderful width and crispness of the labellum. Dazzling white as it is, its derivation from the type is shown in a slight green shading, most apparent in the young flowers at the tips of the sepals, a character discernible even in the mature flowers on close examination.

Parthenia var. *measuresiana* is classed with the foregoing, as it exceeds the type in size. Equally beautiful as *Parthenia*, its distinction lies in a very faint and charming pink suffusion, which may be detected on the side lobes of the lip.

The typical *intermedia alba*, several plants of which were in flower, is hardly equal to the two varieties above mentioned. The snowy whiteness of the flowers leaves nothing to be desired, but contour and size are slightly inferior.

The variety *Rupert* is better termed a variety of *alba* than of the type. The wax-like consistency and gloss of the absolutely white sepals and petals are made more conspicuous by the labellum, the solid rounded front lobe being entirely of a soft lilac hue, passing into pure white within the throat. Allied to it, and of equal size and beauty, but differing in the colour of the labellum, is var. *Salmonae*. The name given exactly describes its distinguishing feature, viz., a soft salmon-pink or flesh colour suffusion, apparent on the labellum. The single plant of this was carrying four spikes with nine flowers in all.

Intermedia var. *nivea*, represented by a well-grown plant, with four flowers on a spike, is a very distinct form, with flowers consider-

ably above the average in size, the sepals markedly broad, and with the waved undulated petals of great substance. The colouring is most charming, and is perhaps better described as shining white, overlaid with a light blush suffusion. The side lobes of the lip are quite white beneath and nearly so on the upper surfaces. On the front lobe the blush suffusion is darker than in any other part of the flower, so much so that centrally the veins are decidedly magenta, softening towards the borders and passing into pure white in the throat.

Standing among the white *intermedia*s and grown with them, both plants and flowers exhibiting the cultural skill of Mr. Coles, was a fine form of *Cattleya Loddigesii alba*, known as var. *measuresiana*. The convolute lip is exquisitely fringed, and, like the sepals and petals, pure white. The upper external surfaces of the side lobes are, however, enhanced by a suspicion of rose, hardly decided enough to be termed colouring, but sufficiently perceptible to contrast with the whiteness of the remainder of the flower. ARGUTUS.

ODONTOGLOSSUM CIRRHOSUM PITT'S VAR.

ODONTOGLOSSUM CIRRHOSUM, though a most charming species, can be bought for a few shillings when the flower is not unusual. The above variety was purchased by Mr. Pitt in May last year at a very high figure, and, flowering this season, has proved to be even better than was anticipated. It is the finest *Odontoglossum cirrhosum* yet seen. The flowers are very large, white, the segments tapering to unusually long undulating tails. The sepals are much broader than in the type, and beautifully spotted with chocolate-red. The basal part of the petals is more than an inch broad, with fewer spots of the same colour. The apical part of the lip is sparsely spotted with chocolate, the much-expanded basal part being yellow with purplish violet radiating lines. It secured an award of merit on the 5th inst. from the Royal Horticultural Society. F. W. THURGOOD.

SOME RECENT RESULTS FROM THE HYBRIDISATION OF ORCHIDS.

AMONG the hybrids recently obtained there is one which deserves to be noted for a particular reason. This is *Laelia cinnabarina autumnalis*, or *autumno-cinnabarina*, which appeared at nearly the same time in two English collections, namely,



ODONTOGLOSSUM CIRRHOSUM PITT'S VARIETY.

(Given an award of merit on the 5th inst. at the meeting of the Royal Horticultural Society.)

in that of Sir Trevor Lawrence, Bart., Burford, and of Mr. Clark, at Teignmouth. The peculiarity it presents is this: its flowers have retained the colour of *Laelia autumnalis*, whereas it is known that up to the present the hybrids from the orange-coloured *Laelias*—*L. harpophylla* and *L. cinnabarina*—generally reproduce in a very marked manner this yellowish orange colour. There are some Orchids which possess the property of thus strongly impressing themselves upon their progeny. Thus all the hybrids from *Cypripedium spicerianum* have certain common characteristics which can be recognised at a glance. It is the same with *Laelia digbyana*; but more than this—*Zygopetalum Mackayi*, although crossed with very different species, has repeatedly produced plants identical with itself.

M. Alfred Bleu crossed this species (*Zygopetalum Mackayi*) with *Odontoglossum crispum*; the seedlings were *Zygopetalum Mackayi*. The same result was obtained in England, and the same thing occurred with *Odontoglossum Pescatorei* with Messrs. Veitch (England), and with *O. grande* and *O. biconense*, as well as with *Oncidium unguiculatum*. There is nothing surprising in these crossings from the affinity point of view, for *Odontoglossum* and *Oncidium* species are near neighbours of the *Zygopetalum*. Messrs. Veitch also crossed *Zygopetalum Mackayi* with *Lycaste Skinneri*, and still with the same result. A yet stranger crossing was effected in America. Mr. George McWilliam obtained seedlings from *Zygopetalum Mackayi* fertilised by *Laelia anceps* pollen. According to Mr. Orpet, who records the fact in the *Orchid Review*, the plants obtained have again been identical with *Zygopetalum Mackayi*.

It was of interest to try if the influence of the other parent would not show itself at least in the second generation. M. Bleu proposed to study this in the case of his cross with *Odontoglossum crispum*. He fertilised the product with *Miltonia*, and we had the opportunity three or four years ago of seeing one or two of the resulting young plants.

Mr. McWilliam made an analogous attempt; he fertilised his pseudo-hybrid again with *Laelia anceps*. The first plant from this seed, Mr. Orpet

tells us, has just blossomed; but its flowers are again similar to those of *Zygopetalum*, though slightly paler. This difference gives a very feeble hope of modification. Nevertheless, Mr. McWilliam, persevering in his researches, has a second time hybridised the plant in question with pollen from a white variety of *Lælia anceps*. These experiments which take so long to conduct are rather a thankless task, for since it takes a hybrid seven years to bloom, it takes fifteen years (allowing for the nine or ten months necessary for the ripening of the seeds) before the second generation can be seen. However, the hybridisers cannot be too strongly urged to persevere. It should, moreover, be added that all Orchids are not so slow in coming to maturity. *Calanthe*, for example, produces seed very soon, and it is surprising that it is not more often grown in France and generally on the Continent.

In this section hybridisation has given plants of the highest value. The old hybrids *C. Veitchi*, *C. sandhurstiana*, and two or three others are well known in France; but not so well known are the numerous kindred forms which have been obtained by some cultivators, notably by Mr. Cookson and Sir Trevor Lawrence, Bart., and which cover a very extended range of colours, from white to the richest of dark reds, such as *C. Oakwood Enby*, *C. gigas*, with its enormous flowers, *C. William Murray*, &c. These hybrids, which are the result of a long series of crossings, not only produce blossoms of remarkable beauty, but are also more floriferous and more easily cultivated.

G. T. GRIGNAN, in *Revue Horticole*.

GARDENING OF THE WEEK.

INDOOR GARDEN.

CROTONS.

SELECT from the young stock a few plants of each of the most showy and useful varieties to grow on for specimen plants. Those that are growing freely and have not become root-bound are best for the purpose. At this season of the year a liberal shift may be allowed when potting. Use the compost as recommended on March 14, with the addition of an equal quantity of $\frac{1}{2}$ -inch bones and Clay's Fertilizer. Crotons require a hot, moist atmosphere, and to colour the plants well they must be shaded only from very bright sun. Very careful ventilation is necessary, especially where fresh air can only be admitted by the top ventilators. Syringe the plants thoroughly twice each day, and shut up the house with a temperature of 85° to 95°; paint the pipes with sulphur once every three weeks to prevent red spider establishing itself on the plants. Pot on young plants of

DRACENA GOLDIEANA,

D. Lindeni, and *D. L. Victoria*, and cut up the stems of any old plants that are no longer useful into lengths of two or three joints and plant the cuttings firmly, three or four in a small pot filled with fine peat and sand; plunge them in a bottom heat of 85° to 90°, when a proportion of them will root. One of the most elegant and decorative *Dracenas* is *D. Eckharti*, which grows freely in an intermediate house and should be in every collection. *Phrynium variegatum* should now be potted on to make effective plants for late summer and autumn; this plant does well in equal parts of sandy loam and peat and requires good drainage. To increase the stock carefully divide the plants and pot each part singly, and shade until established.

STROBILANTHES DYERIANUS.

Pot on any young plants that are well rooted in a compost of two-thirds light sandy peat and one-third loam. Keep them in a warm, close house, moderately shaded, where they will grow rapidly. This is a very effective plant for grouping in the conservatory or rooms during the summer. *Campylobotrys Ghiesbreghtii* is also easy of

propagation during spring or early summer, and quickly grows into decorative size with the same treatment as the preceding. Pot on young rooted plants of *Pandanus Veitchii*, which is not particular as to soil, but requires slight shade continually.

HYMENOCALLIS MACROSTEPHANA.

As soon as the flowers are withered, pot the plants in a light, rich compost, plunge them in a gentle bottom heat, and syringe them lightly two or three times a day, giving a shady position in an ordinary stove house. This plant is worthy of the most careful attention. Introduce into a warm house fresh plants of *Cannas* to maintain a succession of bloom during the autumn. Pot on young seedling plants of *Cyclamen* before they become root-bound, and plunge them in fibre in a warm pit near the glass; use the syringe lightly on fine days, and keep the plants clear of fly. *Balsams*, *Celosias*, and other plants must be potted into their flowering pots before they become root-bound or they suffer a check. *Cockscombs*, on the other hand, are apt to grow away and refuse to produce their combs unless a check is given during the early period of growth. As soon as the combs are developed the plants require liberal treatment in every way and a gentle bottom heat.

Wendover.

J. JAKUES.

THE KITCHEN GARDEN.

TOMATOES.

To ensure a good set of fruit on plants growing under glass it is essential to keep the air of the structure fairly dry and buoyant by admitting air whenever the state of the weather will allow; not only is it necessary to give top ventilation, but a free current of warm air should pass through and about the plants. The dull rainy weather, accompanied by cold winds, which have been so prevalent of late has prevented the due observance of this, and many blossoms will fall, however much may be done by applying a little fire heat in conjunction with a free circulation of air for a few hours daily. Damp the floors and walls in the middle part of the day when the house is open. Plants growing in pots or boxes should be fed as soon as the first fruits attain the size of Walnuts. Attend closely to the removal of side shoots, and keep the leaders tied to the trellis. Avoid defoliating the plants; at any rate, until the leafage is so dense as to smother the fruits, thus keeping the sun's rays from reaching them. On the first signs of the fruits colouring, cut them and lay on wool or some other soft material in a sunny part of the house to finish; this not only relieves the plants, but the fruits often crack if left to finish on the plants. Those grown for the open air should by now be strong, short-jointed, and ready for transplanting when the weather and soil are warm. Generally speaking the soil is

STILL TOO COLD

for their reception; at least the roots cannot be expected to permeate it whilst in a cold, wet state, therefore it may be better to retain them in the pots for another week or ten days. If any preparation of the ground is considered necessary, do the work at once, that there be no delay when planting time arrives. The position should be a warm one, exposed to the full sun; if spaces are at disposal on walls having a south or south-west aspect there will undoubtedly be greater chances of securing a crop of fruit than when planted in open quarters of the garden. In the latter position they give profitable returns some seasons, but to one good year we get two or three bad ones here in the Midlands. Strong plants, well hardened and just commencing to blossom, are necessary for planting in the open, and unless these are to hand it is useless attempting their culture.

VEGETABLE MARROWS.

These are tender plants and should not be planted in their summer quarters too early; the first week in June will be quite early enough. Gradually harden plants growing in frames so that in a few days the lights may be left off altogether without injury resulting.

Stoneleigh Abbey Gardens.; H. T. MARTIN.

CHRYSANTHEMUMS.

BUSH PLANTS.

PERHAPS for home decoration *Chrysanthemums* cultivated as naturally grown bush plants are most useful. All sections lend themselves admirably to this purpose, as bush plants can be successfully grown in comparatively small pots, and when in flower can be effectively arranged in any position. Any surplus plants not required for growing on for specimen blooms may easily be converted into bushes by stopping them twice or three times after this date. The first stopping should be rather severe, leaving about 6 inches of stem, and as soon as the young shoots begin to develop pot on into 7-inch or 8-inch pots, using a compost similar to that advised in a previous calendar. From nine to twelve shoots should be encouraged; one stout stick will generally suffice to support them. This should be inserted in the centre and each growth neatly and naturally looped to it. Every endeavour should be made to retain as much foliage as possible, and this can only be done by allowing the plants ample room. Much care will have to be exercised as to feeding and watering, and mildew, rust, and insect pests must be checked in their early stages. During hot, dry weather the growths should be syringed morning and afternoon.

DWARF PLANTS FOR LARGE BLOOMS.

Very good results are obtained by cutting down plants while in 6-inch pots, and which have been struck and grown on in the ordinary way. The last week in May or the first week in June is the best time to do this. After cutting back keep the roots moderately dry and syringe the stems frequently. When the growths are about 3 inches long repot into 7-inch and 8-inch pots, and when the plants are rooting freely reduce the growths to the required number, which may be either one, two, or three, and grow on precisely in the same way as the taller plants. When cutting down the tops can be rooted in 3-inch pots, using a sandy soil. Keep them close under hand-lights in any shady place. These tops, if potted on into 6-inch pots, when well rooted will make interesting small plants carrying one flower. They will, of course, require liberal feeding when well rooted, and plenty of quarter-inch bones should be used above the drainage. Pompons grown in this way should be stopped once or twice and the free-flowering varieties selected.

TRAINED SPECIMEN PLANTS.

The final potting should be completed at once, and discontinued stopping if a fair number of growths are secured, as nothing is gained by obtaining more blooms than the plant can perfect.

E. BECKETT.

Aldenham House Gardens, Elstree.

NURSERY GARDENS.

MESSRS. CLIBRANS, HALE, ALTRINCHAM

AMONG the great nurseries of Britain must be reckoned that of Clibrans, Altrincham, partly on account of its extent, partly because of the representative collection of plants it contains, but chiefly because of the up-to-date and successful methods of cultivation that are here practised. Firstly, as to the

EXTENT OF THE NURSERIES.

They cover approximately 300 acres of land, exclusive of 5 acres of glass houses, and between 250 and 300 men are regularly employed. The headquarters of Clibrans is now at Bank Hall, Hale, Altrincham. Hale (on the Cheshire Lines Railway) is the nearest station, the nurseries being barely a mile away.

In addition to the establishments at Altrincham, Clibrans are also found at Bowden, Cheshire; their seed and bulb business is at 10, Market Street, Manchester; the floral depot is at 12, Market



ONE OF MESSRS. CLIBRANS' STANDARD HOLLIES
(LAURIFOLIA).

Street; while in Altrincham and Bangor, North Wales, there are also branches. It is well to impress upon visitors that although Clibrans, Altrincham, is the address of the firm, Hale Station is much the nearer of the two. For the past two years the glass houses, offices, and packing department have been in course of removal from Altrincham to Hale, and the new establishment at the latter place is fast nearing completion. The newly-erected

GLASS HOUSES

are models of convenient and economical working. All are span-roofed and 180 feet long, although some are wider than others. The largest are 21 feet wide, the smallest and the majority have a width of 11 feet. Miniature tramlines are laid down the pathway of each house, and the value of the trolleys which run upon them for transferring plants from house to house or from different parts of the same house can hardly be overestimated.

It should be mentioned that when the scheme is completed there will be a corridor at one end of the block of houses, also with a tramway along the centre, and this will be connected with the packing shed. It will thus be possible to remove plants from the houses to the packing shed by means of the light tramway without once taking them out of doors. Another innovation that tends greatly to lessen labour in Messrs. Clibrans' glass houses is the provision of water pipes beneath the stages, with taps at intervals of every 10 feet. Watering by means of cans is (except in the case of the more tender plants and young seedlings) practically dispensed with; a small hose pipe is fitted to the end of the tap and by this means one man can quickly water a houseful of plants. The new

PACKING SHED

is a large span-roofed building (large enough to accommodate a dozen vans and carts at one time). The length is 230 feet, and the width 105 feet. One part is enclosed and heated specially for the packing and despatch of tender plants. The offices are ranged upon one side and end of the shed, to which easy access is obtained. To turn now to the productive aspect of Clibrans nurseries.

ORNAMENTAL TREES AND SHRUBS, both deciduous and evergreen, cover acre after acre of ground, and they are grown in such great variety that demand is rarely made for a hardy shrub that Clibrans are unable to supply. The Retinosporas, Cupressus, Abies, Thujas, and other ornamental conifers are much sought after for pleasure ground planting, and so also are specimen Hollies, of which the Hale and Oldfield Nurseries contain many symmetrical specimens well clothed to their bases with foliage. Trees for street and avenue planting are a feature here; they are chiefly from 6 feet to 20 feet high. Ornamental flowering trees and shrubs, as Pyrus, Prunus, Cerasus, Berberis, &c., are now in great demand, so that one expected to find them well represented in such a nursery. Nor were we disappointed, for they are grown—and well grown, too—very extensively.

HEDGE AND COVERT PLANTS, FOREST TREES

form also an important item in the output of Clibrans. Thorns, Privet, Berberis, Larch, Firs, Pines, &c., are sent away in thousands. Rhododendrons, too, are very largely cultivated, and the best of the named varieties are represented. The common Rhododendron ponticum (for covert purposes) is grown literally by the million. Several acres are devoted to

FRUIT TREES,

which seem quite at home on the Cheshire soil. Apples, Pears, Plums, Peaches, &c., in various forms are in rude health. We especially noted a promising lot of Clibrans' new Apple, "Rival," which obtained an award of merit in 1900.

Plants one and two years old were alike growing well. Strawberries, Raspberries, and Currants are represented respectively in all their best varieties, and they, too, are grown in large numbers to meet the steady demand. Clibrans' nursery grounds on the whole are well exposed, and as a result the plants grown there are hardy and robust. Frequent transplanting, so essential to the production of the best trees and shrubs, is not neglected, and probably accounts largely for the well-balanced growth of root and branch possessed by Clibrans' plants. The culture of

PLANTS UNDER GLASS,

both half-hardy and tender, is one of the most important items. In addition to those which are well known and widely cultivated, other neglected or rare plants may with advantage be mentioned.

Lilies of the Valley are grown in immense quantities, and largely for supplying the floral depot in Manchester. Several houses have been especially built for their culture. About one-third of the upper portion of the roof is permanently shaded with canvas, the remaining portion being covered as is necessary with adjustable shutters inside. During summer these shutters are removed and the houses used for other plants. Even now there are Lilies of the Valley in flower; in fact, Messrs. Clibrans have them all the year round, by means of retarded crowns. Spiræas, Lilioms, Tuberoses, Marguerites, and other plants are grown by the thousand, the three first named chiefly for cut flowers. During the winter and early spring months Hyacinths, Tulips, Narcissus, Lilioms, &c., are grown in immense quantities. Richardia elliotiana and R. Pentlandi (the yellow Callas) are favourite plants here, especially C. elliotiana, its rich yellow spathe and deep green leaves with whitish spots are remarkably handsome. R. Pentlandi has green unspotted leaves and spathe of hardly so rich a yellow. We have rarely seen a finer lot of Solanum capsicastrum than one of the small span-roofed houses contained. They were dwarf, bushy plants that gave promise of an abundance of their bright-coloured berries later in the year.

ROSES AND CLEMATIS

in pots may be said to be two leading plants grown under glass in the Hale Nursery. About 10,000 Roses are propagated every year, while the number of Clematis annually grafted amounts to several thousands. Some of the Roses were already potted into 5-inch and 7-inch pots, in which they will complete this season's growth. Messrs. Clibrans train their Roses perpendicularly by means of

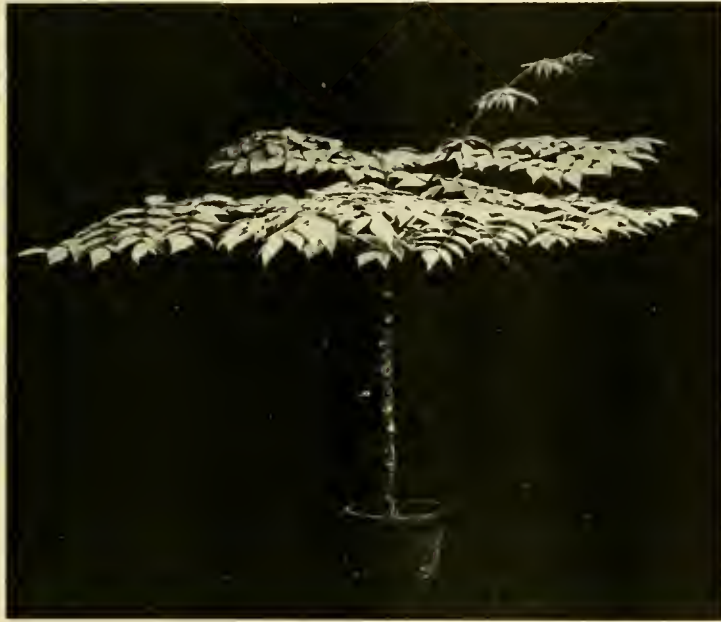


PERSIAN CYCLAMEN IN CLIBRANS' NURSERY, HALE, ALTRINCHAM.

string or wires; they find that the wood ripens better than when the plants are trained to the roof. Dorothy Perkins, the new blush Rambler, is highly thought of here, and is expected to prove a valuable garden Rose. Mme. Levasseur (a dwarf variety recently introduced and noted in THE GARDEN of May 9) also promises well. Of course, all the well-known climbers, as Gloire de Dijon, Maréchal Niel, and Niphetos, are grown, as well as Teas and Hybrid Teas. Clematis indivisa lobata, one of the most beautiful of evergreen greenhouse climbers, is a feature here: there is a large stock of it, some of the plants having growths 10 feet to 12 feet long. Those who have never seen this climber at its best can have no idea of its rampant growth and the profusion of flowers it bears.

PRIMULAS, CINERARIAS, AND CALCEOLARIAS

fill one of the large houses, and although the former are practically over, the Calceolarias make a brave show. There are some beautiful varieties among them now, some of most extraordinary colouring. When large plants are well flowered, as are those at Hale, few things can make a more brilliant display. Cyclamen, too, are to be seen in thousands; they have just been potted into



DIMORPHANTHUS MANDSCHURICUS ARGENTEO-MARGINATA.
(Shown by Messrs. Fisher, Son, and Sibray at the Temple Show.)

-inch pots, and are as healthy as could be wished for. Tuberous Begonias, Dahlias, and fancy and zonal Pelargoniums also occupy considerable space in the glass department. Of

STOVE PLANTS

Crotons and Dracenas are the most extensively represented, and both do great credit to the grower. Among Dracenas we noticed *D. Excelsior* (new), very dark bronzy green narrow leaves, margined rose; *D. Cooperi*, sturdy habit, the young foliage rich red; the old, somewhat darker; *Duchess of York*, dark bronzy green, with cream and red margin; and *D. vivicans*, with green leaves, margined bright red. *D. Doucetti* is represented by a splendid lot of well-grown plants. We also noted the new *D. kewensis*. There is, it appears, a great demand for both small Crotons and Dracenas at present. We have not seen Crotons better coloured this spring than the small plants in Clibrans' nursery. *Caladiums*, *Ixoras*, *Ureocharis Clibrani*, *Phyllocacti*, *Javanese Rhododendrons*, *Anthuriums*, and winter-flowering *Begonias* all come in for attention, and help to make the collection of plants under glass unusually representative. Among

CARNATIONS,

which may be counted by the thousand, both indoors and out, there are *Bronwen Lewis*, a vigorous and free-flowering yellow; and *Miss Clibran*, rich rosy pink, with non-bursting calyx, both Tree varieties. *Malmaisons*, too, are largely grown, and one of the best is *Margot*, with rose-coloured blooms on very long stems. With a mention of *Lobelia Mrs. Clibran*, a dark blue variety, with small white eye, and of compact growth that is fast making a name for itself, we close these notes, not unconscious that many good plants might still be recorded.

SOCIETIES.

THE HORTICULTURAL CLUB. ROSE EXHIBITING.

At the usual monthly dinner of this club, held on Tuesday, the 19th inst., at the Windsor Hotel, under the chairmanship of Mr. F. G. Lloyd, a large number of members and guests were present. The Rev. J. H. Pemberton gave a most interesting paper on the above subject. The paper itself will ultimately appear in the Royal Horticultural Society's Journal, and deals mainly with the question of reform in the matter of the formal boxes so long in vogue in the direction of the more

natural and graceful exhibition in vases. Considerable sympathy with Mr. Pemberton's views was expressed in the subsequent discussion, in which such eminently capable authorities as Messrs. Mawley, F. Cant, Paul, Waterer, Bunyard, C. Pearson, G. Gordon, Shea, and the Revs. W. Wilks and F. R. Burns took part, but it was evident that however desirable such a reform may be from the aesthetic point of view, there is great difficulty and risk in its practical application. Mr. Mawley very cogently pointed out that so far as the National Rose Society, which he represented, was concerned, the primary object was to foster the exhibition of the very finest individual flowers that could be produced, so as to raise the standard of perfection to higher and higher levels, and the formal box system had practically been evolved to fit the needs and difficulties of exhibiting and judging such blooms to the best advantage. Reform, he pointed out, could only be effected properly by gradual steps, and the society is fully alive to the demand for it, and doing its best to meet it. The question of greater rage in the trophy class was also discussed, Mr. F. Cant pointing out that if this were extended to cover all

classes, the difficulty of judging would be enormous. He also pointed out that Roses cut with long stalks for vase exhibition not only robbed the plants in a very drastic manner, but owing to the greater transpiration due to the greater foliage area, Roses so cut stood a very bad chance of preserving their freshness, even for the few hours of the exhibition, considering the usual conditions of aerial drought and heat which they have to undergo in the tents. The difficulty of packing long stalked blooms for transit, and the enhanced carriage on the inevitably larger packages, were also obstacles to that general adoption of the vase principle which was so much desired. Mr. Waterer advocated two days' shows on the principle that different classes should be scheduled for each day, but as the Rev. W. Wilks humorously pointed out, few exhibitors would care to enter for the second day, regarding it much in the light of the second relay of guests at a banquet, with the lobster gone from the salad and the champagne minus its pristine quality, while the committees, being merely human, could not be expected to refrain from favouring the first day's show. Another difficulty in this connexion was the great number of Rose engagements inevitable in a short exhibition season, so that to claim two days in lieu of one would involve inconvenience in other quarters. Mr. C. Pearson advocated some better means of ventilating the exhibition tents, one of the chief difficulties obviously being the high temperature engendered by their closeness, enhanced by the presence of crowded visitors. Mr. Shea and Mr. Gordon both strongly advocated the vase system, and reference was made to the immense improvements made in Chrysanthemum exhibits in this particular direction. It must, however, not be overlooked that the two flowers differ markedly in their duration, apart from the fact that they

are exhibited at different seasons, the Roses in hot and trying weather and the Chrysanthemums under far cooler auspices. An autumn show was strongly advocated, there is then plenty of good Rose material and less drawbacks as to heat and drought. A hearty vote of thanks to Mr. Pemberton and the chairman closed an interesting and instructive meeting.

THE TEMPLE SHOW.

A SPLENDID show was the unanimous opinion of all who visited the Royal Horticultural Society's exhibition in the Temple Gardens on Tuesday and the two following days. There was less crowding of exhibits than in previous years, the weather was fine, and the attendance, of course, large. No exhibition of equal interest and beauty has been held in the Temple Gardens.

ORCHIDS.

Sir Frederick Wigan, Bart., Clare Lawn, East Sheen (Orchid grower, Mr. W. H. Young), had an admirable display of Orchids. A splendid plant of *Cymbidium lowianum* was conspicuous in the background, together with *Sobralia macrantha* and *S. m. alba*. Many good *Cattleyas* and *Laelias* were included in the display, some of the best being *C. Mossiae*, *C. Mendelii* delicata, *C. Mossiae* Beatrice, *Laelia purpurata* backhouseana, *Cattleya Whitei* magnifica (rich rose-red, with rosy purple lip), *Laelia purpurata* Arthur Wigan, and *L.-C. Major-General Baden-Powell*. *Dendrobium Bensoniae* was represented by a finely-flowered plant, and other Orchids of unusual interest were *Zygonia rolfiana*, *Odontoglossum citrosomum* album, *Erides Fieldingii*, several fine varieties of *Miltonia vexillaria*, *Dendrobium Parishii*, brightly-coloured *Masdevallias*, *Odontoglossum crispum* in variety, *Cypripedium* of the bellatulum section, *C. Druryi*, *C. lawrenceanum* hyeanum, *C. W. H. Young*, *C. delicatum*, *Saccolabium curvifolium*, *Oncidium cuculatum*, *Masdevallia Carderi*, *Ceologyne schilleriana*, and *Trichopilia tortilis*.

In the group from Jeremiah Coleman, Esq., Gattin Park, Reigate (gardener, Mr. W. P. Bound), *Miltonia vexillaria* figured largely; the plants were finely flowered. *Odontoglossum crispum castanea*, *O. anderssonianum* Gattin Park var., *O. crispum colmanianum* (with deep red heavy blotches), *O. crispum Margery Turrell* Giles (prettily marked with pinkish spots and blotches), *O. crispum Rosy Queen*, and *O. crispum purpureum* were all very good, while of *Cattleyas* *C. Mendelii*, *C. Mossiae*, *C. Skinneri* alba, *C. intermedia* Gattin Park var., *C. i. alba*, *C. lowryana*, and *C. Mossiae reineckiana* were most noticeable. *Cypripedium niveum*, *Lycaste cruenta* major, and various *Masdevallias* were also well shown.

J. Rutherford, Esq., M.P., Beardwood, Blackburn (gardener, Mr. Lupton), had a splendid display of *Cattleyas*. *C. Mossiae* was most largely represented, and by several beautiful varieties. *C. Wagnerii*, with white sepals and petals and lip faintly tinged with rose, was very charming. Several *Odontoglossums* and a few *Cypripediums* were included.

Messrs. Sander and Sons, St. Albans, had a very extensive and representative display of Orchids. *Cattleyas* and *Laelias* chiefly filled the background, while *Odontoglossums* figured largely throughout. Some plants of *Cattleyas*, *Miltonias*, and *Cypripediums*, raised above the others, relieved the arrangement. The *Odontoglossums* were the chief feature of the group, and among them were *O. crispum Rosy Dawn*, tinged with rose and heavily marked with deep rose-red; *O. c. Black Watch*, blotched with crimson-red; *O. c. Fred K. Sander*, the petals and sepals marked with large blotches of crimson-red; *O. wilckeanum* var., carrying no less than twenty-four flowers on one raceme; *O. harrivano-crispum* var. *magnificum*; *O. crispum Trianae*, with one red blotch on each sepal; *O. Adriane* in variety; *O. wilckeanum*; *O. punctato-violaceum* and others. *Laelio-Cattleya canhamiana* Rex, with pure white sepals and petals, and rich purple lip with white edges; *L.-C. canhamiana* Fire King; *Laelio-Cattleya Aphrodite*; *Brasso-Laelia purpurata*-digbyana; *Cattleya gousensiana* (*C. schilleriana* × *C. gaskelliana*); *L.-C. Herode* (with rich rose petals and sepals, and yellow and purple lip) were among some of the most remarkable plants in Messrs. Sander's group. Very fine also was *Cypripedium* *Miss Louise Fowler* var. *superba* (*C. chamberlainianum* × *C. insigne* Herefield Hall var.), with dorsal sepal margined cream yellow, the remaining part heavily blotched with brown upon green; the petals and lip are red-brown.

In the group shown by Messrs. Charlesworth and Co., Heaton, Bradford, Yorks, *Cattleyas*, *Laelias*, *Odontoglossums*, and *Phaius* were very fine. Of *Laelio-Cattleyas* there were *G. S. Ball* magnifica (a particularly good form) and two fine pans of the same hybrid, *L.-C. Major-General Baden-Powell*, *L.-C. hyeana*, *L.-C. Albanense* inversa. *Cattleyas* included good displays of *C. Mossiae* and *C. Mendelii*, while *Laelia purpurata* was splendidly in evidence. *Brasso-Laelia Helen* and *B.-L. purpurata*-digbyana were also very fine. Among *Odontoglossums* were *O. crispum Beatrice*, heavily blotched with red; good forms of *O. Adriane* and *O. crispum*, as well as a good display of unspotted forms. *Masdevallias*, especially *harricana* versicolor, rich crimson-lake, were very bright. In the centre of the group was a finely-flowered large plant of *Cattleya Skinneri*.

Messrs. Hugh Low and Co., Bush Hill Park, Enfield, N., were represented by a showy display, in which *Cattleya Skinneri*, *C. Mossiae* variety, *C. Mossiae* var. *Hercules*, as well as the typical *C. Mossiae* were splendidly shown. The plants were large and full of bloom. *Cattleyas* formed the chief feature of this display. Others were *C. Lawre-Mossiae*, *C. intermedia*, *C. i. alba*, *C. Mossiae* Wagnerii, and *C. Mendelii*. *Dendrobium Bensoniae* was a mass of bloom. Among *Odontoglossums* varieties of *O. crispum* were conspicuous, e.g., *O. c. Alexandra* and several unnamed varieties, *O. excellens*, *O. harrivano-crispum*, and *O. Adriane* were well represented also.

Messrs. J. and A. McBean, Cooksbridge, Sussex, made an excellent display with *Odontoglossums*, consisting chiefly of forms of *O. crispum*. The plants were finely flowered, and the flowers varied from almost pure white to heavily spotted. One of the best was *O. crispum roseum*, almost entirely rose-coloured. *O. c. Kathleen* is a very large variety with crinkled edges to the petals. *O. crispum Muriel* is extremely dainty, the medium-sized blooms prettily spotted with chocolate-red. *O. Rolfe*, *O. Halli Brighton Gem*, *O. Adriane*, and *O. wilkeanum* were also included.

Messrs. Willam Bull and Sons, King's Road, Chelsea, had a miscellaneous group of orchids, in which *Cattleyas*, *Odontoglossums*, and *Miltonias* predominated. *O. crispum* was represented by some very pretty forms, and *O. Pescatorei* was very good also. *O. Adriane chelsiensis*, heavily blotched with chocolate-red, and *O. A. Lucius*, marked with deep chocolate-red upon yellow, were among others noticeable. *Cattleya Mossie chelsiensis*, with lilac lip and yellow throat, was splendidly shown. Perhaps the best *Odontoglossum* was *O. crispum Chelsoni*, very heavily blotched with deep chocolate-red.

Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne (gardener, Mr. H. J. Chapman), showed a small group of orchids that comprised *Phaius Chapmanii* (*P. Phoebe* × *P. Humblotii*) (award of merit), *Odontoglossum crispum graireanum* (first-class certificate).

Messrs. Cowan and Co., Gateacre, Liverpool, exhibited a miscellaneous group of orchids in which *Cattleyas* were prominent. *C. Mossie*, *C. Mendelii*, *C. intermedia alba*, *C. Lawre-Mossie*, *Cattleya Skinneri alba*, *L.-C. Henry Greenwood*, *Cypripedium callosum Sandere*, *C. lawrenceanum* var. (very large), *C. Gertrude Hollington*, and *C. Goweri splendens*. *Odontoglossums* included some good forms of *O. crispum*, *O. Adriane*, and *O. wilkeanum*.

Mr. Cypher, Cheltenham, had an excellent lot of *Odontoglossums*, *Cattleyas*, *Dendrobiums*, &c. Among the former were numerous forms of *O. crispum*, *O. wilkeanum*, and *O. Adriane*; of *Cattleyas* we remarked *C. Mendelii grandiflora* with very large petals and long beautifully frilled lip. *C. Mossie*, *L.-C. hycana*, *L.-C. Aphrodite*, *Calanthe veratrilolia*, *C. Dominii* (hybrid), *Masdevallias*, *Dendrobiums*, and *Oncidiums* were also included. The *Odontoglossum crispum* were the best feature. *Miltonia vexillaria* and *Laelia purpurata* were very good also.

Mr. John Robson, Bowdon Nurseries, Altrincham, showed a miscellaneous group in which *Odontoglossums* figured largely, chiefly forms of *O. crispum*. *O. c. bonnyanum* was perhaps the best. Among *Cypripediums* *C. callosum Sandere*, *C. bellatulum*, and *C. Gowerii magnificum* were the best. *Masdevallia Veitchii*, *Laelia purpurata*, and *Cattleya Mendelii* were among others shown.

Messrs. B. S. Williams and Son, Upper Holloway, N., in their group of orchids had *Cattleya Mossie*, *C. Mendelii*, *C. intermedia*, *Laelia Latona*, *L. purpurata*, *Thunia marshalliana*, &c. *Vanda suavis*, *V. tricolor* var. *The Glen*, *V. t. Hamilton Palace*, and *V. t. superba* were splendidly shown in this group. Among *Cypripediums* were *C. selligerum majus*, *C. calophyllum*, *C. harrisiannum superbum*, *C. hirutissimum*, *C. polito-Sallieri*, and others.

Richard Ashworth, Esq., Ashlands Hall, Newchurch, Lancashire, in a small group of orchids had several fine spotted forms of *Odontoglossum crispum*. *O. c. Margery*, *O. c. Grand Duchess* (award of merit), *O. c. Mariane*, *O. c. Moorebeckense* (very heavily blotched with red), and *O. c. Priam*, prettily spotted almost all over, were of the best. *Cypripedium Measurera* (*C. bellatulum* hybrid), *C. callosum Sandere*, *Cattleya Schröderi alba*, *Masdevallia Veitchii* × *Lindeni*, and *M. haryana walkeriana*, very richly coloured, were other good plants in this small but choice collection.

Messrs. H. J. Keeling and Sons, Westgate Hill, Birkenhead, York, showed *Laelio-Cattleya Adrastus*, *Laelia* × *nigrescens aurea*, *L. Minerva* (*L. Latona* × *L. tenebrosa*), *L. cainana*, *Odontoglossum crispum westgateense* (heavily spotted with brick-red), &c.

H. Becker, Esq., Beresford Street, Jersey, showed *Laelia purpurata* varieties.

Miss Edith Cole, West Dorothy House, Newbury, showed *Eulophiella Philippae*, and *E. Coleae* (botanical certificate).

Cattleya Mossie Wagnerii var. *King Edward VII.* was shown by Messrs. Stanley, Ashton and Co., Southgate, N.

Leopold de Rothschild, Esq., Gunnersbury (gardener, Mr. J. Hudson), showed a group of remarkably well-grown *Vanda teres*. The quaint blooms were large and numerous, and against the background of dark thong-like leaves made a pretty effect.

M. F. Claes, 63, Rue des Champs, Etterbeek, Brussels, exhibited some finely spotted forms of *Odontoglossum crispum*, as well as others remarkable for their asymmetrical form and unspotted. *O. Adriane*, too, was well shown.

STOVE AND GREENHOUSE PLANTS.

Messrs. William Cutbush and Son, Highgate and Barnet, Herts, made a most attractive display. As usual, their group occupied one corner of the large tent, and mounds of *Malmaison Carnations* were arranged in charming variety. *Calla eliotiana* was superb, as were also *Crimson Rambler Rose*, *Ghent Azaleas*, *Lilium longiflorum*, and beautiful examples of border and tree *Carnations*. Pretty standards of *Wistaria sinensis*, and the *Brooms* were also features of the display.

Messrs. Richard Smith and Co., Worcester, also made a most interesting exhibit, in the form of a group of specimen balloons of *Clematis*, including *Lady Caroline Neville*, Mrs. George Jackman, *Lucy Lemoine*, and a charming illustration of a pergola, in which examples of the *Crimson Rambler* were seen in fine form. *Anthuriums*, *Bambos* in variety, and a beautiful assortment of stove and greenhouse flowers finished a welcome exhibit.

Superbly fine was Messrs. James Veitch and Sons', Limited, group of *Caladiums*, in which were pleasingly disposed good plants of the better *Crotons*, *Nepenthes*, two new *Anthuriums*, *King Edward VII.* and *Queen Alexandra*. Good examples of *Aralia elegantissima* and other choice plants were one of the features of this great show. *Croton*

Reidii, *C. Lucy*, *C. Countess superba*, *C. cordatus tortilis*, and *C. mortefontainensis* were in capital form, and among the *Caladiums*, Mme. John Box, Marquis of Camden, The Mikado, B. S. Williams, Harry Lovatt, Louis A. van Houtte, Comte de Germiny, and Baron A. de Rothschild were plants of considerable merit.

Exceedingly good was the group of *Clematis* set up by Messrs. Jackman and Son, Woking. The plants were in splendid condition, being well grown, and the flowers large, fresh, and of good form. *King Edward VII.*, *Fairy Queen*, *Beauty of Worcester*, Mrs. Hope, *Alba Magna*, *Lord Neville*, and *Ville de Lyon*, a good crimson, were some of the best.

Messrs. John Peed and Son, West Norwood, S.E., were to the fore with a magnificent bank of *Caladiums*. The plants were large and distinctly handsome, and the collection embraced all those worth growing. As a group of these handsome foliage plants we should think it was one of the best and most comprehensive set up by this firm. In one respect, perhaps, they lacked, and this was in colour; possibly the nearness of their nursery to London accounted for this. Specially good were plants of *John Peed*, Mme. John Box, *Butafogo*, Sir Henry Irving, *Candidum*, *Gaspard Crayer*, Mme. Jules Picot, W. E. Gladstone, and *Roncador*.

Brilliant was the display of *Azalea mollis*, &c., by Messrs. R. and G. Cuthbert, the Nurseries, Southgate. The groups of these plants set up by this firm are always of exceptional excellence, and the present display well maintained the high standard to which they have attained. *Azalea mollis* J. C. van Tol, a brilliant flame; M. Koster, deep orange; Antony Koster, *Konig Sophia*, pink with cream markings; *Alphonse Levalloé*, *Ambrose Verschaffelt*, deep salmon-pink; *Floradora*, one of the largest flowered of the type, orange; and *Jeanette K. Siemens*, apple-blossom; *Azalea* (*Ghent*) *Pallas*, very rich; *Fanny*, fine pink; *Ignorable*, tinted light pink, with cream foundation; *Daviesii*, and *Remarkable*, deep pink, tinted crimson, on a rich cream ground.

Stove and greenhouse plants were admirably grouped by Messrs. William Bull and Son, King's Road, Chelsea, S.W. The plants embraced quite a comprehensive series of genera, and were nice, fresh, and of good colour. A superb Tree Fern was disposed in the centre at the back of the group with *Palms*, *Ferns*, *Dracenas*, *Nepenthes*, *Crotons*, *Diffenbachia*, *Ficus*, *Alcaasia*, and other interesting plants, completing a pleasing display.

Hardy *Rhododendrons* in pots were quite a brilliant feature as grouped in the large tent by Messrs. John Waterer and Sons, Limited, Bagshot, Surrey. Beautiful plants, bearing large blooms of rich and varied colours, and embracing all the newest and also the best of the older varieties, made a most attractive group. Superbly fine was a mass of *Pink Pearl*, a soft pink flower. Other good sorts were *Charlie Waterer*, *Cynthia*, *Duke of Connaught*, *Mum* (a chaste white), *Gomer Waterer*, Mrs. William Agnew, *Minnie Marchioness of Lansdowne*, and *John Henry Agnew*.

A mixed group of flowering trees and shrubs, exhibited by Messrs. James Veitch and Sons, Limited, Chelsea, was a charming display of many subjects. Magnificent *Rhododendrons*, *John Waterer*, *Michael Waterer*, and *Marchioness of Lansdowne*, *Ghent Azaleas*, *Philadelphus*, *Hydrangea*, *Paeonies*, *Wistaria*, *Lilium Henryi*, *Cytisus schipkaensis*, and *Ceanothus veitchianus* made a really comprehensive group.

A beautiful group of *Carnations* representing well-flowered specimens of Mrs. H. J. Jones, a good crimson *Malmaison-like* flower, Mrs. W. James, white, and a grand yellow came from Mr. W. D. James, West Dean Park, Chichester, and were much admired.

Highly-coloured specimens of *Dracena Pere Charon* to the number of ten, and a plant of *D. Mme. Winkelman* were set up in a group by Mr. L. J. Draps-Dom, Laeken-Brussels, and were a pleasing feature.

A useful little group of *Carnations* was set up by Messrs. R. H. Bath, Limited, Wisbech, these embracing all types.

A large display was made by Mr. H. B. May, Upper Edmonton, and this was certainly a distinctly pretty exhibit. *Zonal* and *Ivy-leaved Pelargoniums* in charming variety, and represented by capital plants, included among others in the double zonal section, such varieties as *Lady Hechester*, pink, *Puritan*, Mme. Meindre, M. G. Merand, and *Apothec*. Good semi-doubles were *Lord Kitchener*, *King of Denmark*, and *Princess of Wales*. From the same firm came a lovely lot of stove and greenhouse foliage plants, beautifully fresh and clean and of good quality.

From Messrs. Thomas S. Ware (1902), Limited, came two distinct displays, one of *Carnations*, nicely grown and beautifully fresh. Mrs. T. W. Lawson, cerise-pink, a lovely white seedling, *Cecilia*, and *Queen Alexandra* (new). This firm's display of *Tuberous-rooted Begonias* was, without exception, of superb quality. The doubles, which largely predominated, were of exceptional excellence, the colours being rich and varied with many pleasing intermediate shades, and some quite unique. Grand double sorts were *Lady Audrey Buller*, orange-scarlet; *Miss Elise Reed*, pink; Mr. W. G. Valentine, scarlet; Mr. Pope, white; *Golden Queen of England*, golden-yellow; Mr. Arthur Pitts, rich crimson; and *Miss Barbara Ray*, orange-buff. The bank of these plants was undoubtedly a grand display.

Messrs. B. R. Davis and Sons, Yeovil, were also well to the front with *tuberous-rooted Begonias*. Some phenomenal blooms were in this exhibit, showing these flowers at their very best. Prof. Lanciani, Hilda, *Countess Cromer*, *Heeter*, and *Sannuel Pope* were splendid in the double-flowered section.

Mr. John Box, West Wickham and Croydon, staged a really magnificent group of *Begonias*, embracing grand flowers of both double and single forms on well-grown plants. Brilliant and charming colours in crested and *Picotee*-edged flowers, with brilliant examples of blooms of good form, and the whole group, very nicely disposed, made a grand display.

For individual excellence, however, the plants grouped by Messrs. Blackmore and Langdon, Bath, deserve the highest encomiums. The plants showed distinctly high culture,

with phenomenal blooms of superb form and beautiful tints. Those worthy of special mention are *Sir T. Lipton*, orange-scarlet; *Olive Darling*, primrose; *Venus*, scarlet; *Samuel J. Pope*, *Picotee-edged*; Mrs. Moger, lovely soft salmon; Mr. W. P. Neal, a large and handsome white-tinted flesh colour; *Honourable Lady Nield*, a lovely salmon-pink of splendid form; and Mrs. Portman Dalton, a lovely flesh rose-pink.

A charming group of *Sarracenias* came from Mr. A. J. Bruce, Chorlton-cum-Hardy. Most varied and pleasing were the different sorts, and they were beautifully set up on a groundwork of moss. This display was considered by many as one of the best of its kind ever seen.

Messrs. J. Hill and Son, Barrowfield Nursery, Lower Edmounton, had a good group of *Ferns* and fine-foliaged plants. In the group were two rustic arches, in which plants in variety were luxuriating. Beautifully fresh were all the plants, and they were well disposed.

Messrs. Sander and Sons, St. Albans, had a capital lot of choice foliage plants, in which the more noteworthy were *Pandanus Pancheri superbus*, *Pandanus Sanderi*, *Polypodium Knighte* (a beautiful drooping plant), *Ficus pandurata*, *Alpinia Sandere*, *Heliconia Edwardus Rex*, *Pteris Malmaisonii*, *Selaginella watsoniana*, and *Asparagus Sprengeri variegata*. Some new flowering plants were also staged by this firm, which included *Nicotiana Sandera*, *Nicotiana rubra*, and *Clianthus Dampieri*.

As usual, Mr. Martin Smith, Warren House, Hayes, made a beautiful display of *Carnations*. The individual flowers were large, and an interesting display was made by this group at one end of the second tent. *Cecilia* (yellow), *Lady Buse*, *Horace Hutchinson*, and *Baldwin* were a few of the best.

A lovely group of *Bonarias*, *Balcins*, and *Leschenaultias*, was arranged by Messrs. W. Balchin and Son, Hassocks, Sussex. The plants were in the pink of condition, and were most interesting, e.g., *Erica Spencerii*, *E. propendens*, *E. venicosa rosea*, and *E. Cavendishii*. Pretty also were *Aphelexis humilis*, *Richardia eliotiana*, and the lovely blue *Leschenaultia biloba major*.

The group of *Alcaasias* from Mr. John Russell, Richmond, was a splendid exhibit. Beautifully fresh and clean and well grown and of good colour aptly describes the plants. *Alcaasia Martin Caluzac*, *A. thibautiana*, *A. argyrea*, and *A. watsoniana* were among some of the more striking examples.

Cannas by Messrs. H. Cannell and Son, Swanley, were superbly fine. The colours were rich and most intense. One end of the long tent was grouped with these plants, and they made a superb show. *M. Florent Panwells*, *E. Hoss* (spotted), *Niagara*, *Hesperite*, and *Black Prince* were good examples.

From Messrs. J. Laing and Sons, Forest Hill, came a large group of both double and single *tuberous Begonias*. The plants were freely-flowered and embraced a charming assortment of colours and pleasing forms. The group was fronted with *Ferns* and *Isolepis gracilis*.

Pigmy trees from Messrs. Barr and Soos were interesting, some good examples being exhibited.

Mr. H. J. Jones, Ryecroft Nursery, Lewisham, S.E., made a comprehensive display, embracing a capital collection of *Ivy-leaved Pelargoniums*, *tuberous-rooted Begonias*, fancy, show, and regal *Pelargoniums*, the latter in bunches in hewiddering variety, and *Sweet Peas*. The *Ivy-leaved Pelargoniums* were a unique lot, containing several new and pleasing colours, and the *Begonias* represented the single-flowered section at its best. The new *Pink Raspail* was well shown, and demonstrated its value for market work.

Phyllocactus hybrids from Messrs. James Veitch and Sons, Limited, were represented by a good bank of well-flowered specimens that pleased many. A pretty lot of *Kalanchoe felthamensis* was a welcome break of colour, and a lot of *Schizanthus wisetonensis* proved how valuable are these freely-flowered plants in the early summer. In this instance the colours were charmingly diverse, and the display was quite an object of envy. From the same firm came *Cordalis thalictrifolia*. This is a pretty plant deserving special notice. *Streptocarpuses* from the same source were represented in beautiful variety. The flowers were large and embraced many pretty shades of colour, and impressed all who saw them with their value.

Primula obconica hybrida grandiflora, exhibited by the Right Hon. and Rev. Lord Braybrooke, Salfron Walden, showed these pretty plants in good form, with many pleasing tints of colour.

From Messrs. W. and J. Brown, florists, Stamford, came a pretty table of plants. *Heliotropes* were quite a feature, H. Lord Roberts being the variety. *Verbena Miss Willmott*, *zonal Pelargoniums*, &c., made a good miscellaneous exhibit.

Mr. W. J. Godfrey, Exmouth, staged four baskets of new *Pelargoniums*, *Exmouth Queen* and *Martha Boucher* being the most attractive.

From Messrs. James Carter and Co., High Holborn, an immense bank of *Gloxinias*, neatly disposed among *Maidenhair Ferns*, and a grand lot of *Calceolarias* greeted the public on their entrance to the long tent from the Embankment. The colours were beautifully varied, and the plants also were in a fresh and well cared-for condition. *Malmaison* and other *Carnations* were also staged in this fine exhibit. In the cool approach to the long tent this firm also grouped on both sides *Petunias* (single and double), *Verbena Miss Willmott*, *Schizanthus*, and other flowering plants. Messrs. Carters' display as a whole was a very handsome one, and much admired.

Lord Alenham, Elstree, staged a grand group of *Streptocarpus*, the plants showed splendid culture, and were blossoming profusely. Great variety in colour characterised the blooms, and the exhibit as a whole reflected the highest praise on Mr. E. Beckett as a grower. This was, indeed, a splendid collection of these plants.

From Messrs. John Peed and Sons, West Norwood, came a grand lot of *Begonias*, the double forms being very bright and pleasing. The blooms were of splendid quality, and were noted for their interesting forms and free flowering. *Gloxinias* were superbly shown by the same firm. Exceedingly chaste and beautiful were the majority of the flowers

and individually they were very striking. The colours were most marked.

A new Asparagus, by name A. myriocladus, exhibited by the Rinelagh Nurseries Company, Royal Leamington Spa, showed an interesting addition to these useful decorative plants. For the more bold and effective decorations the plumes of growth should find ready acceptance.

A group of well-grown Calceolarias were staged by Mr. A. C. Harnsworth, Sutton Place, Guildford. The plants were certainly of exceptional excellence, and the finest we have seen for a very long time. The colours were good, the flowers large, and the plants were neatly tied out.

Cactaceous plants were shown by Messrs. H. Cannell and Sons, Swanley. Grand specimens of most of the kinds were shown in good form and condition, and served as a contrast to the many gay things around. From the same firm came a splendid lot of Begonias, good quality characterising the whole display.

Within a specially-erected tent in the gardens Messrs. Sutton and Sons, Reading, made a display of exceptional beauty. In this note the flowers alone are considered, and in this respect they excelled. Three huge groups, one of Gloxinias, another of Cineraria stellata, and a third group of Calceolarias, told in no uncertain manner the superb strain which characterise this firm. The Gloxinias were very handsome indeed, and were prettily set off with Maidenhair Ferns and the base with boxes of specially fine lawn grass. The Star Cinerarias were very dainty and pleasing, their profuse flowering impressing everyone. The Calceolarias were of splendid quality.

A pretty group of Lily of the Valley, enhanced by their association with Palms, Ferns, &c., was arranged by Mr. W. Icton, Putney. The flowers were very fine indeed, and the growths were strong and numerous.

HARDY FLOWERS.

Messrs. Barr and Sons, in their usual position, had a fine lot of hardy things, in which as the best features we noted Primula japonica in charming variety, the hardy Cyripedes, Ramondias in plenty, Sarracenia flava, pretty alpine Primulas, alpine Phloxes, the rich blue of Aquilegia Stuartii, Aster alpinus superbus, Ourisia coccinea in brilliant vermilion, Haberlea rhodopensis, Gentiana verna, a lovely sheet of blue, and equally so Viola pedata, V. p. bicolor, the rich scarlet of Silene virginica, a feast alone of this lovely plant, were among the choicer of the alpine and those of dwarf stature. In addition there was a large array of Tulips of the late kinds, with Darwins and Cottage sorts in profusion. Irises were well shown, and the end of the season of Narcissus was represented by N. triandrus albus, Poeticus, Glory of Leiden, Poeticus postarum, &c., in all a rich and telling array of plants and flowers.

Messrs. Richard Smith and Sons, Worcester, contributed Iris, Asphodels, Onosma taurica, Saxifraga McNabiana, with Poppies, Peonies, and other plants mostly in the cut state.

Scempiverns in many kinds were shown by Mr. E. Lovett, Croydon.

Mr. H. C. Pulham, Elsenham, Essex, had a small lot of alpine—Anemone narcissiflora, Trillium stylosum, Iberis amperba, the Edelweiss, with Dianthus alpinus, were the more noticeable things.

The group of alpine and other hardy things from Messrs. Jackman and Son, Woking, was one of the finest in the entire show; the exhibits, beautifully fresh and natural looking, well and instructively grouped, and in short a source of pleasure from end to end. Of the things in groups we were most struck with (Eriophora ovata, Aster alpinus albus, Incarvillea grandiflora, Aquilegia Stuartii, very rich and telling, Trillium stylosum, T. grandiflorum, Ramondia pyrenaica, the rare Cunadron ramondioides, only just bursting into bloom, Dianthus alpinus, D. Atkinsonii, Incarvillea Delavayi, &c. The hardy Cyripediums were a feature alone, and formed a centre to this fine group. C. macranthum, C. acule, C. parviflorum, C. montanum, white, and C. spectabile album were all included in this rich and beautiful assortment of plants.

Messrs. Paul and Son, Cheshunt, showed small alpine in boxes—e.g., Aubrietias, Phloxes, Erigeron, Saponaria, Saxifrages, &c. Tulips of the Darwin section were also set up in great variety.

The double St. Brigid Anemones from Messrs. Reamsbottom and Co., Ireland, were again a feature, fine flowers, single and double, and in the greatest variety of colour, made a formidable gathering of these showy easily-grown hardy flowers of spring.

Messrs. Storie and Storie, Dundee, had excellent examples of border Auricula Leviathan, yellow, with immense trusses, and Excelsior, golden, white centre, and Achievement, primrose. All were fine plants.

Messrs. James Carter and Co. set up alpine on a rockery, in which Sedums, Saxifrages, Phloxes, Veronica, Dodecatheons, Alyssum, and such things were prominent.

Mr. R. J. Farrer, Clapham, Lancaster, also showed alpine on a temporary rockery. Some rare things were shown, such as Eritrichium nanum, the rare Tulipa linifolia, Eriandra seryphyllifolia, Pheytum comosum, Androsace pubescens, Campanula alpina, Dianthus Atkinsonii, D. alpinus hybridus, D. neglectus, Campanula cenisia, &c.

Mr. W. B. Child, Acock's Green, had Campanula thyrsoidea in the form, also Cyripedium acule, C. montanum, with pans of the Cobweb House Leeks, Rodgersia podophylla, and many others in good condition.

Messrs. Gilbert and Son, Dyke, Lincolnshire, showed their grand strain of Anemones in equally grand style. King of Scarlets was extremely brilliant and fine.

Mr. W. J. Godfrey had a series of Poppies of the Oriental group, the salmon and pink shades, with those that in the bud approached to crushed strawberry were the most effective.

Mr. G. Renthe, Keston, Kent, set up a compact lot of hardy things, in which Geum montanum, Achillea Huteri, Sarracenia purpurea, Dianthus alpinus, very fine; Gentiana verna, Anemone sulphurea, Iris verna, very charming; Anemone palmata, Pinguicula grandiflora, violet; Janke

Heldreichi, a fine mass, not in flower, with Iris susiana were among the best. The rare Crinodendron Hookeri, a Chilean plant probably, was shown.

The rockery exhibit of Messrs. Backhouse of York was indeed a feature full of rich and rare things, and beautifully arranged, so far as the limits and the exigencies of a Temple show will permit. It was just a model alpine slope, in which dells were here, mounds and rocky banks there, moist, shady nooks, too, in which the damp-loving things revel. We will not pretend to make even a selection where all are so beautifully and so consistently arranged.

Messrs. R. Wallace and Co., Colchester, as usual, had a splendid display of bulbous plants and allied things in pots. There were the early Gladioli in abundance, Lilies in great variety, Sparaxis Fire King (a brilliant flower), together with Ixias in their well-high endless forms, all very charming and well grown. Of things we must specialise Camassia Leitchii atrocorula, rich dark violet-blue; C. L. alba, B. odier coccinea, Trillium stylosum, Iris of the Causton and Regelia section; new hybrid Dodecatheons, Calochorti in great variety, with such Lilliums as L. thunbergianum, Orange Queen, L. tubellum, L. tenuiflorum, L. Hansonii, very fine; L. Martagon album, L. azovitzianum, a lovely lot of L. excelsum, with apricot flowers towering up on 4 feet high stems, with Eremuri, Incarvilleas, &c., made up a really sumptuous array of choice and beautiful flowers. Everything was fresh, and, if earlier than in the open, their beauty was in no sense impaired.

Mr. M. Prichard, Christchurch, Hants, had an exceptionally fine lot of hardy things, mostly in the cut state. H. Pyrethrum Hamlet, single rose-pink, and Vivid with the old Rosen were very fine. In Oriental Poppies, Parkmann's is a brilliant scarlet, equally wonderful in colour and in form. Peonia lobata, a pink-cupped flower, is very choice. Among dwarf things Onrisia coccinea was grandly flowered, the intense vermilion flowers very fine. Aster alpinus albus, an Onosma with white flowers called Luke Windot, and Anemone alpines were of the choicer things.

Messrs. J. Cheal and Sons, Crawley, contributed an exhibit of rock plants. There were Epimediums, Campanulas, Thalictrum, Dianthus, Achillea, Ramondium, Saxifraga granulata plena, hardy Cyripediums, and such plants arranged on rocks in the most pleasing fashion.

Mr. Amos Perry, Winchmore Hill, had a group arranged in three sections. In the centre came a fascinating group of Aquaria vases and bowls filled with water plants, with insect life abounding in all. It was, indeed, a most interesting study in water gardening, the grouping natural, and conveying a coolness quite refreshing in the heat of the tent. Sundews, Pinguicula, Nuphar kalmianum (with yellow flowers), hardy Cyripediums, Sarracenia, Primula japonica, and such things arranged in the most pleasing fashion. In addition there were hosts of hardy flowers—Tulips, Columbines, Lilies, Trollius, Ramondias, Ostrowskia magnifica, Poppies, Candytuft, Geum Heldreichi superba, alpine Phloxes, Eremuri, Tritoma Tucki with many other beautiful and showy things in plenty.

Violas and Pansies from Messrs. Dobbie and Co. were a great feature. From amid a large array we note Meteor Gold, Bronze Kintore, Maggie Currie, of the fancy type; Maggie Smoot, lilac; A. J. Rawberr, gold; and Eudymion, primrose. A large lot of fancy Pansies were shown and hybrid Columbine in pots.

The Guildford Hardy Plant Nursery (Mr. A. R. Upton, proprietor) set up as usual a fine exhibit of the choice and showy alpine—Phloxes, Anthyllis montana, Cobweb Honselaks, Geum reptans, many choice Saxifrages, Onosma taurica, Daphne Cneorum, Myosotis rupicola, Draccephalum grandiflorum, Edelweiss, and other things were arranged in capital fashion. We do not pretend to name a title of the beautiful things shown.

Hardy plants were shown by Mr. George Bunyard, Maidstone, and here we noted Aubrietias, Irises, Trollius, Lilies, Alpine Asters, Aothericum, Pyrethrum, Fair Maids of France, Primula japonica in great variety, Aconitum pyrenaicum (yellow-flowered), Heucheras, and others.

The Misses Hopkins, Mere, Knutsford, showed hardy things in variety, in which Daisy Alice, a pink variety, was conspicuous. We also noted Trolliuses, Fair Maids of France, Veronica, Trillium grandiflorum, Auriculas of the yellow border sorts, Delphinium nudicaule, Anemone sylvestris, Primula japonica, and a miniature Daisy called Dresden China, a rose-pink shade or reddish shade; the double Primula Rex Theodore was also represented by several good plants.

Messrs. T. S. Ware, Limited, Feltham, had a big display of hardy things. Achillea Huteri and A. argentea are both fine white masses; while Spanish Iris, Incarvillea, a whole tribe of Saxifrages, and such as S. Campoi in large array, many pretty Campanulas, some beautiful Irises, in which I. teuxa major was good, Delphinium Belladonna, Ourisia coccinea, Trilliums, a host of hardy Cacti, and Cyripediums. Pitcher plants and the like made a most sumptuous array of the best hardy plants to-day in commerce.

A beautiful group of Malmaison Carnations, embracing all the new and choice sorts, as well as the best of the older ones, was admirably set up by Messrs. Hugh Low and Co., Bush Hill Park, Enfield. Princess of Wales, Sir Charles Fremantle, Gemma, Calypso, and Albiou apeak for the



CINERARIA STELLATA.

(A typical plant shown by Messrs. Sutton and Sons at the Temple Show.)

character of the display. Schizanthuses from the same firm were a good exhibit, and demonstrated the beauty and usefulness of these plants for early summer decorations. Dimorphothea Ecklooi is a pretty Marguerite-like flower, white with dark disc and blue outer side of petals.

Messrs. Kelway, as is their wont, contributed a good display of Peonies and Delphiniums, both in good variety, and the former in very fine flowers.

Messrs. Veitch and Sons out on the open sward arranged Peonies in pots in flower in large numbers and much variety also, the brilliant and usually high-toned flowers of these plants showing well against the towering spikes of Eremuri that were arranged among them. In this way, with the assistance of a number of conifers and the like, quite a garden scene was at once secured.

Tulips were shown in large numbers, and generally in excellent form. The most notable group was that of Messrs. Alexander Dickson and Co., Belfast, in whose group were some of the finest flowers we have seen this season. We name a few only of a capital lot. Le Noir, the nearest approach to black in this group; Coquelin, crimson; Macrospila, gesneriana lutea, May Queen, Zomerschoon, light scarlet, with yellow-painted petals; Clara Butt, Loveliness, amber, very dark; Mrs. Farncombe Sanders, scarlet, white base; and Professor M. Foster, scarlet, with dark base. This was a most excellent group throughout, the flowers of the highest merit.

Messrs. B. S. Williams, Holloway, showed late Tulips, but the flowers were long past the exhibition stage, and no true opinion could be formed of them.

Another fine lot came from Messrs. Hogg and Robertson, Dundee. Here we selected Mauriana, Parisian Yellow; Caledonia, scarlet; Virgette, dark and glossy; Fairy Queen; Bouton d'Or, very rich; Picotee, apricot; Zomerschoon, a fine, showy sort; The Sultan, Bridesmaid, and others. These also were in good form.

A rich and varied lot was shown by Mr. R. H. Bath, Wisbech, in which Parisian Yellow, a finely-shaped flower; Caledonia, gesneriana alba oculata, g. lutea, Isabella, Bonton d'Or, bilietiana var. Suset, a most charming thing in Tulips; May Queen, Fairy Queen, Edmee, rose and salmon; Le Noir, very dark; Nora Ware, mauve; Joseph Chamberlain, The Sultan, Clara Butt, and Queen of Roses were among the best in a really capital lot of flowers, the latter fresh and by no means indicative of the latter days of May.

English or fancy Tulips were finely shown by A. D. Hall, Esq., Harpenden, some of the Bizarres being especially noteworthy.

The Tulips from Messrs. Barr and Sons were also good, and in this exhibit we selected Salmon King, Mrs. Krelage, Pygmalion, White Queen, Zulu, The Shah, May Queen, Dorothy, one of the latest of all; Empress of India, a fine golden bronze; Chameleau, Gaudin, Davis, Salmon Prince, and Sultan, all in excellent condition.

Another good assortment of Tulips came from Messrs. Wallace and Co., Colchester, in whose collection we remarked such sorts as Viridiflora, gesneriana alba oculata, g. aurantiaca, Parisian Yellow, very fine; Didieri alba, flava,

and the rich scarlet of mauriana, all in excellent and fresh form. By grouping these things alone we are assured that exhibitors have touched the right chord, the rich intense colours not blending well with flowers in general.

ROSES.

The Roses at the Temple show have always made a grand display, and this season they well maintained their reputation. In the large tent, Mr. Charles Turner, Slough, filled one end with a rich and telling display. There were standards and half standards, bushes and climbers, one and all laden with blossom to their utmost extent. Crimson Rambler in the background in great quantity, and the paler flowered Dorothy Perkins here and there was most pleasing. Souvenir de Pierre Notting was superb in its rich yellow and also its fine form. It is, indeed, grand, and was finely shown in several groups, a tribute at once to its worth and general merit. Muriel Grahame, very soft and pleasing; Mme. Cusin, blush; L'Innocence very fine, and not less so Souvenir de M. Eugénie Verdier with widely reflexed creamy flowers of much beauty. Misson Cochet and Niphotos were both superbly shown.

On the opposite side of the marquee Messrs. Paul and Son, Waltham Cross, also had a fine gathering of many plants in all forms. Here we remarked the lovely Souvenir de Eugénie Verdier, whiter than in the preceding group perhaps, but with giant flowers that were quite imposing; Bridesmaid, Morning Glow, of apricot tone; climbing Devoniensis, most beautiful; Empress Alexandra, deep salmon-red; the pure white Karl Druschki, Dorothy Perkins in abundance, Ferdinand Jamin, rose-salmon, full; Antoine Rivoire, very fine; Edith Gifford, and Waltham Rambler, pink and white, were among some of the best in this handsome lot. Many Roses in the cut state were shown in boxes, but those noted above were in large imposing groups, acting rather as principals around which the lesser varieties were arranged.

Messrs. Paul and Son, The Old Nurseries, Cheshunt, also exhibited an admirable lot, in which many fine standards greatly added to the effect of the group. Many plants each of Mrs. W. J. Grant and Lady Battersea were finely flowered, and not less so the superb yellow Souv. de Pierre Notting. Then in the new Queen of Sweden and Norway we have a fine addition to good Roses; it is deep cream, merging to apricot in the centre, and of excellent form. Tea Rambler, rose-pink; Rev. Alan Cheales, Elise Fuzier (Tea), rich cream of large size; Mme. E. Metz, pink; with such Polyantha sorts as Eugénie Lamesch, creamy tone, and Leonie Lamesch, rich orange-red, were very showy. These with wickiana (type) and its variety rubra were some of the most prominent of those shown in a large, well-grown lot of plants.

Mr. G. Mount, Canterbury, had many cut Roses, of which the principal ones were Caroline Testout, Niphotos, Bridesmaid, Catherine Mermel, &c. Crimson Rambler in pots filled the background, while in boxes a large variety of cut flowers on short stems were set up. In this latter Catherine Mermel was very strongly represented.

Messrs. F. Cant and Co., Colchester, also staged a valuable lot of blooms, of which the best were as follow: Mrs. E. Mawley, Mme. Hoste, Maman Cochet, Souv. de S. A. Prince (very fine white), Maréchal Niel (grand in its golden-yellow), Lady Roberts (very beautiful), Meta (cream), fresh Glory (single pink), Una (a single white), moschata alba, Mrs. Grant, and Souv. de M. Guillot (very rich in colour), was beautiful in the extreme. Austrian Copper was also very charming and freely represented.

FRUIT AND VEGETABLES.

Messrs. George Bunyard and Co., Royal Nurseries, Maidstone, exhibited a collection of Apples of remarkably good quality for the late season. The fruits were finely coloured and very well preserved, quite an object-lesson in Apple culture and storage. Newtown Pippin, Smart's Prince Albert, Wagener, Winter Peach, Gloria Mundi, Merritt's Seedling, Anne Elizabeth, Wadhurst Pippin, Calville Rouge, Lord Derby, Ontario, and Beauty of Kent were the best preserved fruits in this meritorious collection. Pear Uvedale's St. Germain was also very good.

Messrs. Sutton and Son's vegetables consisted of Sutton's choicest stocks of Melons, Tomatoes, Cucumbers, Peas, Beans, and Potatoes. Several plants of each were shown in actual growth, the Melons, Tomatoes, and Cucumbers being trained in an original manner along the ceiling of their pavilion, the fruits hanging down and giving a most pleasing and natural touch to the exhibit. Other plants were trained on iron frames of various designs. There were over thirty pots of the choicest sorts of Tomatoes, both red and yellow. Peas in growth were represented by pots of the best type of Marrow Peas now known. Potatoes were shown in ornamental boxes. One side of each box had been removed and glass substituted, enabling the visitor to see the tubers growing in the earth at the root of the plant. The varieties exhibited in this interesting manner were the best of the early Potatoes, viz., Sutton's Ashleaf, Sutton's Ringleader, Sutton's Harbinger, Sutton's May Queen, and Sutton's Ninety-fold.

Sir Alexander Henderson, Bart., M.P., Buscot Park, Faringdon, Berks (gardener, Mr. W. L. Bastin), showed a very attractive display of fruits. They were in dishes placed upon short pedestals, the intervening spaces being prettily covered with Asparagus. The best Melons were Elenheim Orange and British Queen; Peaches, Hale's Early and Alexandra; Nectarines, Cardinal (very fine), Lord Napier, and Early Rivers; Brown Turkey Figs, Royal Sovereign Strawberries, May Duke Cherries, and Apple Belle de Magny, were really excellent.

Messrs. Laxton Brothers, Bedford, exhibited a display of Strawberry plants growing in pots and fruits arranged in baskets. The plants in pots were of the variety The Laxton, and were splendidly fruited, the individual fruits are large, deeply coloured, and said to be quite as richly flavoured as Royal Sovereign.

Sir W. G. Pearce, Bart., Chilton Lodge, Hungerford (gardener, Mr. C. Beckett), exhibited an excellent collection

of fruit. The Grapes (Black Hamburg, Foster's Seedling, and Frankenthal) were only of average quality, but the Melons (especially Eureka and Ne Plus Ultra), Strawberries (Vicomtesse Hericart de Thury and Royal Sovereign), Peach (Waterloo), the Nectarine Peach, and Brown Turkey Figs, were very good. A large Melon called Ringleader (greenish yellow skin) was included.

Messrs. James Carter and Co., High Holborn, W.C., had a collection of well-grown vegetables—Broccoli (Universal Protecting), Turnip (Early Forcing), Carrot (Summer Favorite), Cucumber (Royal Osborne), Tomato (Duke of York), French Beans (Canadian Wonder), Vegetable Marrow (Traiding White), &c. Melon Elenheim Orange was also well shown in this collection.

Messrs. Cannell and Sons, Swanley, Kent, in their collection of vegetables showed Cabbage Cannell's Defiance in splendid form; Peas English Wonder, British Empire, Duke of Norfolk, Mammoth Marrow; Marrow Early Cream; Carrot Cannell's First Prize; Turnip Early Forcing; Potato Pride of Tonbridge; Cauliflower May Flower, and Asparagus Commover's Colossal were among other noteworthy dishes.

Mr. Walter Godfrey, Colchester, sent some splendid heads of Asparagus.

Mr. S. Mortimer, Farnham, showed Cucumbers and Tomatoes; to one variety, Mortimer's Unique (Improved Telegraph × British King), an award of merit was given. Of Cucumbers Success, Every Day, Improved Telegraph, and Lockie's Perfection were shown; and of Tomatoes Best of All, Princess of Wales, Winter Beauty, A 1, Magnun Bonum (red), Golden Nugget, and Sunbeam (yellow).

The Hon. A. H. S. de Montmorency, The Grange, Carrick Mines, County Dublin, showed three varieties of Potatoes, viz., Puritan, The Scout, and Myatt's Ashleaf, grown under glass without artificial heat, and very good samples they were.

Mr. A. F. Harwood, St. Peter's Street, Colchester, showed some splendid heads of Asparagus.

Mr. Robert E. Addy, Mushroom grower, Ealing Road, Brentford, Middlesex, exhibited pans of Mushrooms in various stages of growth. Cut Mushrooms also were shown.

The Horticultural College, Swanley, Kent, showed a collection of vegetables that comprised very good Cauliflower, Cabbage Ellam's Early, Cucumber Woking Favorite, and Rochford's. Melons and Strawberries also were included.

TREES AND SHRUBS.

A magnificent exhibit from Messrs. Fisher, Son and Sibray, Handsforth, Sheffield, enhanced the reputation this firm has gained for their displays, no matter what the subject may be. Ornamental trees aptly describes their exhibit, and for this they gained the premier award (gold cup). Splendid examples of *Dimorphanthus mandshuricus argenteo marginata*, *Acer reticulata*, *A. japonicum aureum*, *A. dissectum*, and *A. magnifica* were telling. Among other striking subjects *Hedera Madeirensis variegata*, *Rubus australis*, *Quercus concordia*, *Cornus Spathii aurea*, and *Hedera arborea amurensis* were just a few of the interesting individual exhibits. This bold and comprehensive display was greatly admired.

Messrs. T. Cripps and Son, Tunbridge Wells, Kent, excelled in a large and handsome group of hardy foliage and flowering trees and shrubs. Acers were exceptionally well shown, as is the custom with this well-known firm. The more striking Acers were *A. palmatum palmatifidum*, *A. pictum aureum*, *A. palmatum septemlobum elegans*, one of the richest crimson foliaged kinds and very rare; *A. japonicum aureum*, a very lovely variety and very distinct; very finely-foliaged was *A. palmatum dissectum*, and not the least effective was *A. Negundo californica aurea*. There were many other subjects far too numerous to mention, and in each one there was some point to admire. This firm made a second exhibit outside the large tent.

From Messrs. J. Cheal and Sons, Crawley, came a very large and comprehensive group of hardy trees and shrubs, which included both flowering and foliaged plants. Acers, Ives, Sambucus, Cornus, Retinosporas, Abies, and Cupressus will give a good idea of the representative character of this group. Among the flowering subjects were Syringa Michael Buchner, *Choisya ternata*, *Spiraea Van Houttei*, Hybrid Yellow Broom, *Rhododendrons*, *Cytisus purpureus albus*, and other varieties. *Viburnum plicatum* and the crimson Broom (*Cytisus andreae*) were also conspicuous.

An immense group of hardy trees and shrubs was pleasingly arranged by Mr. John Russell, Richmond. It was composed of a charming variety of subjects. *Dimorphanthus mandshuricus foliis argenteis marginatis* was in striking evidence, as were Acers in variety. Very interesting was *Eurya latifolia* and variegata, the younger leaves being tinted a rich bronzy crimson; *Sambucus plumosa aurea* was telling, as were a number of pretty Ivies. As a whole this was a very creditable display.

Messrs. Barr and Sons, Covent Garden, had a unique display of pigny trees in a specially erected tent. There were about 200 examples of a very varied character, ranging from Bamboos to Oaks. Some very handsome examples were exhibited in fine form, and provided an immense amount of interest to the visitors. A pretty little piece in this exhibit was a scene from Yamato Mount, constructed by a famous Japanese architect. This fashion for pigny trees appears to be more popular than ever. Many of the trees were more than 100 years old.

Messrs. William Cutbush and Son, Highgate and Barnet, made one of their largest exhibits of clipped Yews, Box, &c., and the curious and unique forms of many of them showed to what extent this art is followed. Some 200 plants were staged in all, and the Box in particular was in the condition with its new growth. Peacocks, swans, tables, chairs, boats, dogs, serpents, and jugs will give a good idea of what was represented in this display. The specimens of Yews were just coming into growth, and promised well for the immediate future. This interesting and unique exhibit occupied the two corners of one of the lawns.

Messrs. James Carter and Co., High Holborn, staged in a separate tent, in dainty chinaware pots, &c., a fashionable

display of pigny trees and shrubs. The great age of many of the subjects appeared to create considerable interest in the minds of most visitors, judging from the remarks which fell from them. The plants were very fresh and nice, many of them just commencing new growth.

From Messrs. Richard Smith and Co., Worcester, a collection of specimen conifers, evergreens, &c., embraced many subjects. Acers, Ives, Abies, Junipers, Cupressus, Box, Bamboos, and Retinosporas in variety, as well as kindred subjects, were pleasingly displayed.

From Messrs. Sander and Sons, St. Albans, came a group of *Cordylines* in pots and tubs, and each plant in grand condition; *C. australis*, *C. lentiginosa*, *C. Doncetti*, *C. lineata Parrii*, *C. I. Veitchii*, *C. schneideriana*, and a good example of *Cocos Yatai* with an edge of *Retinospora Sanderi*, a dwarf and compact form of glaucous colour, and quite hardy. A new hairy *Rhododendron* of a white colour, the buds being a pleasing shade of rose-pink, was without a name.

From Messrs. James Veitch and Sons, Limited, came a splendid lot of plants and shrubs, lightly grouped on the greensward. *Sciadopitya verticillata*, *Retinospora filifera aurea*, *R. obtusa nana*, *R. squarrosa Veitchii*, and many other good things were most interesting. Numerous plants of *Primula japonica*, Peonies in variety, and splendid examples of *Eimerius robustus* in box-tubs showed this subject at its best. This was a large and useful exhibit.

NEW ORCHIDS.

A first-class certificate was given to each of the following: *Laelio-Cattleya Fascinator splendens*.—*Cattleya Schröderae* and *Laelia purpurata* are the parents of this new hybrid *Laelio-Cattleya*. The petals and sepals are palest blush, almost white, and the large lip is rich deep purple, most intense at the entrance to the throat; this is a blending of orange and crimson. The chief beauty of the flower lies in the pretty effect produced by the richly-coloured lip against the pale-coloured sepals and petals. Exhibited by Messrs. Charlesworth and Co., Heaton, Bradford, Yorks.

Cattleya Whitei magnifica.—A striking and handsome flower, deep, almost red-rose in colour with perhaps a tinge of purple. Sepals and petals are alike uniformly coloured. The lip is very fine, broad, and with a beautiful frill, rich crimson-purple, the throat lined with white upon an orange-coloured ground. From Sir Frederick Wigan, Bart., Clare Lawn, East Sheen (Orchid grower, Mr. W. H. Young).

Vanda tricolor tenerosa.—A large and striking flower. The sepals and petals of this fine variety are heavily blotched with rich chocolate-brown upon a creamy-white ground. The lip is purple-rose. The plant shown was unusually vigorous. From M. L. J. Draps-Don, Laeken, Brussels.

Odontoglossum ardentissimum exquisitum.—A handsome, fairly large flower, the white margined lilac-purple sepals are heavily blotched with deep rose-purple. The sepals have a white ground, with deep rose-purple blotches towards the base. From M. Vuylsteke, Ghent.

Odontoglossum wilckeanum venerandum.—A large flower with fairly broad tapering sepals and petals, and heavily marked all over with chocolate-red blotches of varying size. The petals have prettily crinkled edges and a white ground; the ground colour of the sepals is tinged with yellow, and the lip is long and protruding. From M. Vuylsteke.

Schomburgkia galactiana.—The flowers of this Orchid were borne on a raceme at the end of a stem quite 4 feet long. They are drooping, some 2 inches across, chiefly of a rose-purple colour, with a deeper tinge at the edges of petals and sepals. The boat-shaped lip is prettily lined with rose-purple, and there are shades of yellow also. From Lord Rothschild, Tring Park, Tring (gardener, Mr. E. Hill).

Odontoglossum crispum graveolens.—A lovely flower of remarkable colouring. The petals and sepals are covered with a delightful blending of red, brown, orange, and purple, the former colour prevailing near the centre of the flower. Sepals, petals, and lip have white margins, and there are splashes of white showing through in places. From Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne (gardener, Mr. H. J. Chapman).

Awards of merit were given to *Brasso-Cattleya striata*.—*Cattleya Mossiae* and *Brassavola fragrans* are the parents of this hybrid, which has broad, drooping pink petals; the narrow sepals are the same colour; the lip is broad and almost flat, richly flaked and striped with purple upon a white ground. Beneath the column is a mass of yellow. From Messrs. Charlesworth and Co., Heaton, Bradford.

Laelio-Cattleya Fascinator nobilior.—A hybrid between *Cattleya Schröderae* and *Laelia purpurata*. It is a handsome flower with broad petals, tinged a lovely blush. The sepals are the same colour. The large lip is very fine, a soft glowing purple, becoming paler towards the margin, and harmonises charmingly with the petals and sepals. From Messrs. Charlesworth and Co., Heaton, Bradford.

Odontoglossum crispum The Kaiser.—A very attractive flower. The sepals are heavily blotched and spotted with crimson-chocolate, the broad petals being more lightly marked with the same colour. The lip is very good, of oblong form, and blotched and spotted also. From Messrs. Charlesworth and Co., Heaton, Bradford.

Odontoglossum crispum Grand Duchess.—The sepals and petals of this flower are broad, with tapering ends; there are small blotches of rich red-brown on petals, sepals, and lip. From Richard Ashworth, Esq., Ashlands, Newchurch.

Odontoglossum ardentissimum numosum.—A handsome, compact flower heavily blotched with deep brick-red; the sepals are tinged with bright red-purple. The lip is long, and adds much to the attractiveness of the flower. From M. Judd Hye, Coupure, Ghent.

Odontoglossum Vuylstekei Exquisitum.—A richly-coloured flower; the sepals and petals are deep red-brown except for a narrow margin of white and a broader one to the large lip. From M. Vuylsteke.

Vanda Marguerite Maron.—This is a hybrid between *Vanda teres* and *Vanda suavis*, the flower is large with rich pink petals and upper sepal, the lower sepals are of a paler colour. The lip is heavily lined with crimson upon yellow,

at the tip it is rich rose-crimson. The foliage much resembles that of *V. terebinthifolia*, but is broader and stiffer. From M. Ch. Maron, Bruy, France.

Odontoglossum ardentissimum concinnum superbum.—This much resembles *O. a. Exquisitum*; the flower is rather less compact, the markings are paler, and the blotches smaller. From M. Vuylsteke.

Lælio-Cattleya canhamiana Rex.—Cattleya Mossie relictiana and Lælia purpurata are the parents. It is a large flower; the drooping petals are almost pure white; there is a tinge of blush in them and the sepals. The lip is long, rich purple, with white margin. Rather a loosely-formed flower. From Sir Frederick Wigan, Bart.

Odontoglossum crispum Kathleen.—A very large bloom; the white petals are broad with frilled edges. The sepals have a central band of pale rose-purple. The raceme shown was very vigorous, bearing fourteen flowers. From Messrs. J. and A. A. McBean, Cooksbridge.

Phaius Chapmanii.—P. Phoebe and P. Humboldtii are the parents of this new hybrid, whose flat petals and sepals are a beautiful soft buff-pink. The upper part of the widely open lip, on either side of the column, is rich brown; and the spreading base is heavily splashed with deep pins. From Norman C. Cookson, Esq.

LIST OF AWARDS.

GIVEN BY THE COUNCIL AFTER CONSULTATION WITH THE JUDGES.

The order in which the names are entered under the several medals and cups has no reference whatever to merit, but is purely accidental.

GOLD MEDALS.

Sir F. Wigan for Orchids; Messrs. James Veitch and Sons for trees, shrubs, flowering and foliage plants; Sander and Sons for Orchids and stove plants; Wallace and Co. for Lilies and bulbous plants; G. Jackson and Son for Clematis and hardy plants; William Paul and Son for Roses and Rhododendrons; Fisher, Son, and Sibray for ornamental trees and shrubs; Blackmore and Langdon for Begonias; William Cutbush and Son for Carnations and topiary work; and H. Cannell and Sons for vegetables, Cannas, Cacti, and Begonias.

SILVER CUPS.

Sir A. Henderson, B.urt., M.P., for fruit; Sir W. G. Pearce, for fruit; W. H. James, Esq., for Carnations; Messrs. Sutton, for fruit, vegetables, Gloxinias, &c.; Carter, for vegetables, Gloxinias, &c.; Guildford Hardy Plant Company, for herbaceous and alpine; Backhouse, for alpine; John Russell, for Allocacias and trees and shrubs; Charles Turner, for Roses and Pelargoniums; George Paul and Son, for Roses and alpine; A. J. A. Bruce, for Succulents; Cuthbert, for Azaleas; John Waterer, for Rhododendrons; John Peed, for Caladiums, Begonias, and Gloxinias; Barr and Son, for herbaceous and alpine plants; J. Cheal, for herbaceous and alpine plants and shrubs; T. Cripps, for Acers and hardy trees and shrubs; M. Pritchard, for herbaceous and alpine plants; A. Perry, for hardy plants and aquatic; J. Hill and Son, for Ferns; Ware and Co., for Begonias and alpine.

SILVER-GILT LINDLEY MEDAL.

Messrs. Charlesworth, for Orchids; J. Coleman, Esq., for Orchids; and Leopold de Rothschild, Esq., for Orchids.

SILVER-GILT HOGG MEDAL.

Messrs. George Bunyard, for fruit; and Messrs. Rivers and Son, for fruit trees.

SILVER-GILT FLORA MEDALS.

Lord Aldenham, for Streptocarpus; Reamsbottom, for Anemones; Bull, for Orchids and foliage plants; R. Smith, for Clematis, Roses, and herbaceous plants; Balchin, for New Holland plants; Hugh Low, for Orchids; Reuthe, for herbaceous and alpine; Frank Cant, for Roses; Box, for Begonias; B. R. Davis, for Begonias; Fromow, for Acers; and Gilbert, for Anemones.

SILVER-GILT BANKSIAN MEDALS.

Martin Smith, Esq., for Carnations; J. Rutherford, Esq., M.P., for Orchids; A. Wilson, Esq., for Carnations; Messrs. Dobbie and Co., for Fancies and Violas; Alex. Dickson, for Tulips; T. Jannoch, for Lilies and Lilacs; W. Ictson, for Lilies and foliage plants; B. Cant, for Roses; Geo. Moutt, for Roses; and J. Laing, for Begonias and Streptocarpus.

SILVER LINDLEY MEDAL.

R. Ashworth, Esq., for Orchids; and J. Cypher, for Orchids.

SILVER KNIGHTIAN MEDAL.

Mr. S. Mortimer, for vegetables.

SILVER BANKSIAN MEDALS.

A. C. Harnsworth, Esq., for Calceolarias; Messrs. Jones, for Sweet Peas; B. R. Cant, for Roses; McBean, for Orchids; A. J. Harwood, for Asparagus; W. Godfrey, for Asparagus; H. C. Pulham, for alpine; Cowan, for Orchids; L. J. Draps-Dom, for Dracenas; J. Godfrey, for Poppies; R. Addie, for Mushrooms; R. Anker, for Cacti; Gauntlett, for Rhododendrons; J. Kelway, for Pæonies; W. H. Rogers, for hardy shrubs; C. A. Watts, for Sweet Peas; Swanley Horticultural College, for fruit and vegetables; Ranelagh Company, for Asparagus myriocladus; and A. D. Hall, Esq., for Tulips.

SILVER FLORA MEDALS.

Dorrien Smith, Esq., for Puya lauginosa; R. J. Farrar, Esq., for alpine; Hon. A. A. Montmorency, for Tulips; Messrs. Storrer, for Auriculas; Bath, for Carnations; H. B. May, for Pelargoniums and Ferns; W. B. Child, for Violas and alpine; Miss Hopkins, for alpine; E. Lovett, for alpine; B. S. Williams, for Orchids; A. F. Dutton, for Carnations; H. J. Jones, for Begonias and Pelargoniums; Laxton, for Strawberries; J. Robson, for Orchids; R. Sydenham, for Sweet Peas; Trower, for Lilies; Hogg and Robertson, for Tulips; and Hobbies, for Roses and Carnations.

ORCHID COMMITTEE AWARDS.—FIRST-CLASS CERTIFICATES.

Vanda tricolor tenebrosa, from L. J. Draps-Dom, Laeken, Brussels; *Odontoglossum ardentissimum exquisitum* and *O. wickhamianum venerandum*, from Mr. C. Vuylsteke, Louchristi, Ghent; *O. crispum gairairianum*, from N. C. Cookson, Esq., Wylam-on-Tyne; *Cattleya Whitei magnifica* (C. schilleriana × Warneri), from Sir F. Wigan, Bart., Clare Lawn, East Sheen; *Lælio-Cattleya Fascinator splendens* (Cattleya Schroederi × L. purpurata), from Messrs. Charlesworth and Co., Bradford.

AWARDS OF MERIT.

Odontoglossum crispum Grand Du-hess, from Richard Ashworth, Esq., Ashlands, Newchurch; *O. ardentissimum numosum*, from Jules Hye de Croon, Coupure, 117, Ghent; *O. concinnum* (crispum × Pescatorei) *Vuylstekei exquisitum*, from Mr. C. Vuylsteke, Louchristi; *O. crispum Duma*, from Messrs. J. and A. A. McBean, Cooksbridge, Sussex; *Phaius Chapmanii*, from N. C. Cookson, Esq., Wylam-on-Tyne; *Lælio-Cattleya canhamiana Rex*, from Sir F. Wigan, Clare Lawn, East Sheen; *Schomburgkia galeottiana*, from the Right Hon. Lord Rothschild, Trig Park, Tring; *Vanda Marguerite Maon* (Vanda teres × V. suavis), from Mr. C. Maron, Bruy, France; *Brasso-Cattleya striata* (Cattleya-Mossie × Brassavola fragrans), from Messrs. Charlesworth and Co., Bradford; *Lælio-Cattleya Fascinator nobilior* (C. Schroederi × L. purpurata), from Messrs. Charlesworth and Co., Bradford.

BOTANICAL CERTIFICATE.

Eulophia Colæe, Miss Edith Cole, West Woodhay House, Newbury, Berks.

CULTURAL COMMENDATION.

Sir F. Wigan, Bart., Clare Lawn, East Sheen, for *Cymbidium lowianum* Wigan's var.

FRUIT COMMITTEE AWARDS.

AWARD OF MERIT.

Cucumber Mortimer's Unique (Improved Telegraph × British King), from Mr. S. Mortimer, Rowledge, Farnham, Surrey.

FLORAL COMMITTEE AWARDS.

FIRST-CLASS CERTIFICATE.

Ficus pandurata, *Polypodium Knighte*, from Messrs. F. Sander and Sons, St. Albans.

AWARD OF MERIT.

Phyllocactus Deutsche Kaiserin, from Mr. H. Kohlmann-schuer, Britz, Berlin; *Dracaena Pre Caron*, from Mr. L. J. Draps-Dom, Laeken, Brussels; *Azalea mollis × sinensis Flo odora*, from Messrs. R. and G. Clithbert, Southgate; *Selaginella watsmanniana*, from Messrs. F. Sander and Sons, St. Albans; *Rosa polyantha Blush Rambler* (Crimson Rambler × The Garland), from Messrs. B. R. Cant and Sons, Colchester; *Double Begonias Mrs. Portman Dalton*, *Mrs. Moger*, *Sir T. Lipon*, *Hon. Lady Neel*, *Mrs. W. P. Neal*, from Messrs. Blackmore and Langdon, Twerton-on-Avon, Bath; *Sony c Begonia Lady Howe*, from Messrs. J. Laing and Son, Forest Hill, S.E.; *Rosa multiflora Waltham Rambler*, from Messrs. W. Paul and Son, Waltham Cross, N.; *Double Begonia Mrs. Moger*, from Messrs. B. R. Davis and Son, Yeovil, Somerset; *Geum Heidereichi superba*, from Mr. Amos Perry, Winchmore Hill; *Richardia hybrida solitaria*, from Mr. G. Borneman, Blankenborg, Hatz, Germany; *Tea Rose Queen of Sweden and Norway*, from Messrs. Paul and Son, Cheshunt.

CULTURAL COMMENDATION.

T. A. Dorrien-Smith, Esq., Tresco Abbey, Isle of Scilly, for *Puya lauginosa*.

TRADERS IN POISONOUS COMPOUNDS PROTECTION SOCIETY.

SIR.—A letter, of which the following is a copy, appears in the *Chemist and Druggist Journal* for the 16th inst.:

"Sir,—An experience of forty-four years in the drug trade has never given me the necessity to think chemists were not able to cope with the poisonous compounds used in horticulture, Wheat dressing, &c. Neither have I ever known a town or village in which, as a rule, there are not four chemists to one seedsman. I therefore wonder on what point Mr. Dobbs bases his plea to be allowed, with others outside the drug trade, to get the sale of poisons placed in other traders' hands. Farmers go to the chemist for horse physic, rubbing oils, and medicine for domestic use, and naturally order their Wheat dressing or sheep dip. Why, then, all this fuss? Surely our legislators cannot have been properly informed upon the subject, otherwise I am sure no one sitting on the Commission would have entertained a desire to alter the Pharmacy Acts.—Faithfully yours, JOHN S. SYKES, Plumstead, S.E., May 7."

The following is a copy of a letter I have received from a "Farmer in Wales":—

"Mr. Dobbs—Sir,—In last week's *Chemist and Druggist Journal*, Mr. Sykes' letter is misleading. I live in a country district, the nearest chemist's shop to me where I can obtain poisonous sheep dip is twelve miles any direction, which I consider very inconvenient, and I have to use non-poisonous dip, when I would prefer poisonous. Again, I can prove to you, where a chemist charged me for 6'20 grains unsu. vum. powder 7s. 6d., when it costs about 10d. to 1s. 3d. per lb. I am only pointing you these facts to contradict Mr. Sykes' experience in agricultural trade. Sheep dip is used very largely in our district, and yet in the hands of chemists, when really a grocer or ironmonger near home could supply me equally as well. I hope we shall have more freedom in business matters.—Farmer in Wales, May 19, 1903."

In the interest of the agriculturist and horticulturist, it is advisable they should take a greater interest in the movement now on foot to get the Pharmacy Acts amended, making it lawful for traders to have the right to sell poisonous compounds in sealed packages under proper restrictions, according to regulations to be laid down by the Privy Council as well as chemists, and I shall be obliged if

any of your readers will kindly inform me of any experiences they may have had similar to that of the "Farmer in Wales," so that I may use it to their interest.

You will note that not only has the "Farmer in Wales" experienced difficulty in obtaining poisonous sheep dips, but he makes an allegation against the chemist of charging him very extravagant prices.

Thanking you in anticipation for the insertion of this letter to your next issue.—THOMAS G. DOBBS, 24, Sansome Street, Worcester.

NATIONAL AMATEUR GARDENERS' ASSOCIATION.

The next monthly meeting of this association takes place on Tuesday, June 2, next, at Winchester House, Old Broad Street, E.C., at seven o'clock in the evening. On this occasion one of its members, Mr. A. J. Foster, is to give a paper on "Gloxinias and Streptocarpaceus." A most attractive feature of these monthly meetings is the exhibition of the products of members' gardens. On the occasion referred to there will be several interesting competitions, and there is the promise of an interesting and instructive display. The monthly exhibits, set up by the lady members, are becoming quite a feature, and on June 2 there are to be special classes in which table decorations will be arranged in competition for special prizes. The subscription is only 5s. per annum, and all particulars may be obtained from the hon. secretary, Mr. F. Finch, 117, Embleton Road, Vicar's Hill, London, S.E.

CROYDON AND DISTRICT HORTICULTURAL SOCIETY.

"POPULAR HORTICULTURE."

A SUCCESSFUL meeting of the Croydon and District Horticultural Mutual Improvement Society was held at their rooms, Sunflower Temperance Hotel, George Street, on the 19th inst., and to a very appreciative audience Mr. Turney expounded good sound views on "Popular Horticulture." He rightly quoted an authority in saying the study of horticulture is "most beautiful and most peaceful," because in following Nature's embellishments it is appealing to one and all alike, coming within the reach of the poor man as well as the rich; and as a recreative pastime it is incomparable as a means of intellectual elevation from the monotony of everyday life. He strongly urged the benefit accruing from public parks and recreation grounds, where, if these are properly kept, great assistance is afforded the enthusiast. The lecturer's paper created an interesting discussion, during which the members bore out full testimony on all points set forth in his views. Mr. A. Edwards, Ambleside Gardens, staged some splendidly-grown plants of Souvenir de la Malmaison Carnation, and won from all much appreciation. Two new members were elected.

The next paper will be given by Mr. W. J. Simpson on June 16, whose subject will be "Heating and Ventilating Horticultural Structures."

MANURES FOR GARDEN CROPS.

(Continued from page 268.)

3. For cruciferous plants (Cabbages, Cauliflowers, Radishes):—

Nitrate of soda	...	...	4 40
Sulphate of ammonia	...	...	2 20
Superphosphate of lime	...	...	13 22
Chloride of potassium	...	...	6 61
Sulphate of lime	...	...	4 40
Sulphate of iron	...	...	4 40

4. For all composite plants (Lettuces, &c.):—

Sulphate of ammonia	...	...	2 20
Superphosphate of lime	...	...	4 40
Chloride of potassium	...	...	2 20
Sulphate of lime	...	...	4 40
Sulphate of iron	...	...	2 20

5. For composite plants (Artichokes, Cardoons, &c.):—

Nitrate of soda	...	...	5 50
Superphosphate of lime	...	...	8 81
Chloride of potassium	...	...	1 32
Sulphate of lime	...	...	4 40
Sulphate of iron	...	...	2 20

6. For plants of the Chenopodiaceæ (Spinach, New Zealand Spinach, Fig Marigolds):—

Nitrate of soda	...	...	2 20
Superphosphate of lime	...	...	6 61
Chloride of potassium	...	...	3 30
Sulphate of lime	...	...	4 40
Sulphate of iron	...	...	2 20

These different manures are applied at the rate of about 8oz. or 10oz. per square yard.

M. Truffaut, who has worked at this question for several years, does not place the requirements of vegetables quite so high. He distributes at the rate of about 3½oz. per square yard manures calculated according to their dominants, and for which he indicates the proportion of nitrogen, potash, and phosphoric acid, without regard to the chemical products that furnish these elements. His formulas are as follows:—

1. Beetroot, Melons, Cucumbers, Radishes, Carrots, Parsnips, Turnips, Salsafy, Potatoes, Pumpkins:—

	Per cent.
Nitrogen	8 30
Potash	11 50
Phosphoric acid	14 10

2. Garlic, Shallots, Onions, Leeks, Chives:—

	Per cent.
Nitrogen	5 65
Potash	20 10
Phosphoric acid	10 35

3. Egg Plants, Capsicum, Tomatoes:—

	Per cent.
Nitrogen	7 65
Potash	17 20
Phosphoric acid	11 20

4. Cabbages, Lettuces, Chicory, Corn Salad or Lamb's Lettuce, Sorrel, Mountain Spinach, Spinach, Artichokes, Cardoons, Chervil, Asparagus, Chard, Beet, Celery:—

	Per cent.
Nitrogen	9 65
Potash	5 95
Phosphoric acid	13 45

5. Strawberry plants, Beans, Lentils, Broad Beans, Peas:—

	Per cent.
Nitrogen	4 05
Potash	18 20
Phosphoric acid	17 15

(To be continued.)

ANSWERS TO CORRESPONDENTS.

RULES FOR CORRESPONDENTS.

Questions and Answers.—The Editor intends to make THE GARDEN helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object will make a special feature of the "Answers to Correspondents" column. All communications should be clearly and concisely written on one side of the paper only, and addressed to the EDITOR OF THE GARDEN, 20, Tavistock Street, Covent Garden, London. Letters on business should be sent to the PUBLISHER. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper.

Names of plants.—F. H.—The specimens sent were in such poor condition that in several instances it was impossible to name with any degree of certainty. As far as we can make out the names are: 1, *Centranthus ruber*; 2, *Asplenium dimorphum*; 3, *Scopolopendrum vulgare* bimariginatum; 4, *Osmunda palustris*; 5, perhaps a small frond of *Polypodium articulatum*; 6, *Pellaea hastata*; 7, *Davallia mooreana*; 8, impossible to name, shrivelled up; 9, *Lastrea atrata*; 10, *Dactylis glomerata variegata*; 11, may be *Ligustrum sinense*; 12, completely shrivelled up.—T. W.—The Orchid is *Dendrobium thysiflorum*.—H. E. H.—White B-am Tree (*Pyrus Aria*)—K. A.—The flowers are those of the *Ixia*.—Miss Whitehead.—*Arenaria peploides*, *Loiseleuria procumbens*.—W. S.—The Rose is *Niphetos*.—Alfred James.—Bird Cherry (*Prunus Padus*).

Tree lupine.—Put this in the herbaceous class.
Lettuce plants decaying.—From the appearance of the Lettuce plant I should say that it has been attacked by some grub or caterpillar, or perhaps by one of the snake millipedes, the grubs commonly known as leather jackets, which are the grubs of the daddy-long-legs. The caterpillars of several kinds of moth, as well as the snake millipedes often eat through young plants just at the surface of the ground. The decayed part was partly covered by the mycelium of a fungus. I do not think it was the cause of the injury, but was merely living on the rotting matter.—G. S. S.

Flies in Irises (W. D.).—The little flies you sent are perfectly harmless, and are certainly not the cause of the injury to your plants. I should think that one of the weevils was most probably the author of the mischief, as they are night-feeding insects, and rarely seen about during the daytime. I should examine the plants carefully after dark with a lantern, and it would be as well to spread some paper or white cloths under the plants while it is still light, for the weevils often fall as if dead at the slightest alarm, and, being dark-coloured insects, they are not easily seen on the ground. It is possible that the culprit is a slug or caterpillar.—G. S. S.

Tree Peonies (CONSTANT READER).—These Peonies are very slow in growth, particularly in the early stages. This much indeed you have already proved. In the open the plants succeed best in a deep and very sandy loamy soil. In your case the clay subsoil is much against them, and if this could be removed to some extent better growth would probably ensue. A bed in the open garden for Tree Peonies should be made at least 2 feet deep, with 6 inches of rough drainage material first placed in the bottom to be covered with rough turf or sods, grass side down. The compost of the bed should be made up of old pasture turf, leaf-mould, and sharp sand or grit in equal parts. To this should be

added one-fourth part of manure well decomposed, also charcoal or old mortar in lesser degree if obtainable. These latter are not absolutely essential, but are helpful in a soil or locality where clay abounds. We give you the above general cultural items, because far too frequently such things are omitted in the first or original planting, with the result that disappointment quickly ensues. The growth made in four years is not sufficient and a flowering could hardly be expected. If the plants are not well planted give them a trial in the open garden, planting them as suggested. If not too forward in leaf the planting may still be done with care, but if delay is likely we think it best to wait till the end of August, and then take the work in hand and do it thoroughly. Meanwhile, however, you may pot the plants in a mixture similar to the above, giving each plant the size pot into which with fresh soil added it can conveniently be placed. We cannot say what size without seeing the plants. Usually a large size is required, 9-inch or 10-inch, some much larger. If you decide to pot the plants retain as much soil as possible with the roots and place them in a cold frame or shady greenhouse for a week to recover. From the pots in early autumn the plants may be transferred without more ado. By potting the plants now you would be enabled to prepare the bed at leisure. Pot cultivation is not a permanent success with these plants.

Haws and Holly berries (S. C.).—These are gathered during the autumn or early winter, mixed with sand, and put in a heap outdoors covered by a few turves, the aim being to rot the fruits so that the seeds can easily be separated. The heaps should be left exposed to rain and frost until the following April, when the sand and fruits should be rubbed through a sieve to ensure each seed being separated from its fellows. They can then be sown in beds about 3 feet wide in a sunny place outdoors in fairly good soil, covering the seeds about a quarter of an inch deep with fine mould. The beds should be shaded with Heather, Fir branches, or thin canvas to keep off the fiercest of the sun's rays. A fair proportion of the seeds will germinate the first year, though the bulk will take two years to come up. The seeds can also be sown in heat under glass, when they will germinate more quickly, but care must be taken that they are moved to cooler quarters as soon as they are up or they will become drawn and spindly. The seedlings should be pricked out in the open ground as soon as they are large enough to handle, pot culture being ruinous to seedling Thorns and Hollies.

Thorns from cuttings (S. C.).—The best way to increase the Thorn you wish to propagate is to bud it on stocks of the common Hawthorn, which can be procured very cheaply from any nursery. Young Thorns from 2 feet to 3 feet in height should be obtained during the early winter and planted out where desired. They will be fit to bud in the following August, or as soon as the bark parts readily from the stem. The height the bud is put in on the stock is immaterial, though Thorns do best when budded fairly low down, using the shoot which grows from the bud to form a stem. Thorns can be propagated by root-cuttings, but if your plant is a worked one this method would be useless. If, however, it is a seedling, you could in the winter open up the roots on one side of the tree with a fork and select a few of them about the thickness of a finger or thicker, and cut them in lengths of about 6 inches, cutting the end of the root furthest from the tree in a slanting direction and the other end flat. These cuttings can then be planted upright in the ground, nearly or quite covered with soil, care being taken to put the slanting end downwards.

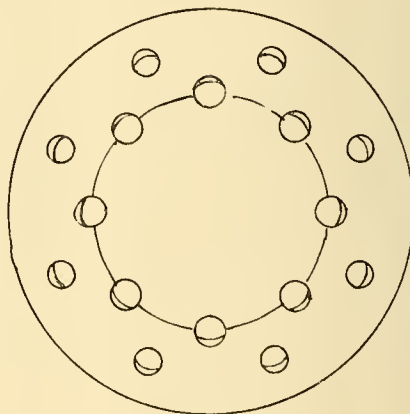
Vine leaves diseased (W. RIDGE).—The disease affecting your Vine leaves is what is commonly understood as the Vine Rust (*Puccinea*). It is a fungoid growth, which not infrequently attacks the Vine when grown under glass, and especially when forced early into growth, as in your case. If the fungus is not speedily destroyed there is a danger of its extending to the berries, which it soon disfigures and spoils, and also of its attacking and destroying the stalk of the leaf at its junction with the leaf, as is the case with one of the specimens sent by you. The cause of its attack, in nine cases out of ten, is the injudicious or accidental admission of cold currents of air through open doors or front ventilators at a time when the foliage is tender and sensitive to injury. Therefore to prevent its attack another season guard against the admission of currents of cold air through front ventilators and open doors in early spring, preferring rather to ventilate only from the apex of the roof. The best remedy is flowers of sulphur, and the most effective way of applying the remedy is, when of the consistency of paint, to smear the hot-water pipes when heated to such a degree as to be too hot for the hand to rest on for more than a moment. The fumes from this dressing will pervade the house, and should kill the spores on the first application; but to make sure, it is well to repeat the application the second day. The cool of the evening after the sun has gone down is the best time to carry out the work. Of course, every ventilator and aperture of the house must be closed, and left so until the following morning. Where only a few leaves are affected a simpler and an effective remedy may be applied by dredging the affected parts with flowers of sulphur, having previously damped the leaves with rain water. The sulphur should be washed off at the end of twenty-four hours.

Arrangement of colours in bouquets (ENQUIRE).—This is a subject rather difficult to discuss in the columns of a newspaper, but as some help to your correspondent, and possibly to others, I may point out certain principles it is necessary to observe in the arrangement of cut flowers in bouquet-making, if harmony in colouring and the most pleasing results are to be obtained. I think I cannot make myself better understood than by taking white as a base to start with. In combination with white flowers beautiful and harmonious effect may be produced by the use of any shades of red, from bluish rose to scarlet, and the same with all shades of yellow, from the faintest primrose to the deepest bronze, the same again with shades of blue, from the palest of mauve to the deepest of purple. White is in perfect harmony and good taste with

any of these; that is one reason why the *Odontoglossum crispum* is such a valuable aid to the bouquetist in producing those posies of exquisite loveliness which invariably run away with the best prizes at our flower shows. But for a really pleasing and beautiful effect in a bouquet there is nothing so effective and pleasing to my mind as a study in the different shades of one colour, whether it may be gold, blue, or pink, with their infinite shades and degrees of colouring. This applies to the artistic arrangement of flowers on the dining-table as well. Since this form of floral work has become so popular at our horticultural exhibitions, and has occasioned so much enthusiasm on the part of the public, more especially amongst ladies, let me advise those who engage in this work to aim at producing studies, if I may so use the word, in the varying and beautiful shades of one colour. I have noticed for long that the best prizes are invariably given by competent judges to those combinations of shades of colour, whether of bouquets or table arrangements, in preference to a mixture of colours, however cleverly arranged.—OWEN THOMAS.

TRADE NOTES.

THE IMPERIAL FLOWER-POT VENTILATOR AND PERCOLATOR. This is an excellent invention, and deserves wide popularity. It is a wonder that such a simple device has not been thought of before, for a free passage for the water is one of the essential conditions to ensure good culture. Broken crocks are still used for drainage, which soon becomes choked, and, as the inventors say, "as a flower-pot is not transparent, the only way of ascertaining the health of a plant's root is to remove the ball of earth from the pot. This removal always results in the disturbance of the most important roots and consequent check to the plant's growth." By the insertion of an Imperial Percola or in any ordinary flower-pot, thereby ensuring proper ventilation and drainage, plants are preserved from decay and kept in robust health, and produce finer blooms when flowering than when potted under the old system. Moreover, under the new system the condition of the plant can be ascertained at



any time without detriment to its growth, as the percolator keeps the ball of earth firmly together and undisturbed while being removed and replaced. The Imperial Percolator will cause a complete revolution in the cultivation of plants in pots. It is novel, simple, and cheap, and may be obtained from the Imperial Flower-pot Percolator Company, 23, Great St. Helen's, London.

Among the numerous weed-killers now offered for clearing gravel paths, drives, &c., we find that Hayward's "Eureka" is a preparation that is always of uniform strength, and may be depended upon. The manufacturers, Messrs. Tomlinson and Hayward, Limited, Lincoln, make two qualities, powder and liquid, and both seem effective. The same firm have now introduced their "Eureka" horticultural preparations, the chief line being "Eurekatine," for fumigating greenhouses, insecticide for spraying, &c. They also have a summer shade, which they claim will be suitable for either inside or outside use, and can be shaded down to the required density. It is made that rain will not wash it off, but when hot water is used it can readily be removed from the glass.

CATALOGUES RECEIVED.

Bedding and Border Plants, Flower Seeds, Pelargoniums, Farm Seeds.—Messrs. Dicksons, Chester.
New Roses.—Messrs. William Paul and Son, Waltham Cross, Herts.

Bedding and Other Plants.—Messrs. Wood and Ingram, The Old Nurseries, Huntingdon.

Considers and Water Plants.—Herr Heinrich Heukel, Darmstadt.

GARDENING APPOINTMENT.

MR. JAMES CLARKE, for upwards of four years foreman at Camp Hill, Woolton, Liverpool, has been appointed head gardener to Alfred Fletcher, Esq., J.P., Allerton House, Allerton, Liverpool. Mr. Clarke enters upon his duties on June 1.

* The Yearly Subscription to THE GARDEN is: *Inland*, 15s.; *Foreign*, 17s. 6d.

THE GARDEN

No. 1646.—VOL. LXIII.]

[JUNE 6, 1903.

ROSES AND ROSE SHOWS.

ROSEs and Rose shows are subjects which naturally fill a large space in the minds of rosarians at the present moment, and we are glad to take the seasonable opportunity of once more calling attention to several important meetings which have been held of late to discuss the need of gradual improvement in the methods of Rose exhibitions. The suggestive paper read by the Rev. J. H. Pemberton on "Present-Day Rose Shows," at the last monthly meeting of the Horticultural Club, already reported in our columns, gave occasion for a well-balanced and interesting debate. It is well in considering any subject to look at it from more than one point of view, and the temperate expression of widely differing opinions is most valuable and most welcome.

It seems to stand to reason, however, that the evolution which is gradually but surely taking place in our best Rose gardens must eventually work a change both in taste and practice throughout the country. The National Rose Society, as we gladly recognise, has not been slow to perceive this fact, and, with its usual energy and acumen, is not behindhand in doing all it can to encourage a new departure by introducing certain fresh classes into its schedule, which will go far to relieve the formality and increase the attractiveness of its exhibitions. There has also been ample evidence recently—more especially in the charming specimens at the Temple show—to prove that the principal Rose growers are willing, doubtless at extra cost to themselves, to follow the lead so timely given.

The object of the thoughtful gardening public in going to a Rose, or, for that matter, to any other flower, show is not, primarily, to see beautiful exhibits, enjoyable as that may be. It goes because it wishes to be introduced to the newest and finest plants of the kind which the several societies are able to produce, and, above all, to be instructed, by ocular demonstration, in the best methods of using them for home decoration in and out of doors, whether growing or in a cut state. There is no question that a tied out and well trained Rose bush of the old-fashioned stamp covered with flowers is a marvel of the gardener's skill, and beautiful in its own way, but it is thoroughly artificial. No one with an artistic sense would look twice at it, if his eye could wander to a plant freely grown and showing its own peculiar

grace of outline and natural character. The art may be there all the same, and in much greater degree, but it does not thrust itself head foremost upon the attention. This being so, it clearly follows—though manifold difficulties may stop the way—that the wisest course, even in the interests of commerce itself, is to respond to the indications plainly given by the admiring crowds—not of the uninitiated alone—who gather round the beautiful groups of freely-grown pot Roses which appear nowadays at our best Rose shows. Of these we hope to see more and more in the future, not of the Rambler class only, but also of other types according to their different characteristics.

We are completely at one with the dictum of Mr. E. Mawley, whose opinion and authority on such points carry immense weight, that changes must be made cautiously and gradually. We have no wish, for example, summarily to dismiss the time-honoured exhibition box. In its own way and for its special purpose it is indispensable, and we are aware that the less formal plan of showing Roses, cut with long stems, in vases is not quite so simple and easy as at first sight it might seem to be. To overcome difficulty, however, is—or ought to be—as the salt of life to a Briton. Yet even here we may submit that as the staying power of most of the Tea Roses and Noisettes with their hybrids gives them a value for house decoration which does not so fully belong to all classes of Roses, these present at once less difficulty and more fitness for the natural style of arrangement which we wish to advocate.

What we—and the public—want to be shown, in all truth and honesty, is the intrinsic beauty, both in foliage and flower, of any given variety as it grows, which is manifestly impossible on the flat show board. Therefore, it is in no spirit of carping that we so strongly and persistently urge that, besides the usual classes, a certain number of others, possibly out of the ordinary groove, should be added as expedience dictates to the schedules of entries for all the principal shows, provincial as well as metropolitan. By this means the beauty and best use of cut Roses in vases for the house would be worthily exemplified, as well as some of the possible and most attractive methods of culture in pots, *i.e.*, portable form, for a like purpose.

The National Rose Society, under the auspices of its distinguished and popular president, Dean Hole, has led the way nobly in the past. Very few of those who are not

immediately concerned in the management can guess at the immense amount of labour cheerfully and voluntarily given to promote the success of such undertakings, and we cannot be too grateful to the indefatigable secretary, Mr. E. Mawley, and others who so unselfishly devote time and infinite painstaking to the work. Exhibiting adds the keen zest of emulation to the pleasures of Rose growing and hybridising, and without it we should soon sink back to a dead level. We heartily thank the National Rose Society for giving such splendid opportunities both to amateur and professional growers, and cordially hope that it may not only keep up the success it has so worthily attained in the past, but that it may achieve in all its ramifications greater glory in the immediate future.

EDITOR'S TABLE.

At this season the flowers of the garden are coming forth abundantly, and we invite our readers to send us anything of special beauty and interest for our table, as by this means many rare and interesting plants become more widely known. We hope, too, that a short cultural note will accompany the flower so as to make a notice of it more instructive to those who may wish to grow it. We welcome anything from the garden, whether fruit, tree, shrub, Orchid, or hardy flower, and they should be addressed to The Editor, 20, Tavistock Street, Covent Garden, London.

A GIANT BYBLOEMEN TULIP.

Mrs. A. Bayldon, Oaklands, Dawlish, Devon, sends an unusually fine Tulip flower; it was almost $4\frac{1}{2}$ inches deep and 4 inches wide, richly splashed with purple, red, and yellow. Mrs. Bayldon says all the English Tulips have been of exceptional size this year.

IRISES FROM GUERNSEY.

Among the hybrid Irises sent by Mr. W. Caparne are some of most exquisite shades. The blues comprise Dom Carlos and Blue Beard, Brunette is bronze, Ivorine and Empress are ivory-white, Pearl and The Bride are white, Mars is crimson.

MECONOPSIS CAMBRICA FROM ARMAGH.

From The Mall, Armagh, Mr. J. McWalters sends a delightful lot of double Welsh Poppies. They are very richly coloured, chiefly orange-red and yellow. They are very handsome.

SHRUBS FROM CORNWALL.

Mr. V. N. Gauntlett, Redruth, Cornwall, sends a most interesting lot of shrub branches. Among them are Acer Prince Hedgery, a showy variety with pretty pale red leaves; the double Japanese Cherry; Dentzia discolor purpurea (blush); D. rosea, very free flowering; D. carminea; Sorbus

majestica, large whitish-downy foliage; Berberis Knightii, very handsome, with stiff dark green leaves and rich yellow flowers with red stalks; and Photinia dentata, with dark red shining leaves and wood.

NOTES OF THE WEEK.

FORTHCOMING EVENTS.

June 9.—Meeting of the Royal Horticultural Society; Horticultural Club, 6 p.m., Mr. C. T. Drury, F.L.S., V.M.H., on "Hybridisation *versus* Selection."

June 10.—Meeting of the East Anglian Horticultural Club.

June 10.—Exhibition of Rhododendrons throughout June in the Royal Botanic Society's Gardens, Regent's Park, by Messrs. John Waterer, Limited, Bagshot.

June 23.—Oxford Horticultural Show.

June 24.—York Gala (three days); Gardeners' Royal Benevolent Dinner, 7 p.m.

Royal Horticultural Society.—The next fruit and flower show of this society will be held on Tuesday next, in the Drill Hall, Buckingham Gate, Westminster, 1-5 p.m. A lecture on "Fruit Bottling," with a practical demonstration, will be given by Miss Edith Bradley at three o'clock. At a general meeting of the society held on Tuesday, the 19th ult., eighty-nine new Fellows were elected, among them being Lady Hunter, Lady Hyde Parker, Lady Julia Wombwell, and Colonel H. R. Young, making a total of 768 elected since the beginning of the present year.

Exhibition of Roses at Holland House, June 25.—The attention of all exhibitors is called to an accidental omission from the schedule of the Royal Horticultural Society of the following class for garden Roses, which will be called Class 9 B: Thirty-six bunches (consisting of not less than five trusses of each) of garden Roses, distinct, including China, Moss, Polyantha, Provence, and other summer-flowering Roses and their hybrids, and all those mentioned in the National Rose Society's catalogue of garden Roses, and also all Teas and Noisettes not included in the National Rose Society's list of exhibition Roses, all singles, however, excluded. To be staged in thirty-six glasses or jars not exceeding 3 inches diameter at the top; all stems to reach the water; each variety in a separate glass or jar (open). First prize, silver cup; second, silver-gilt Flora medal.

National Rose Society.—A meeting of the committee will be held at the rooms of the Horticultural Club, Hotel Windsor, Victoria Street, Westminster, on Tuesday next, at 3.30 p.m. The agenda is as follows: Report of General Purposes Committee, list of judges for the Temple Show, method of judging seedling Roses, arrangements for Temple show, judges for Glasgow exhibition, and other business.

Mr. W. B. Latham.—After acting as Curator of the Birmingham Botanic Gardens for almost thirty-six years, Mr. W. B. Latham has just resigned his post, and will terminate his connexion with the gardens he has done so much to improve at the end of September. There must be many of our readers who have recollections of pleasant hours spent in the Botanic Gardens at Edgbaston with Mr. Latham for a guide, if only when the various floricultural societies have held their exhibitions in the gardens there. Mr. Latham has been successful in raising several hybrid Ferns, among which we may mention Dicksonia lathamiana, one between Cyathea insignis and Alsophila excelsa, and Gymnogramma Lathamiae. Cypripedium lathamianum and C. deedmanianum, both well-known hybrids, were also raised by him about two years ago. Mr. Latham was awarded a large Veitchian medal for eminent services rendered

to horticulture. He is a member of the Orchid committee of the Royal Horticultural Society, has been chairman of the Birmingham and Midland Counties Fruit and Horticultural Society for twenty-eight years, and of the Birmingham and Midland Counties Gardeners' Association since its formation seventeen years ago. We trust that Mr. Latham may long enjoy the rest he has so well earned.

Messrs. T. Rivers and Son's exhibit at the Temple show.—All mention of the grand display of pot fruit trees by Messrs. Rivers, of Sawbridgeworth, was unfortunately inadvertently omitted from our report of the exhibition in the Temple Gardens. Visitors always look out for Rivers' pot fruit trees among the most interesting exhibits, and this year they were quite as good as usual. All the trees were bearing excellent crops of fruit, and there were many enquiries from passers by as to the secret of success in this difficult branch of fruit culture that Messrs. Rivers undoubtedly possess. A new Peach named Peregrine was included in the display, and the well laden trees gave promise of its being very free bearing. Several other Peaches, Cardinal and Early Rivers' Nectarines, as well as various Plums



MR. W. B. LATHAM.

and Cherries, were represented by excellent examples of cultural skill. A silver-gilt Hogg Medal was awarded to the exhibit.

Messrs. Benjamin R. Cant and Sons' exhibit at the Temple show. Rose Blush Rambler, which was illustrated in THE GARDEN last week (page 364), was exhibited at the Temple show by Messrs. Benjamin R. Cant and Sons, the Old Rose Gardens, Colchester. We are extremely sorry that Messrs. Benjamin Cant's address was wrongly given as Braiswick Nurseries. Their sole address is the *Old Rose Gardens, Colchester*. Rose Blush Rambler is similar to the well-known Crimson Rambler in growth, and equally vigorous. The flowers, produced in very large clusters, are round and almost single. When first opening the colour is a rich blush, lighter in the centre, but when each truss of blossom is fully developed it is a beautiful soft blush, resembling Apple blossom. This Rose is perfectly hardy, and will form plants of extraordinary size in a very short time. In addition to Blush Rambler, Messrs. B. R. Cant and Sons' exhibit at the Temple show comprised

many other good Roses, as, for instance, Antoine Rivoire, Mrs. E. Mawley, Ulrich Brunner, Dundee Rambler, Moschata alba, Caroline Testout, the old York and Lancaster, Felicité Perpétue, and others.

Refreshments at the Temple show, &c.—I am glad that "A Fellow" has taken this matter up in THE GARDEN (May 30). Why the authorities have allowed this mismanagement to go on so long I cannot imagine. Another refreshment department which wants attention very much is the one at Kew Gardens. Why cannot the Kew authorities keep the providing of refreshments in their own hands, do away with the meat luncheons, and give teas only? A cup of really good tea is what one longs for when strolling through the gardens. Also the refreshment house might well be in a more convenient place.—ANOTHER FELLOW, Ipswich.

It is, I fear, of little use to complain of the monstrous charges made for teas at the Temple show now, but all the same I sympathise heartily with "The Fellow" who felt it needful to complain so strongly of those charges there last week. I had to suffer from precisely similar extortion at Holland House show last year, three of us being charged 1s. 6d. per head for what could not possibly have cost 6d. each, or 1s. 6d. in all. Plenty of first-class caterers would do these teas, gladly taking all risks, at much less cost and do them far better. But to what extent does the Royal Horticultural Society's council contribute to these extortionate charges? Do they demand from the caterers an extortionate sum for the privilege of catering? Do they demand the full publication of scales of charges, and a severe limitation to those charges? In fact do they do anything to protect visitors from such overcharges?—F. R. H. S.

Fruit prospects in the Midlands.—Whatever may have been the effects of the spring frosts and rough weather experienced this year in other parts of the country, it is evident that the Midlands have been hard hit. I have been recently spending some time in Staffordshire and Derbyshire, and on all sides the weather was the chief topic of conversation. Grey-headed old men informed me that they never remember such a backward season, and though, of course, they may have forgotten a few bad ones, the spring of 1903 has been a very trying one for gardeners. Farmers have less cause for complaint, because most of the land is under grass, and through the recent rains the prospects of a heavy Hay crop are fair. Stone fruits, chiefly Damsons and Plums, are largely grown in the districts referred to, and though there was a fine display of bloom the chances of a crop were dashed by the severe frosts experienced in April. Pears suffered in the same way, and the early flowers on Strawberries were spoiled before they had time to open. Fortunately, bush fruits, such as Gooseberries and Currants, were well clothed with leaves when the weather was so trying, and they are carrying good crops. Apples do not promise well, as many trees showed no signs of flower at all. In short, the outlook for fruit in the Midlands is anything but encouraging.—H.

The Fawn Tulip.—I see by the exhibits of the Fawn Tulip at the various meetings that it has been classed as a Darwin variety. If this be so we have in the well-known Bouton d'Or a yellow Darwin. Mr. R. Dean will perhaps kindly give your readers his opinion. I am the introducer of this variety to commerce, and am glad it got the award of merit at the Drill Hall recently, which it well deserved at other hands. It is catalogued in my list for 1902 (page 45, No. 301) with this description: Height 16 inches, Bouton d'Or in shape, but in colour that of a Fawn or Dove.—WM. BAYLOR HARTLAND, *Art Cain, Cork*.

Early Peaches.—After a severe trial I have discarded the Alexander on account of its bud-dropping, and now rely upon Waterloo, which is little later. There are also

Amsden June and Hale's Early. The last-named is superior to the others both in size and flavour, but later, and forms a succession to those mentioned. It may not be necessary to grow both Waterloo and Amsden June. Ours were planted to test their forcing qualities, and I am of opinion that the Amsden is the earlier, but that Waterloo is of better quality. I have had ripe fruits of Amsden June the first week in April from pot trees. With regard to the Waterloo, this can be forced much better than Alexander, and I should certainly grow it in preference to the last-named if only one Peach is needed. I am not condemning the quality of the fruits, but the erratic behaviour of the trees. I am aware the same objection can be made to several of the American Peaches, to which section Waterloo and Hale's Early belong, if forced hard in their early stages of growth, but none that I have grown equals the Early Alexander as regards bud-dropping. For open walls Alexander is not bad; it is hard forcing that renders it so unsuitable. If I were restricted to one early variety Hale's would have the preference, as, unlike others, it sets well and makes good fruiting wood without special culture. Few of the early Peaches are superior in quality. For pot culture I would strongly advise Waterloo and Amsden June. I have seen Early Beatrice recommended on account of its earliness, but I do not think it worth house room. Condor is a good variety, later than Hale's. This is one of the Sawbridgeworth seedlings, and a very fine variety. The new Duchess of York also promises well for forcing, and has a pleasant Nectarine flavour; it sets freely. This will take a good place among the early varieties.—G. WYTHES.

Notes from Baden-Baden.—*Campanula Steveni* var. *dasycarpa* is a pretty alpine only 4 inches high; it bears large bells of a bright indigo colour, and blooms at the beginning of May. Years ago I raised a gigantic variety of *Podophyllum Emodi*, which is now in big clumps 3 feet high, with leaves about 1 foot broad, and is very attractive. A new *Onocylus Iris* from Persia has just flowered; it resembles *Barnumæ*, but the flowers are twice as large; it is very good and showy. It appears that there are varieties among *Gerbera Jamesoni*, some being stronger growers. These produce a quantity of flowers, whilst others are rather miffy. What a brilliant effect the dense flower-spikes of *Pentstemon cœruleus* have; it is an intense turquoise blue, and its early flowering makes it very valuable. The flowering of *Eremuri* has begun with a new species from Baluchistan; it resembles closely *E. aurantiacus*, but is a more elegant plant.—MAX LEICHTLIN, *Baden-Baden*.

Rabbits barking fruit trees.—The late Mr. James, when he planted an extensive orchard of standard trees at Farnham Royal some years ago, was content to fix round the stem of each tree a piece of small mesh wire some 2½ feet to 3 feet in height and carried round twice. That dropped to the base of the stem, and absolutely protected it from hares or rabbits, although in a position where these creatures are plentiful, because fixed loosely, and moving round when rubbed against, rabbits were alarmed at its motion. Also there was ample room for the tree stems to swell for several years. No other means of fixing the wire was needed than using its own severed ends to make it secure. The coating of stems some 4 feet high with a foul-smelling substance or paste is effective for a time in keeping off vermin, but such a preventive has no permanent results. Loose wiring is thus by far the best. Of course in the case of dwarf trees fixed wire fences are essential.—A. D.

Aubrietia Dr. Mules.—We note in THE GARDEN of May 23 that *Aubrietia Dr. Mules* is said to have been raised by the gentleman whose name it bears. This is not so. *Aubrietia Dr. Mules* was raised and sent out by us. We had the pleasure of naming it after Dr. Mules, who then resided in Bowden near our nurseries. We send this note in order to correct any misunderstanding as to its origin.—CLIBRAN AND SON, *Hale, Altrincham*.

In THE GARDEN dated May 23 (page 343) credit is wrongly given to Dr. Mules as being the raiser

of that beautiful *Aubrietia* which bears his name. This *Aubrietia* was raised by Messrs. Clibrans some six or seven years ago, and is considered to be the finest coloured form in existence. The only approach to it is Fire King, the colour of which may be described as magenta-crimson. This variety appeared shortly after Dr. Mules. In spite of the time that Fire King has been in the trade, "this variety does not appear well known," as your correspondent, "A. E. T.," rightly remarks on page 346. The reason is not far to seek. After an acquaintance with the plant of several years, in both the south and the north of England, I must admit that its constitution is not one of the best, and the plant often succumbs to our ordinary winters. If anyone will inform me if a good patch a yard across exists, I will make a great endeavour to see it, for, though not nearly so free as the old *A. deltoidea*, there would be a sufficient number of flowers to make an effect of brilliant colour. *Aubrietia Dr. Mules* is everywhere found most robust and hardy; in fact, I heard it described as too vigorous. As to its free-flowering qualities there can be no doubt. Upon one single shoot there may appear from three to considerably over thirty flowers. The colour is deep royal purple, a shade not seen in gardens elsewhere until the German Irises are out, in some of which this purple colouring is noticeable. It will grow in almost any soil and position, but the best results are had in a rather poor sandy loam, and the position an open one, but a little above the level, so that the roots are free from stagnant water in winter. A plentiful supply is needful, however, in spring and summer. My advice to lovers of spring flowers is to try to get a pure brilliant blue and a red which could be described justly as "fiery."—E. H., *Hale*.

TREES AND SHRUBS.

NEW SPECIES AND VARIETIES OF THE LAST TEN YEARS.

(Continued from page 369.)

COTONEASTER PANNOSA.—A native of Yunnan, and first sent to Europe by the French missionary, Delavay, whose name is perpetuated in that charming plant *Incarvillea Delavayi*. The *Cotoneaster* is an evergreen, with leaves about three-quarters of an inch long, ovate, and covered underneath with a woolly substance. The fruits are dull red and far less showy than those of some of the older *Cotoneasters*.

CYTISUS SCHIPKAENSIS (syn. *C. frivaldskyanus*).—This pretty and distinct Broom is a native of the Shipka Pass, so that its thorough hardiness is assured. It is of dwarf growth with yellowish-white flowers in clusters at the points of every shoot. It blooms in July.

DECAISNEA FARGESII.—A very interesting tree from Yunnan, whose only near relative is the Indian *D. insignis*, and found by Sir Joseph Hooker in the Himalayas in 1838. It belongs to the Barberry family, but the long pinnate leaves have none of that harsh texture common to so many of that class, indeed they are more like those of the *Ailantus*, to which the entire plant bears a certain amount of resemblance. The soft character of the shoots suggests that it is likely to be cut back during severe winters.

DEUTZIA.—Three members of this genus are of recent introduction, and while all are beautiful, their value is enhanced by the number of good hybrids in the production of which they have played a part. The first to mention, *D. parviflora*, was distributed by M. Lemoine of Nancy in 1891, but as it was two or three years after that date before it was generally known we may include it with recent introductions. This species, which is a native of the northern parts of China and the regions of the Amour River, was first introduced through the Botanic Gardens, St. Petersburg. It forms a somewhat erect-growing shrub, with flowers borne in small flattened corymbs, greatly resembling those of the Hawthorn. It is the first of the *Deutzias* to

bloom, being a few days earlier than *D. gracilis*. The intercrossing of these two species yielded *D. Lemoinei*, which has now become a general favourite. The second, *D. corymbosa* (syn. *D. setchuensis*), which first flowered in 1896, is a native of Western China. It is very promising, and belongs to the same section as *D. crenata*, and is even later in flowering. The third, *D. discolor purpurascens*, is remarkable among *Deutzias* for the tinge of colour in its flowers, a feature perpetuated in some of its progeny. It is a native of Yunnan, and was introduced into Europe through the Jardin des Plantes, Paris. It is of vigorous growth and has very rough lanceolate leaves. The flowers are borne in compact corymbs, each flower being about three-quarters of an inch across, while the white petals are suffused with rosy purple. The back of the flower is of quite a deep tint.

DISANTHUS CERCIDIFOLIA.—This Japanese member of the Witch Hazel family is not so beautiful as the true Witch Hazels (*Hamamelis*) from Japan. In the *Disanthus* the starry flowers are purple, and borne in the autumn. Professor Sargent tells us that the decaying leaves are very beautiful; it is a most desirable shrub, but is not happy in our climate.

ELEUTHEROCOCCUS SENTICOSUS.—A Japanese Aralaceous shrub, with prettily divided bright green leaves. Though very interesting, it has yet to prove its value as an outdoor shrub in this country.

EUCRYPHIA CORDIFOLIA.—This differs from the better-known *Eucryphia pinnatifolia* in the leaves being heart-shaped and deciduous, but with regard to flowers they are much alike. According to some books it was introduced in 1851, but it is doubtful if it was ever in cultivation. At all events, the first recorded instance of it flowering in this country was in Messrs. Veitch's nursery at Coombe Wood in 1897. Like *E. pinnatifolia*, this species is a native of Chili.

HAMAMELIS MOLLIS.—This, the latest addition to the eastern forms of the Witch Hazels, differs from the better known and popular *H. arborea*, in being more of a shrub than a tree, while the leaves are much larger, and clothed on the under surface with a soft felt-like material, from which the specific name of *mollis* is derived. The flowers are clear yellow, with slightly wider and much less wavy segments than those of *H. arborea*. This new species is a native of Western China, and for it, as for many other good things, we are indebted to Dr. Henry.

HOHERIA POPULNEA.—This New Zealand shrub, which was illustrated in THE GARDEN for November 1, 1902, is not actually a novelty, but it has hitherto been so rare that it may be so regarded. It is a member of the Mallow family, but the aspect of the plant and flowers as well suggest an affinity to the *Deutzias*. It flowers in autumn, but in common with New Zealand plants in general can only be depended upon in the favoured districts of England.

ILEX.—Several of the Hollies are natives of Japan. While some have been grown in this country for years, others are of comparatively recent introduction. *Ilex rotunda*, which forms quite a tree clothed with broadly ovate very dark green leaves, is one of these, and the same may be said of *I. pedunculosa*, whose leaves, like that of the preceding, are spineless.

LIGUSTRUM STRONGYLOPHYLLUM.—A Chinese Privet which is at present very scarce in cultivation. It is of freely-branched growth, the slender branches being clothed with small Box-like leaves, thick in texture and almost round. Though very distinct and interesting, it is not likely to prove of great value.

MAGNOLIA.—The various *Magnolias* recently introduced from Japan are very beautiful. True, attention was directed to some of them more than ten years since, but it is only within the last decade that they have become at all popular. The following are all Japanese forms:—

MAGNOLIA HYPOLEUCA.—This, one of the tree *Magnolias*, has been pronounced by Mr. J. H. Veitch to be the finest flowering tree of Japan, and Mr. Goldring, who some years ago was in that country during its flowering season (May), has nothing but

praise for it. He says in a native state it overtops many of the trees with which it is associated, rearing aloft its massive head of broad foliage, with great white flowers topping the shoots. These flowers are as large as those of *M. grandiflora* (as it blooms around London) and nearly as fragrant. In addition to the above Professor Sargent, in his "Forest Flora of Japan," speaks of *M. hypoleuca* as bearing some resemblance to the North American *M. tripetala*. Beside these just named items he speaks of the beautiful effect produced by the cones of fruit, which are brilliant scarlet in colour, thus adding a distinct autumn feature to the tree. The leaves, which are from 12 inches to 14 inches long, and 7 inches or 8 inches broad, are light green on the upper surface and very glaucous underneath, this last feature attracting the attention of all who have seen it in its native habitats. The plants of it in this country are as yet small, but it has proved quite hardy. A young specimen of it flowered in Messrs. Veitch's nursery at Coombe Wood, and was awarded a first-class certificate by the Royal Horticultural Society in May, 1893, but, as might be expected, the flowers were small compared to their dimensions in a native state.

M. PARVIFLORA.—This is a shrub, clothed with dark green leaves, from 3 inches to 6 inches long, quite smooth on the upper surface, but more or less pubescent underneath. Owing to the petals being concave the flowers when partially expanded retain their globular shape, but when fully opened they are cup-like, and from 3 inches to 4 inches in diameter. A particular feature of this *Magnolia* and the allied *M. Watsoni*, is the cluster of stamens in the centre of the flower. When the flower first opens they are erect, ultimately spreading out flat, and thus forming a ring an inch or more across. They are of a bright red colour, and stand out against the pure white petals. This *Magnolia* as a rule produces its deliciously fragrant blossoms towards the end of May and in June. Both this *Magnolia* and *M. Watsoni* are considered by Professor Sargent natives of China or Corea, as they only occur in Japan in a cultivated state.

M. WATSONI, which is often confounded with the preceding, has both larger leaves and flowers, these last being 5 inches or 6 inches across. The inner segments are ivory-white, while the outer ones are tinged with pink. This also has the bright coloured stamens arranged in a central ring. *Magnolia Watsoni* first flowered in Europe in the Japanese Court of the Paris Exhibition in 1889, and subsequently at Kew, and also with Messrs. Veitch.

M. SALICIFOLIA, which was first put into commerce by Messrs. Veitch about two years ago, is spoken of by Professor Sargent as a common plant on Mount Hakko-da, between 2,000 feet and 3,000 feet above the sea-level. It is said to suggest *M. glauca*, and, like it, is evidently a moisture-loving plant. The flowers of this appear to be at present unknown, though plenty of seeds have been obtained. From its recent introduction only small plants of this species are in the country.

M. STELLATA ROSEA.—This form of *M. stellata* or *halleana* differs from the type in the flowers being tinged with pink. For it Messrs. Veitch were given an award of merit by the Royal Horticultural Society in 1893. All the *Magnolias* above enumerated are deciduous.

MELIOSMA MYRIANTHA, a member of the *Rhus* family, is a notable addition from Japan. This forms a tree reaching a height of 20 feet to 30 feet, with a slender trunk, and wide spreading branches. Its large thin leaves, which are sometimes 8 inches long and 3 inches broad, and of a light, delicate green, are its chief attraction as a garden plant, for the flowers are not particularly showy. It was distributed by Messrs. Veitch a few years since, but is not to be found in many gardens.

OSTOMELES ANTHYLLIDIFOLIA.—A curious Rosaceous shrub, from the neighbourhood of Yunnan, with pinnate leaves, reminding one of those of a member of the Leguminosae, while the small white flowers are in loose corymbs. The berries, which suggest those of some of the *Cotoneasters*, are almost black when ripe. As an outdoor shrub it is only fitted for specially favoured parts of the country.

PHILADELPHUS COULTERI.—This was distributed by M. Lemoine in 1895, and flowered, I believe, for the first time in the British Isles with Mr. Gumbleton, of Cork. A prominent feature of this species is the rosy purple flush which overspreads the petals, causing it to stand out unique among the *Philadelphuses*. This character has been taken advantage of by M. Lemoine, who has succeeded in getting hybrid forms with a certain amount of colour.

(To be continued.)

OUR COLONIAL FRUIT.

THE CAPE FOR PROFITABLE FRUIT GROWING AND FRUIT EXPORT.

(Continued from page 268.)

FROM these peculiarities arise important results in fruit growing. The most striking is the limitation of uniformly profitable wine, Grape, and Raisin production to the Western Province, which possesses the necessary hot and dry summers for the proper ripening of the fruit of the Vine. In the east, with its dispensation of summer showers and frequent hailstorms, with much heavy rain in February, viticulture is reduced to a branch of gardening, and it is questionable if anything more than table Grapes for local consumption, such as the Crystal and Sweetwater, can be successfully managed.

Of course this is a general statement, subject to here and there an exception, dependent upon climatic conditions. For example, good results have been obtained in the somewhat intermediate climate of the Karoo, particularly at Graaf Reinet and its neighbourhood. The total rainfall throughout the Karoo averages low, say 16 inches to 19 inches annually, as compared with 28 inches to 30 inches in the normal eastern region. But the rule holds good in a general way, and a glance at Gamble's diagrams of rainfall, where the curve is plotted for a large number of places so as to be readily comparable by the eye, will enable one to determine where viticulture on a large scale is climatically favoured, and where it will present special difficulties.

In the former case the rain curve for January, February, and March—the ripening and vintage months—keeps at or below 1 inch; in the latter it runs up to the monthly maximum for the year, say 3.5 inches to 4 inches. The Sunday's River Valley upwards from the Addo, and also perhaps the hot sheltered environs of Uitenhage, are the best examples of local eastern exceptions to the general rule. But even here Grapes will have to be tended with very much greater care and intelligence than seems to be necessary west-way. The great difficulty will assuredly be the general prevalence of anthracnose, or black spot as it is sometimes called (*Sphaeceloma ampelinum*, De By).

This plague, though far from being comparable in mischief to the *Peronospora* of the vine, which luckily we have not yet imported, is still an enemy to be reckoned with, and it will be necessary that all eastern vineyards be assiduously treated, by spraying with Bordeaux mixture as a preventive of the scourge.

There is little doubt that success will attend the proper application of this remedy, just as has been proved to be the case in Europe. But the additional charges for skilled labour in its use will heavily handicap the eastern producer, especially if he should incautiously cultivate the more delicate varieties of vine, say, for instance, the Cape western Hannepoot, known elsewhere as Muscat of Alexandria, a sort which is particularly liable to the attacks of anthracnose.

New comers to a country who have been accustomed to the class of Grape which is seen upon English dessert tables will be surprised to find that nothing has ever been done at the Cape at all comparable to the minute care which Grapes receive at home under glass at the hands of skilled gardeners, who have made this fruit a special study. As we have them, the Grapes are fairly

good, and up to size on the outside of the bunch, but by carelessness and want of proper thinning they are not half grown or half coloured in the middle. The plan has been to grow Grapes for wine and for the table in the same vineyard, and with the same low average of attention—that is to say, the table Grapes have practically grown themselves, instead of each bunch having been the subject of individual inspection and treatment with the thinning scissors.

Perhaps some skilled gardener, who knows what a dessert bunch of Grapes should look like, may find it worth while to show what can be done in this country, where the climate renders his glass house and hot-water pipes unnecessary. Certain it is there is no lack of wealthy folk here who will buy Grapes of English hot-house type at their full value. *Mutatis mutandis*, much the same thing may be said of other fruits, Peaches and Pears particularly. Our growers have had no high standard to work up to, and have been too easily satisfied. The comments of Covent Garden salesmen upon picked Cape samples have certainly opened their eyes somewhat, and given them to see that the fruit which has been taken as first-rate, levels down to scarce a second place when put beside first-class produce skilfully grown at home. We have taken things too easily and left too much to Nature, forgetting that the finest type of fruit is decidedly a product of art, for which Nature provides only the raw materials.

In western markets January gives the last of the Strawberries and Apricots which have been to hand for some five or six weeks previously. The earlier sorts of Grapes, Pears, and Apples according to kind, also the earlier Peaches, Plums, and Figs fill up the list. From the conditions of the climate it is rather a cultural mistake to try and hurry things by planting what are known in Europe as early fruit sorts. Cape conditions are much more favourable to perfection in the later kinds, at least in such parts of the country as lie upon the first plateau reaching inland all round the coast. Further up country, on the narrow second and the immense third plateau, which reaches a level of approximately 4,000 feet to 5,000 feet, the conditions are considerably altered. But the gain expected from the growth of early sorts at this level is practically interfered with by the tardier approach of spring and persistence of a dry winter's cold. The results of the most experienced cultivators is decidedly against experimenting with early sorts in the hope of catching the high prices asked in an early market.

In February the better sorts of Apples, Peaches, and Nectarines come forward, and a glance at these will show conclusively that they are mainly late European varieties, and accentuate the caution we have given against early sorts, at least for market supply on the large scale. Grapes and Melons are becoming plentiful, and begin to acquire their proper distinctive flavour, unless they have, as is often the case, been spoiled by injudicious irrigation. The fruits of keeping quality are now approaching the season for picking. As a rule they are left too long upon the tree for want of two things—first, want of practical knowledge of the precise degree of growth at which to take them, so that they shall best develop the richness and flavour that come by keeping; and, second, want of something like a reasonable fruit store where they can be laid out properly, inspected daily, and kept at even temperature. It is pitiable to see good keeping sorts huddled up in boxes, a bushel or more together, in a galvanised iron shed open to the light and the weather, and varying in temperature daily from 80° to 90° at noon to 48° or 50° at night. This is another matter in which we want some gardening missionary to come over and teach us a gospel of better things.

In March begins the first drying season, that is to say, fruit drying in the sun as opposed to fruit evaporating, the more practical, more cleanly, manageable, and time-saving plan. Already very fair work of this kind has been done, and the Wellington dried fruits have quite fetched up to the already high standard of the Raisins produced in the Worcester district. The only reason why these products are unknown outside the boundaries

of the Colony is that the amount produced does not bulk large enough, and that they are almost entirely consumed locally in the Colony. The output is not a hundredth part of what it should be and what could readily be absorbed by the Cape consumer. Hence in this case, as in so many others, we stand in the somewhat absurd plight of possessing the finest country in the world for production, and yet being content to allow ourselves to be served by manufacturers and dealers who grow and fetch and carry for us away on the other side of the world. How long this anomaly is to continue, and a Cape rural population is to think it no shame to have on their tables American-dried Apples and Peaches and positively to import American fruit pulp wherewith to make "Cape jams," rests with the coming race of fruit growers, whom we hope to attract to the country and help us to put a little life and stimulus into our easy-going, lotus-eating lives. Do not for a moment suppose the thing is here put sarcastically or in an exaggerated manner. The whole output of first-class Worcester Raisins was in one season bought up, as a matter of course, by two retailers in Cape

industry, and business capacity to come over and appropriate them to himself.

March, of all the months of the year, shows the barest fruit market, at least in the way of fresh kinds putting in an appearance then. The supplies are chiefly late Apples and Pears of the keeping sorts, and these, when they come to sale, bear plentiful testimony to the rough way in which they have been handled and stored. The outside skin is scratched, discoloured, and far from appetising. Ere long the dealers will learn that fruit ripened in the store-house must receive attention and handling somewhat different from that which is accorded to the year's crop of Potatoes. A few Peaches of late kinds come in and generally secure good prices. For the most part these are seedlings that have originated here many years ago, and, though fairly good, belong unfortunately to the series of clingstones. There is an opening for considerable improvement by selection of the improved modern late freestones. In all these fruits the variety of sorts presented on the market is very limited, and the knowledge of named kinds is generally absent. It is almost impossible to go to any

the Royal Gardens, Kew. Dried specimens were sent home from China by Dr. Henry some years ago. *Lysimachia crispidens* forms a rosette of somewhat fleshy leaves not more than 9 inches high, and bears a profusion of pinkish flowers upon very slender pedicels. It is suitable for the rock garden or for pot culture in a cold greenhouse, and is not at all difficult to grow.

W. IRVING.

NOTES FROM SCOTLAND.

THE ROYAL CALEDONIAN SHOW.

IN connexion with the exhibition held on the 20th and 21st ult. three features struck one particularly. The immense floor space of the Waverley Market was less well filled than usual, to account for which various reasons were assigned. The produce exhibited was of a higher quality all round than is usual at the spring show of this society, and never before has there been such a crush of people as at the recent exhibition. This gratifying result was due no doubt to the large influx of well-to-do people into Edinburgh on the occasion of the annual church meetings being held at this time, and was emphasised by a State visit paid by the Earl of Leven and Melville, His Majesty's Lord High Commissioner, with suite. Mr. Murray Thomson, S.S.C., the secretary and treasurer, had got up a delightful little programme, containing a condensed history of the society, with prints of medals, &c., awarded to the earlier exhibitors. A few of

THE MOST STRIKING EXHIBITS

that may be mentioned include Roses, both cut blooms and plants, Mr. Thom, gardener to Mrs. Hutchinson, Carlowrie, showing these extremely well. Alpine plants, too, were specially noteworthy, those from Mr. A. Cowan's gardens, Valleyfield House, Penicuik, never having been excelled in Edinburgh. Auriculas were well shown and attracted much attention, the gardens of Sir R. Dundas Arniston furnishing some of the best exhibited. In the plant classes a new exhibitor made his first appearance at Edinburgh, and in every case staging superior plants, the Crotons and Dracenas more particularly so. This was Mr. Knight, gardener to Peter Wordie, Esq., Lenzie. An equally successful exhibitor in the flowering plant classes was Mr. McIntyre, gardener to Sir Charles Tennant, The Glen, Peebles, Anthuriums, Rhododendrons, and Azaleas being the most remarkable plants staged by him. There was a very regrettable absence of fruit, Strawberries only being shown, and none of the dishes was of superlative quality.

The trade, as usual, was well represented, Messrs. R. R. Laird and Son, Limited, producing one of their highly meritorious exhibits. Equally effective with this was the great mass of flowering plants arranged from the Craigmillar nurseries of Messrs. Dicksons and Co., Waterloo Place, the herbaceous Calceolarias, Cinerarias, and Streptocarpus being in each case most meritorious. Mr. Forbes furnished a novel exhibit of forced plants, e.g., Pæonias, Pentstemons, Phloxes, &c. This progressive nurseryman has forced, or rather kept growing, throughout the winter months the two last-named plants for a series of years, but this is the first occasion they have been exhibited in Edinburgh. Nothing could be more lovely than Phlox Tapis Blanc as thus grown. Immense quantities of cut May Tulips were staged from various sources, the most extensive exhibit being that from Messrs. Hogg and Robertson, Dublin, while Messrs. Reamsbottom, another Irish firm,



LYSIMACHIA CRISPIDENS IN THE ALPINE HOUSE, KEW. (A plant from Hupeh, China, new to cultivation)

Town. The year before the same buyers collared it all.

Is it not clear that our production has yet to expand itself into wholesale proportions? Another retailer, on examining an exceptionally good sample of dried Figs that ran the imported "Elemi" article very close, offered the producer an Elemi price. Picture his disgust on being advised that the total stock produced that year amounted to only six boxes. And so with the Prunes. We are content to buy Continental jars of Prunes d'Agen and Prunes d'Ente year after year, forgetting that no better Prune-growing land than this exists on the face of the earth. Truly, in face of such facts as these, one does not know whether to laugh, to cry, or to swear. But one thing is certain, that with the present conditions at the Cape, with family grocers buying up all the Raisins that a whole district produces, with farmers content with a dried Fig crop which a man could carry on his shoulder, there must be a good many very fair fortunes lying about loose at the Cape, and only waiting for someone with moderate commercial instincts,

retail dealer and ask for a Bon Chrétien or Ribston Pippin Apple. The seller would simply gaze at you in astonishment as if you were speaking a foreign language. All this will have to be changed, and no doubt with a continued demand for fruits by name the dealers will gradually learn something more about the details of their trade than at present they seem to think at all necessary.

EUSTACE PILLANS.

Assistant, Agricultural Department of Cape Colony.
(To be continued.)

LYSIMACHIA CRISPIDENS.

ALTHOUGH some doubt yet exists as to the complete hardness of this plant, it has already proved to be of great value in the cold greenhouse. It is quite new to cultivation, having been comparatively recently collected in the neighbourhood of Ichang, province of Hupeh, China, by Mr. Wilson, Messrs. James Veitch and Sons' representative in China. So far as we know it has only bloomed with Messrs. Veitch and in



THE WHITE WINTER HEATH (*ERICA CARNEA ALBA*) AND CYCLAMEN COUM IN ROCK GARDEN (EARLY SPRING).

had some glorious St. Brigid Anemones, these attracting much notice. Another charming exhibit was that from Messrs. Dobbie and Co., Rothesay, Pansies and Violas in vast quantities being very striking. To these and other exhibits medals were awarded. A very fine Cabbage named Methven's Edinburgh Market was given an award of merit, the strain being held by Messrs. T. Methven and Sons, Princes Street. A large number of

GARDEN PLANS

were exhibited, the work of young gardeners, in competition for prizes offered by Sir John Gilmour, Bart., Montrave. Twenty-one were said to have competed, but the writer found only nineteen. The work was not so good as in 1902. The first and second prize winners respectively were Mr. Phile, Sunderland Park, Selkirk, and Mr. Philips, Johannesburg. R. P. B.

THE FLOWER GARDEN.

PROPAGATING THE NEWER SWEET PEAS BY CUTTINGS.

GROWERS of Sweet Peas who recognise the points of merit in a new variety are naturally anxious to make the most of their stock, and as the number of seeds in a packet of ordinary size may contain some ten or a dozen these are not always sufficient for one's requirements. This season, out of a packet of ten seeds of Dorothy Eckford, the superb, new white Sweet Pea, eight seeds germinated satisfactorily, although some were much slower in developing than others. This result I am told by others is very satisfactory, as there are instances where only six out of ten seeds have germinated. With eight plants properly grown it is possible to achieve a great deal, yet one would feel safer if the quantity were doubled. For this reason the eight plants were topped, and the detached portions made into cuttings. The cuttings were dibbled into pots filled with a light and gritty compost, and the pots subsequently plunged into a gentle hot-bed. The first batch of cuttings inserted about a fortnight ago are well rooted. The second batch are looking even better, and there is now the prospect of their rooting within the next few days. By these means we shall have

at least sixteen plants. The condition of the plants which were topped is all that could be desired, as they have since grown quite sturdily. From these remarks it will be seen how easy it is to increase the stock of a scarce or novel sort, as this process of propagation may be continued if need be for some time to come. This method was first seen by the writer in Mr. H. J. Jones' nursery at Lewisham. Quite a large number of new varieties and many special crosses made there have been increased by these means. For pot culture Mr. Jones believes in treating his plants in this way: they become stocky and branching, and give good flowers. D. B. C.

EARLY COLOUR IN THE GARDEN.

THE illustration shows what a pleasing fore-taste of spring may be enjoyed even in this uncongenial climate of ours. On the lower slope of a small rockery facing north east is a floriferous patch of *Erica carnea alba*, and below this, dotted closely over the level ground, are many *Cyclamen Coum*, both crimson and white forms, extending to the edge of the grass lawn. A third colour is introduced by the tiny *Narcissus minimus* scattered irregularly in front. It is a very simple combination, but an exceedingly pretty and effective one. The photograph was taken on February 16. Yalding, Kent. S. G. REID.

NOTES ON HALF-HARDY CLIMBERS.

Two good plants rarely seen in gardens, but which may be used with good effect for outdoor wall decoration and for flowering early and late in the year, are *Clianthus puniceus* and *Cassia corymbosa*. Though they are not hardy enough to withstand severe winters out of doors in some parts of the country without protection, they are capable of enduring a fair amount of frost without suffering to any great extent. We have both growing here against a wall outside, and they have passed through the last three winters unharmed without the slightest protection. For that reason I am led to believe that they are not so generally or so deservedly known as they might be, and think they could be used with greater freedom than they are for outdoor effect, especially in gardens along the southern coast. They are easily grown, of vigorous growth, and free flowering habit,

The *Clianthus* was at one time a favourite for greenhouse decoration, but owing presumably to the difficulty of growing one of the species, *Dampieri*, and the tendency of both to insect attacks, notably that of red spider, they have of late years fallen a good deal into disuse. When grown outdoors they are not so liable to attack as when confined to the dry atmosphere of the greenhouse. For outdoor purposes the best of them is *Puniceus magnificus*; it is evergreen, needs a sheltered and sunny position, such as that afforded by a south wall, combined with close attention to training and pruning in order to keep the plant well furnished with shoots from the base. If the soil be at all cold and wet success will be more certain by taking out a hole from 3 feet to 4 feet in diameter and putting in a layer of drainage, to be followed on top by a compost of loam, with a proportionate amount of leaf-mould. As growth is free, one plant will soon cover a large space of wall, and the effect then given by the brilliant scarlet flowers is remarkable; they are freely produced from early in April till June.

Cassia corymbosa is the most popular of the *Cassias* in our gardens, and requires similar treatment. It is a somewhat vigorous and trailing shrub, which is admirably adapted for wall training. Its season of flowering is from

June onwards, and it will continue well into autumn if uninterrupted by frosts. The flowers, of a bright yellow colour, are freely produced in corymbs on the current year's growth. When grown as a climber it must be pruned in spring. All wood that is then not required for filling in or for extension should be cut back to within a few eyes of the main branches. In some of the most favoured parts of our islands it may be grown as a bush in the open, choosing for it a sheltered sunny position. Given a good sandy loam it will, if left to grow naturally, in time be a conspicuous object when in flower. The best time to plant both subjects is in the months of April or May. By doing so they have then a good season in which to become established before winter. This is an important item, and must not be left till the latter part of the season or while the soil is in a cold state during winter or early spring. Their chances of surviving or starting satisfactorily into growth will not be so certain, especially upon cold soils. Sidbury, Devon.

R. BARTON.

WANTED.—INFORMATION.

It is ignominious to confess that I have never as yet succeeded in this country (Italy) in growing a good bed of *Eschscholtzias*. I have tried sowing in seed-pans in autumn and transferring the seedlings into the flower-bed in early spring, and have also sown in the open at once; neither plan has been a success. They flower here in late March or early April. I much want to succeed with a good bed of these, as the white, cream, and pale rose shades are so very lovely. Please suggest. I thought of trying them again in the open ground, planting coloured Kales in the same bed to serve as a shelter, and in February the latter could be easily pulled up, but perhaps a better plan would be to lay down some protecting Fir branches till the worst of the winter was over. The bed where it is desired to have them is in an exposed situation; still, the spring-flowering *Magnolias* and *Tree Peonies* are growing in the same position, and do not seem to suffer from the cold.

MOVING HERBACEOUS PEONIES.

I see August named in *THE GARDEN* as the best time for this operation. Here I am assured by two leading nurserymen that the end of February or early in March is preferable. They flower with

us at the end of April or early in May, and I am assured that removal will not interfere with their flowering in the first season, though it may in the second. As our collection consists of about fifty fine strong plants of the best varieties, established for many years, I am anxious to hit the best time for this removal. An alteration in the disposition of the ground has given a situation where they will be seen to much greater advantage than in their present quarters, and there is no question of dividing them, as that is fatal to flowering for some years. The gardener has been successful in removing some very large shrubs, so can be trusted with them.

TULIPA VIOLACEA.

I cannot find this Tulip—mentioned in THE GARDEN of March 21 as being a very early-flowering one—in any of the Dutch catalogues? Is it known under any other name?

ANNUALS.

In the papers that have recently appeared in THE GARDEN on these I see no mention of one that is worth growing, a Cosmos, but so entirely distinct from the white and purple Cosmos bipinnatus as to suggest its being a separate variety. It figures in the seed catalogue of Herr Ernst Bénary, of Erfurt, as "Cosmos Klondyke," has a small orange-coloured flower, recalling that of a "Chorizema," and finely-cut, fern-like foliage. Over here in Tuscany it flowers in October; but grown in large pots, planted among Chrysanthemums in a conservatory, it has a good effect.

APPLICATION OF WEED KILLERS.

Last autumn it fell to my lot to reclaim an old shrubbery that to my certain knowledge had not been touched for seventeen years, probably not for more than twice that number of years. During July and August it was trenched, as if for a Vine border, by professional diggers to a depth of 1 metre, and all old roots of trees and other debris removed, after which the ground presented an inflated and blown-up appearance, and was left to bake in the Tuscan sun till October, by which time some rain had fallen. It was then surface-dug and put in order, all remaining loose stones, &c., removed before planting the new shrubs was commenced. This was followed by a groundwork of Daffodils in the most approved lozenge fashion, as given in a diagram in THE GARDEN of January 25, 1902.

After these successive labours one was prepared to rest and be thankful, but when spring came along with the Daffodils—in fact, all over the place—appeared an undergrowth of the most appalling description, a Salvia-like leaf, with a kind of tap root going down 10 inches or 12 inches, terminating in a large Potato-like bulb. To say that this obnoxious growth spread is to speak mildly. It simply travelled; burrowed under the metalled pathway that divided the newly-excavated shrubbery from the flower border on the garden side, crossed the path, and took possession of the other side. I sent a specimen of this treasure to the Botanic Gardens in Florence asking for advice as to the best means for its extirpation, and received the cheering assurance that any poison strong enough to destroy that weed would effectually do for any tree or shrub in its vicinity.

A lover of wild flowers brought in a piece of it in flower, and it proves to be Comfrey, described by W. Robinson, in the "English Flower Garden," as being "bold, and suited for naturalising in rather open sunny places, since when well developed its foliage has a fine effect in masses." Of its boldness there can be no question. It is not among those which, as your correspondent "M. L. W." says, "achieve defeat," and as it is, from my point of view, matter in the wrong place, I appeal to anyone who has successfully combated it to say what means were employed for its destruction.

The walk has been drenched with liberal potations of "Acme Weed Killer," but it is obviously impossible to apply this wholesale in the newly-planted ground. It would occupy one man's whole time to apply the stuff with a doctor's syringe poked down into the ground above each root, and the unfortunate gardener declares that every fourth day would have to be devoted to

keeping it under by hand weeding. Had I been aware of the existence of this when the ground was first trenched, instructions would have been given to collect the bulbous roots and burn them. But in the hot season, the leaves having been burnt off the ground, there was nothing to indicate its presence.

IRIS STYLOSA VAR. GRANDIFLORA.

I would be grateful if your Nice correspondent, Mr. Woodall, who mentions this as having larger flowers and going less to leaf than the old variety, could give the address of any nurseryman in that part of the world who would furnish bulbs of it. I want to increase our plantings of this Iris, as it is so very useful here for winter flowering. Any practical advice will be gratefully received by

Florence.

TUSCAN.

USES OF BRITISH PLANTS

VI.—LEGUMINOSÆ.

DYERS' WEED (*Genista tinctoria*).—This is a small, shrubby plant, with narrow pointed leaves and yellow flowers. These are remarkable for "exploding" when visited by an insect. The "claws" of the four lower petals are straight at first, but in a high state of tension, so that the moment they are touched they curl downwards with a sudden action and the flower bursts open. The younger parts of the shoots and leaves yield a good yellow dye, which, with woad, supplies an excellent green colour. It is chiefly used for dyeing wool, alum and other substances being used to fix it. The plant has been used medicinally, but not by English physicians.

Furze or Gorse (*Ulex europæus*).—This familiar spiny shrub, bearing golden-yellow flowers, which have (especially the double-flowered kind) a scent resembling the taste of Cocoa-nut, is mostly used for burning, as by bakers, wherewith to heat their ovens. It is even sown in some places for this purpose. The ashes contain so much alkali that they have been used as a substitute for soap. When the shoots have been well bruised, so as to reduce the prickly nature, they are eaten with much relish by horses; they supply a very nutritious fodder. Good milk is produced by cows fed upon Furze, and if it be cut finely it is excellent for sheep. It has also been used chopped up into small pieces and sown in drills with Peas, proving a good defence against the attacks of birds and mice. The story is told of Linnaeus, who tried to grow a plant in his greenhouse at Upsal, but with great difficulty, that when he first saw it on an English common forming sheets of gold he fell on his knees in thankfulness for its loveliness.

Broom (*Cytisus scoparius*).—This was the badge of the Plantagenet kings (the name being derived from *Planta genista*). The "broom tops" were formerly employed to impart a bitterness to beer, and are now used medicinally, being included in our British Pharmacopœia. The stems would supply a good fibre if required, like that of the Spanish Broom (*Spartium junceum*), which has long been so employed. The seeds have been used on the Continent as a substitute for coffee. Like the Furze, it grows well near the sea, so that both have been used for hedges there. It also contains much alkali in the ash, which was once used as "Salts of Broom" (*Sal genistæ*) in medicine. The name is, of course, taken from the use made of the long flexible shoots for brooms. It is also very serviceable for thatching.

Black Medick (*Medicago lupulina*).—This little annual resembles a yellow-flowered Clover with its trifoliate leaves, but it has a spirally-coiled black pod. When cultivated it grows to a good-sized herb, and is prized as a nutritive fodder plant for sheep and cattle, especially when mixed with grasses. The leaflets fold up in sleep just like those of Clover, the two basal ones rotating through 90° so as to be vertical; then they meet and place their upper surfaces together, while the terminal leaflet revolves through 180° and covers the others like a sloping roof.

Lucerne (*Medicago sativa*).—Though often found in uncultivated places, it is really an escape from cultivation, as it is a native of Eastern Mediterranean regions, but has long been grown in South Europe. It has only been cultivated in England since 1757. It requires a light, dry, and chalky soil if possible, and, as it can be cut four or five times in a season, it is a rather exhaustive crop unless liberally treated.

Melilot (*Melilotus officinalis*).—This herb, which is not truly indigenous, grows from 2 feet to 3 feet in height, bearing long racemes of yellow flowers having the scent of hay or that of the Tonka bean, both containing the same chemical principle. The leaves are trifoliate. It was more cultivated in past times, but has been superseded by Lucerne, Clovers, and Sainfoin. Moreover, cattle do not appear to relish the flavour much. On the Continent it is valued, as in Switzerland, for the purpose of flavouring Gruyère cheeses. The flowers and seeds are bruised and mixed with the curd previous to being pressed. The flowers have supplied a perfume, and, as the name implies (*Mel*, honey), are very attractive to bees.

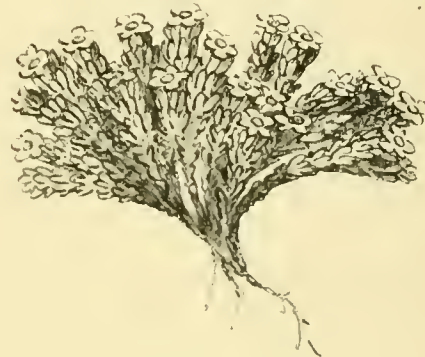
White Melilot (*Melilotus alba*).—This British species has white flowers and occurs in many places. It is an excellent honey plant, and is cultivated for bees.

GEORGE HENSLOW.

(To be continued.)

THE ANDROSACES.

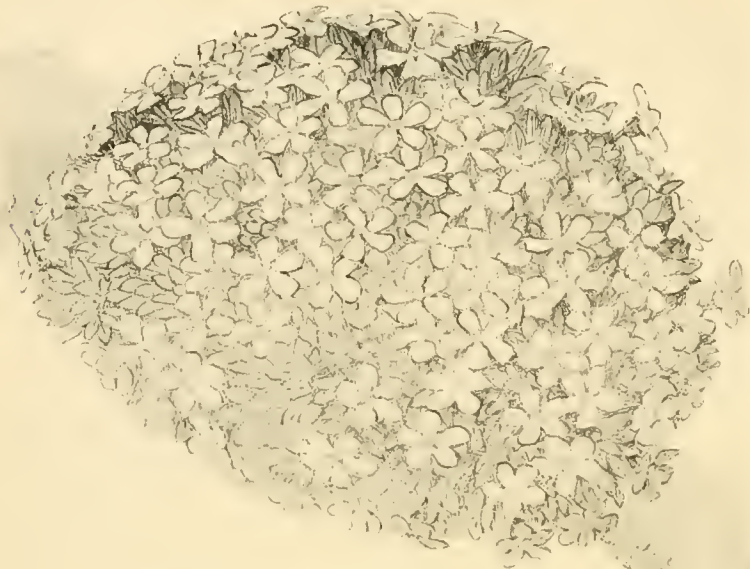
A. HEERII (Heget.) syn. *A. helvetica* × *glacialis*.—From the Martinsloch in the Alps of Glaris



ANDROSACE IMBRICATA. (Natural size.)

(2,300 to 2,600 metres), and from the Tyrol, where its hybrids occasionally occur. It is midway between its parents, and is grown as they are.

A. helvetica (Gaud.) syns. *A. bryoides* (DC.), *A. Aretia* (Dietr.), *A. diapensia* (Vill.), *Aretia bryoides* (Lois.), *A. helvetica* (L.), *Diapensia helvetica* (L.).—From the limestone regions of the chain of the Alps and the Carpathians, in the fissures of rocks exposed to the full sun. A plant with a much-branched stem, forming a closely-packed turf—quite hemispherical cushions; leaves very small, numerous, obtuse, greyish, furnished with single short hairs; imbricated and very closely pressed together, the leaves brought together in rosettes that at the tip form little cylinders pressed one against the other; the lower ones are brownish, and make a greyish mass in the centre of the tuft. This is entirely covered with sessile white flowers that cover the surface of the cushion, and are so close together that sometimes at the moment of blooming the foliage cannot be seen. There are many hybrids between this species and *A. glacialis* and *pubescens*. April and May (June to August). Calcareous rockwork or the joint of a wall in half sun. The vertical position in rock or wall is always to be preferred to a horizontal rock-garden niche, where in a short time it will die. It requires



ANDROSACE PUBESCENS. (Natural size.)

a poor, very sandy calcareous soil, and cannot endure damp. It is increased by division and seed.

A. hirtella (L.) syns. *A. cylindrica hirtella* (Phil.), *A. pubescens* var. *hirtella* (Gren-et Godr.).—Rocks and calcareous debris of the Soum d'Aucapat in the high Pyrenees. It differs from *cylindrica* by its strongly-marked pubescence, for its foliage is almost woolly and is quite covered with fine long hairs; by its leaves that taper to a slender petiole and by its very short peduncles. April and May (July and August). We have found it more difficult to grow than *cylindrica*: it requires full sun and a place in a perpendicular rock. It grows much better at La Linnaea than at Geneva.

A. imbricata (Lam.) syns. *A. argentea* (Gaert.), *A. tomentosa* (Gaud.), *Aretia argentea* (Lap.), *A. tomentosa* (Scheich.).—From the western granitic Alps, in the fissures of the hardest rocks, sheltered from rain and under overhanging rocks, between 2,000 and 3,000 metres; from the Pyrenees and the Sierras of Spain. This plant has a much-branched stem, and forms even finer and closer cushions than *helvetica*; they look like lichens of a silvery or sometimes leaden colour. Leaves very small, very short, verticillate, imbricated, curved, tomentose, and studded with fine stellate hairs. Flowers small, pure white, very numerous, red in the tube and eye of the throat, borne on a short peduncle that is buried in the foliage. May and June (July and August). Perpendicular fissures of granitic rocks and walls, with natural overhang or a coping or something that will shelter the plant from rain, for moisture must only reach the root from below. Full sun. Increased by seed.

A. pyrenaica (Lam.) syns. *A. diapensoides* (Lap.), *Aretia pyrenaica* (Lois.).—From the central Pyrenees in the fissures of silicious rocks. This is a miniature Androsace, although sometimes it forms very large tufts. The very small, narrow leaves are in rosettes that eventually become long cylinders of dried leaves; the mass forming a hemisphere with a surface of living green which becomes covered with small white flowers whose peduncle is longer than the leaves. April and May (July and August).

posed in rosettes at the tops. Flowers tubular, large, solitary, almost sessile, axillary, four or five on the end of the shoot; corollas large, bright yellow, turning greenish when dried, capsule very thick and large, hiding itself in the foliage: seeds also very large. April and May (June and July). Rockwork, in sun in a well-drained niche. Increased by seed, division, or cuttings.

A. vulpina (Sieb.) syns. *A. Pacheri* (Layb.), *A. alpina* (Wulf. non L.).—From the Tyrol and Carinthia, between 2,300 and 2,600 metres, in slaty schists. The plant is not so closely tufted as *A. helvetica* and *pubescens*, which otherwise it resembles. It is furnished with stellate hairs. The flowers have a large corolla of a bright rose colour on a peduncle that is very short but not sessile. April and May (July and August). Culture as for *A. helvetica*.

I may add, in closing, that nearly all the Androsaces do well in the climate of England, if care be taken to attend to the directions given above; they are the result of experiments extending over twenty-six years. The seed of the Androsaces, as in the case of all the Primulaceae, germinates slowly but surely.

Floraire, Geneva. HENRY CORREVON.

[The next monograph that will appear will be that of the Tulipas.—ED.]



PORTION OF A TUFT OF ANDROSACE VITALIANA.

Culture as for *A. imbricata*.

A. vitaliana (Lap.) syns. *A. lutea* (Lam.), *Aretia vitaliana* (Dub.).—From the granitic Alps, the Pyrenees, and the Sierras of Spain, between 2,000 and 3,000 metres. A tufted and stoloniferous plant with very numerous branching stems, spreading and forming a thick turf, studded with stellate hairs. Leaves linear-lanceolate, greyish, arranged one over the other, sessile, dis-

SMALL HOLDINGS.

A NOTABLE SUCCESS.

ONE problem above all others which affects society is the rush of the rural population into the towns. Virgil and Horace deplored the creation of the latifundia, which destroyed the old yeoman class, who stood up to Hannibal, and made Rome the mistress of the world. Ever since then, and in all countries, the problem has been more or less insistent, and the industrial revolution of the eighteenth and nineteenth centuries, coupled with the intensity of foreign competition in food-stuffs, has done much to empty the English country side of its inhabitants, and to make English agriculture a decaying industry. And its results may be seen in the creation of the slums of our great cities—festering sores, where a crowded population living under the most miserable conditions, wallows in filth and poverty, and is the despair of the social reformer.

But when the question is approached in a right spirit, the good which can be done is incalculable. Down in South Lincolnshire, Earl Carrington has an estate consisting of a fine tract of alluvial soil, which offers every facility for the small holder. The soil is deep and easily worked. There are good roads to it, and a railway within a convenient distance. And the capabilities of the land are such that almost any crop can be grown upon it. Lord Carrington has always shown himself to be an enlightened landowner in these matters. On all his estates he has done all that lay in his power to meet the demand for allotments and small holdings on his estates. But it is with Lord Carrington's estate in South Lincolnshire that we are mostly concerned on the present occasion. When the Local Government Act of 1889 was passed, the Holland division of the county of Lincoln elected a progressive majority, and they at once took in hand the provision of allotments and small holdings. It is not too much to say that the policy they initiated has done something to transform the condition of the agricultural labourer in that district. But the Holland County Council was not able to supply completely the demand which arose. On the outskirts of Spalding a large agricultural population has gathered together, and ten years ago they formed an allotment club. They turned to Lord Carrington for assistance, and his lordship was sufficiently interested in their work to let them a field on one of his farms, thirty-three acres in extent, which was cut up into plots of one acre each. As the years went on, three other fields were added, until there were nearly 100 men occupying allotments. And then came a remarkable development. It was found that these were preparing the way for something on a larger scale; the allotment holder of one acre began to ask for more land as his capital increased. Whereupon some local gentlemen stepped forward and formed a syndicate to act as an intermediary between Lord Carrington and his smaller tenants. Mr. Richard Winfrey is the chairman of this

syndicate, and the other members are Mr. H. R. Mansfield, M.P., Mr. Halley Stewart, Alderman G. F. Barrell, J.P., Mr. W. J. Thompson, J.P., and Alderman Mills, J.P. The three latter are local gentlemen, who, with Mr. Winfrey, have a thorough knowledge of the district. They secured as agent Mr. J. H. Diggle, of Moulton, who has the management. They applied to Lord Carrington for more land, and his lordship let them the Willow Tree Farm, about three miles from Spalding, 207 acres in extent, which they were able to relet to the tenants at a rental of about £1 15s. per acre, which is about a fair average rent of the farming land of the district. This land has been let to 100 tenants, in holdings of different sizes. Three tenants have small holdings, amounting altogether to sixty acres; nine tenants have holdings of from four to ten acres each, the remainder of the farm is let in one, two-, and three-acre plots. One interesting feature about this farm is that it includes about twenty-six acres of fine pasture land. This, too, has been cut up into plots ranging in size from three to five acres, which have been eagerly taken up by the tenants, and are used for grazing purposes to excellent advantage. It was here that the good work of the syndicate came in. They advanced the money necessary for fencing and other matters, together with the amount requisite for the payment of the tenant right due to the outgoing tenant, and they are being repaid by the present tenants yearly in a way which will extinguish the debt in about ten years.

The experiment at Willow Tree Farm was such a remarkable and immediate success, that seven years afterwards the syndicate approached Lord Carrington for more land. A few months afterwards another large farm—Cowbit House Farm—adjoining the Willow Tree Farm, fell vacant, and Lord Carrington handed it over to the syndicate. This farm is 265 acres in extent, and the syndicate was immediately overwhelmed with applications from would-be tenants, quite three times as many of whom applied as could be accommodated. But preference was given to allotment holders on other parts of the estate who, by their success, had proved their competency, and Cowbit House Farm was cut up into forty holdings, varying in size from one to forty acres. It came into the possession of the syndicate at Lady Day in last year, and that body has now rented 655 acres of land from Lord Carrington, for which it pays £1,013 per annum, and there are about 200 tenants. When it is remembered that the experiment was only started nine years ago, Mr. Winfrey and his friends must be congratulated on the success of their movement. They are now looking out for more farms in the vicinity, in order that they may be able to gratify the demands which are continually being made upon them, not only to enlarge the holdings of their present tenants, but from other men who are asking to be admitted to the benefits of the scheme. The syndicate have never lost a single sixpence in rent since they started operations. There have been other developments of a valuable character. The capital in the hands of the original allotment club has increased, and now Mr. Diggle has in view the establishment of an agricultural credit bank amongst the allotment holders, from which the tenants can obtain advances to enable them to purchase live stock, seeds, and manures. The capital which has accumulated from the pence of these labourers now amounts to £217, and as soon as the details of the scheme can be settled a start will be made.

As to the general appearance of the holdings, the practised eye can tell at a glance that the tenants are successful in their operations. The land stretches away from Spalding to the borders of Cowbit Wash, a name endeared to skaters. Although eight years ago, when it came into the possession of the tenants, it was out of order, it is

now in the very highest state of cultivation. The deep, rich soil is free from every weed which troubles the agriculturist, and from the point of view of the landlord it has a higher letting value than it had when it was handed over to the syndicate.

No particular course of cropping is followed, but the crops that are raised are magnificent. Two years ago, 56 bushels of Wheat per acre were grown on many of the plots, and last year, which was not a good Wheat year generally, 48 bushels per acre were grown in many places. Enormous crops of Potatoes are also raised. Then after a year or two has elapsed, the allotment holder has saved enough to buy a cow, and he proceeds to rear cattle and make butter. And the number of pigs kept is remarkable. But it is not the commercial side of the question that is the most interesting. The price at which the tenants sell their produce is not



THE NEW NARCISSUS SALMONETTA.
(Reduced. Shown at the recent Daffodil Show at Birmingham.)

chief factor in deciding the success or otherwise of the year's operations, as it is in the case of large capitalist farmers. Most of the tenants get all the breadstuffs they want off their holdings. You go into their cottages, and you are regaled with sweet home-made bread instead of the dyspeptic simulacrum which roller mills and foreign flour have given us. Then the tenants consume a good share of the pork they feed. Go into their houses and you will see great fitches of bacon hanging on the walls, side by side with ruddy hams. And there is, of course, a plentiful supply of vegetables all the year round, together with skim milk for the children.

NOTE.—Further details of this scheme may be obtained of Mr. J. H. Diggle, of Moulton, Spalding, who is the agent for the syndicate, and for the allotments let by the local authorities.—*The World's Work* for July.

ORCHIDS.

VANDA TERES.

AN enquiry in your issue of May 9 as to the best method of cultivating this plant has not yet drawn out any remarks from the numerous Orchid growers of the day. As the note appears to suggest, the planting out method is adopted only where a large number of plants are grown, and under such circumstances it is undoubtedly the best; particularly is this the case where uniformity in arrangement, neatness, and appearance are considered to be of more importance than any standard of excellence in the cultivation of individual plants. Possibly the weakest point in the planting out method is that the plants must be disturbed every spring and each root detached from whatever substance it is growing in, as the whole of the sphagnum moss, the best material in which to plant them, and the drainage must be renewed, otherwise the sphagnum becomes sour and rotten, excepting just on the surface, and a fungoid growth establishes itself among the drainage, quickly spreads over the sphagnum, and also affects the plants; consequently the beds or stages have to be cleared, and to do this the aerial roots must be detached from whatever substance they have laid hold of. The consequence is the plants suffer a serious check. Then, again, after the bed and side stages are replenished with fresh material and replanting is being done, each plant must be of about the same height as others in the same row. To effect this some of the plants have to be shortened at the base, and possibly a portion of the stem and roots which have not yet completed their functions are removed, and in this way some of the plants suffer.

Again, in replanting each plant is supported by sticks (painted green), and for some time the aerial roots do not readily attach themselves to these. The stakes also quickly decay, and thus deprive the plants of the means of rooting to some permanent substance which they appear to require. Consequently, they do not make that continuous and permanent progress which they will do when cultivated under different conditions. The best results that I have been able to obtain in the cultivation of *Vanda teres* were from plants grown in pots and allowed to attach themselves to an upright raft of Teak 4 feet high. To this the roots continued to grow for several years without being disturbed. By this method I have had racemes of greater length and carrying many more flowers and of better substance than I have been able to obtain from plants planted out.

Wendover.

J. JAKUES.

NARCISSUS SALMONETTA.

AMONG the many beautiful new seedlings exhibited by Mr. Engleheart at the recent Midland Daffodil show, this lovely little star-like flower found many admirers. The clear white perianth is inclined to be a trifle flimsy, but this is a slight defect which may well be overlooked in a flower of such beauty. So many new varieties with red cups have made their appearance of late that it has been difficult to distinguish between them.

Salmonetta is, however, quite distinct in this respect, as the cup is of an exquisite shade of salmon-orange, which rather resembles the colouring in the crown of *incomparabilis* Peach. It is undoubtedly a sweet flower in every way.

Kidderminster.

ARTHUR R. GODWIN.

CORRESPONDENCE.

(The Editor is not responsible for the opinions expressed by correspondents.)

CABBAGE PLANTS AND CLUBBING.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Your correspondent "G. S. S." seems to be under the impression that I am ignorant of the existence of two forms of clubbing—that which is fungoid and that of insect production. He is in that respect under a great misapprehension. The object I had in view in mentioning the planting recently of a quantity of Cabbage plants that were infested with maggot club was to show how much that form of attack is aggravated by the excessive use of London manure in the London market gardens, for in the case of some 200 plants in three varieties all were more or less wasted. Then in planting them just as they were I desired to test how far the plants would grow out of these maggot excrecences, and I am pleased to be able to say that every plant has done remarkably well, and promises in a week or two to carry fine hearts. That is the experience also of the market grower who supplied the plants. It is obvious that the insect-produced club is by no means so harmful as that produced by Plasmodium brassicæ.

A. PEAN.

VEGETABLE GROWING AND RAISING.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I was much pleased to read the leader in THE GARDEN of the 9th ult. on the above subject. It is one that should be read by all, especially young gardeners. I consider it a subject that will, or should, create much interest. You say there is increasing popularity in the kitchen garden, and I am pleased to note this, but there is ample room for still more interest. It is a fact that at the present day young men are very anxious to get under glass, and they do not see enough of the kitchen garden and grounds. But that is a subject I will not dwell upon, as you have done well to place this matter fully before your readers, and though you have done so from an exhibition point of view, I do so from a wider one—the value of good culture and of getting a supply early and late and of the best quality.

For many years I have preferred vegetable culture to all other phases of gardening. I may safely say no part of gardening has given me greater pleasure than vegetable culture. From a certain point of view what are termed exhibition vegetables are not always commendable. I think that if possible early and varied supplies should be considered, and I hope at the forthcoming exhibition of the Royal Horticultural Society at Chiswick that mere size will not be considered, but quality, flavour, and season. The latter is important, as it is necessary for the vegetables to be good and seasonable. I am sure such an exhibition will be of great interest. We know that vegetables do not make a pretty display like Orchids and other flowers, but we must take their value as food into consideration. The perfection to which vegetables can be grown is not sufficiently known, and I think there are few things connected with the garden that give more pleasure, providing the best culture is evident. I am much pleased to see the excellent notes that appear in THE GARDEN every week, and you do well to encourage vegetable culture in private gardens, and to bring such work to the front rank of good gardening.

G. WYTHES.

THE EFFECTS OF THE FROST.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Correspondents from many districts and counties are eloquent in describing the serious influences of the late frost, and it would appear that from the early inspection made and reports

already given scarcely any better accounts can be rendered now. True, there are isolated cases where the damage done is far less than is commonly complained of, but these instances would seem to be few. In our case Strawberries seemed on the mornings of the severest frosts to be hopelessly crippled. Later developments show that the damage is not so serious as was thought. Needless to say, all the first, and consequently the finest, blossoms are destroyed, but given favourable weather from now onwards there are yet some hopes to be realised. Currants, too, are not quite so bad, nor are Gooseberries. Mr. Wythes writes of the shelter afforded by a wire-covered enclosure for these fruits and its protection against frost. Exactly the same observations were made here. Pears are fruitless almost to a tree, and where there happens to be a stray fruit on open air trees they have dark-coloured and ruptured skins, rendering them valueless.

Plums are just as scarce on wall and open air trees. Peaches on south walls have a few fruits left; these, again, seemed hopelessly ruined in the frost period, but came out of the ordeal better than was expected. A Peach wall at Heywood, three miles distant, was unharmed, hundreds of fruits having to be removed; while at Leighton, one mile farther westward, the trees seemed half killed, showing the varying power of frost on different soils and at different altitudes. At Heywood a belt of trees on the north and projecting buildings on the west and east give much natural shelter. An overhead coping of glass completes what other surroundings do not furnish. A better example of what may be done with a well-devised wind and structural shelter could scarcely be provided, and it might reasonably be inferred that any site carrying a fruit crop through such a frost period in April with safety may be depended upon in future contingencies.

Apricots seem harder hit than any other tree of the fruit garden, the foliage showing much injury, indeed, it is doubtful whether much of the earlier-formed foliage will not fall. This failing is observed in several gardens, but is not shown in every tree and variety. Crops are everywhere light. Apples cannot yet be judged with certainty, but many trees had a very great number of the flowers destroyed in a bud state. Others since expanded do not give any better hopes. Cherries always give a superfluity of blossom, but it remains to be seen whether the thinning down by frost was not much too severe to assure a sufficiency remaining.

Flowering shrubs, Roses, pergola and house trailers all reveal much damage done, and there will be in many cases a poor summer show. Wistarias, Choisya ternata, Weigelas, the various Mock Oranges, and Lilacs are some that show much injury, which must cause an appreciable loss to the landscape, garden, and flower basket.

Trowbridge, Wilts.

W. STRUGNELL.

CUCUMBERS ROCHFORD'S AND CARDIFF CASTLE.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—On page 320 your correspondent "A. C. N." speaks in high terms of Rochford's Cucumber, but he does not say one word too much in its favour. Undoubtedly the popularity of the variety has been the means of fresh names being given and the distribution of others of lesser worth as Rochford's. When this occurs there is a risk of the variety losing its value and reputation among those growers who cannot grow them in sufficient quantities to judge of the correctness of the strain. Cardiff Castle is another very useful Cucumber for the private garden, because good for all seasons. What the probable age of this variety is I have no means of ascertaining, but a ducal gardener of my acquaintance gave me seeds last year of a stock he has held for over thirty years, which I find on trial identical with Cardiff Castle. I cannot but think that this is a period anterior to the issue of Cardiff Castle. My friend had no name for his stock, nor had he one for all those thirty years. These latter are, like Rochford's, very free in fruiting, of healthy growth, and with reasonable treatment will continue in bearing over a long period. It is

not of large size, but for home use ample. In the mansion, where the order is given for a fresh supply daily, there is more waste than use following the growth of large Cucumbers. For market purposes the case is different, as purchasers get the most they can for the investment made.

Wilts.

W. S.

THE FRUIT GARDEN.

STRAWBERRIES GROWN IN FRAMES.

MANY are the ways in which frames or pits may be used so that it is surprising the Strawberry is not grown more extensively for the May and June supply, a season of the year when the fruits are most valuable. Fruits not hard forced are so good in such seasons as this that I may almost say they are superior to those in the open ground, being more shapely and very large if the trusses are well thinned. The plants should not be grown from start to finish under glass, as for several months they may be used for other purposes. Good results may also be secured by placing movable frames over the permanent plants. This is done to forward the first crop in the open. These notes refer to pot plants prepared in the previous summer, and given frame protection from, say, April or earlier for May and June supplies. Excellent crops are obtained by merely giving glass protection, but those who have a little heat at command in the shape of a flow and return pipe will find it of great advantage on cold or wet nights and during the setting and ripening period.

I do not think any fruit can be obtained so readily and of such excellent quality as Strawberries when grown in frames. The plants yield well also. They are, indeed, equal to open air fruits, but even grown thus care is needed in feeding and watering. The fruits are often wanting in flavour, though excess of both is equally injurious. When grown in this way the plants should be close to the glass, at least not too far away, and should if possible be grown on boards or stages, though we grow our June plants on a cool coal ash bottom, as at that season they get dry more quickly. I prefer pot culture, that is, plants propagated from strong runners as soon as large enough and potted on and wintered in the open. The pots are plunged in ashes up to the rims in November and housed in March or April or May for late supplies. At the time of writing this note (May 14) we still have 500 plants to force in cold frames for use the third week in June, so that it may be thought full late, but it is not so. Though the plants are showing bloom the same as those in their permanent quarters, they respond so quickly when placed under glass that the first fruits will be ready at the date named. Many amateurs who have frames would find this way of culture worth trying and profitable also.

To get good plants there must be strong runners, and at this date we are denuding a certain number of last July plants in the open quarters of their flower trusses so as to get early and strong runners. For forcing for frame work and for permanent planting it will be seen that plants cannot bear a heavy crop of fruit and produce early runners. I have many times when getting a change of plant or a variety had to wait till late in August or early in September before purchased plants were delivered.

These are useless for next season's crop grown as advised. There is an immense gain by having a strong plant in June or July, and one that produces flower trusses equal to the strongest open ground plant. Many think that such varieties as British Queen are worth any special attention to get good results from, but in some garden soils this variety is difficult to grow. In such case I would advise pot culture at this season and frame protection; grown thus I have obtained splendid results, and it is an easy matter to mix soil for a batch of plants to get the best return possible. I have also when short of pot plants, and we force 5,000 annually, lifted young plants with a good ball of earth and roots intact and placed in the frames for a late supply. They need more care at the start in shading and watering. In a country district far from rail or a town I grew for some years all my late May and June Strawberries in rough home-made Larch boxes 6 inches deep, 2 feet long, and 6 inches wide for one row of six plants and 10 inches for a double row. These were placed in frames on stages in April, and they gave a splendid supply for the town house in London and at little cost of labour or materials. The boxes were made in winter, and the wood was grown on the estate. Frames are merely a protection, and the plants give fruit freely at the seasons noted above; it is surprising how well the Strawberry forces with a compact ball of roots. There must be ample roots to get fine fruit, and forcing is easy. The only drawback is that unless severely thinned the crop suffers, and when grown specially for frame culture one can feed and secure plants with well-formed crowns.

G. WYTHES.

PEACH TREES ON WALLS OUTDOORS.

SOME of the finest Peach trees on walls out of doors that we know of are to be seen in the gardens at Ditton Park, near Slough, the property of Lord Montagu. A few of them are very large specimens, but they are not on the whole so remarkable for size as for the splendid culture they denote. The accompanying illustration is from a photograph taken last summer in Ditton Park Gardens, and shows a tree of Peach Royal George as grown by Mr. Ormiston, who has recently retired from his post as head gardener. Mr. Ormiston took a great interest in Peach cultivation, and some of the trees trained and tended by him in the garden at Ditton are models of good gardening. He endeavoured always to have the trees well filled with young shoots from the base of the tree, old branches he looked upon as indicating wrong methods of culture. Splendid crops of the finest Peaches are produced by the trees at Ditton Park, and under the care of Mr. Herbert Jones, who has succeeded Mr. Ormiston as head gardener, they will doubtless continue to do so.

SEASONABLE NOTES ON PEACHES.

To the experienced cultivator the gathering, harvesting, and disposing of Peaches will cause no anxiety, but to the inexperienced a word of caution and advice is necessary. For a week or so before the fruit is quite ripe, if the weather is very hot, it is advisable to place a net (single thickness) upon the roof to prevent the fruit

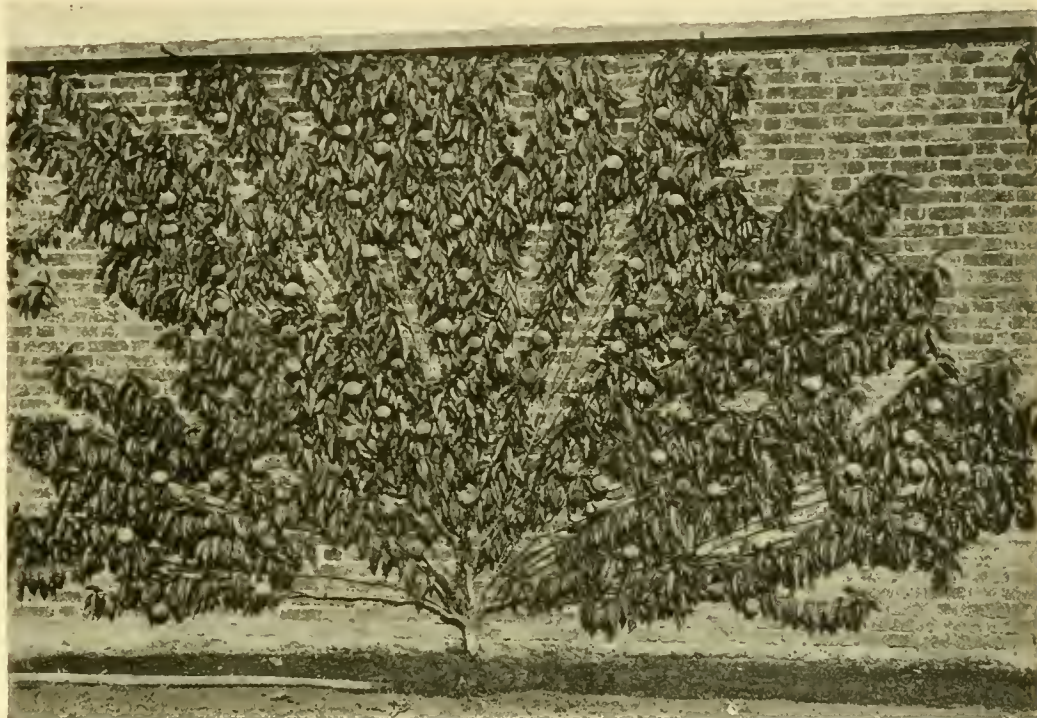
being burned and disfigured by the sun. A net should also be suspended under the tree to receive any ripe fruit which may not have been noticed when gathering them. Many do not know when to pluck a ripe Peach from the tree. Knowledge of this description can only be acquired by experience, and instruction on this point is difficult to convey. The general appearance of the fruit will indicate approaching ripeness, but the last and crucial test must be the test of touch. The last portion of a Peach to ripen is that around the stalk, and to this part must be applied the final test of ripeness. Should the flesh yield easily to the touch then the fruit is ripe; if, on the other hand, it does not, gathering must be deferred. Touch a ripe Peach very lightly as the least unnecessary pressure will disfigure it, taking away many points from its quality either as an exhibition or dessert fruit. Never expose the crop at this stage to a chance of chill by unduly lowering the temperature of the house, or place the fruit when gathered in too low a temperature.

PACKING THE FRUIT.

It is almost superfluous to remark that when Peaches have to be sent a long distance by road or

Peaches in are those 16 inches square, divided into sections 4 inches square by thin boards as deep as the box, viz., 5 inches; each of these sections will accommodate one Peach. The same boxes also answer well for packing the choicest varieties of Pears, and for Nectarines, Apricots, and choice dessert Plums, when two or three of the smaller fruits can be packed in one section. Before packing begins as many sections of the boxes as are likely to be wanted are partially filled with paper shavings, enough to provide a soft base for the fruit to rest upon.

In packing, the fruit, if possible, should be graded, first quality in one box, second and third in others, and each one labelled to this effect. This prevents much confusion and rough usage of the boxes at their destination. There is nothing better than common cotton wool for wrapping around the fruit, the smooth side of the wool being placed near to the fruit. The wool should be cut into squares large enough to envelop the fruit; half the thickness of the sheet of wool is sufficient to protect the fruit from injury, unless it happens to be very ripe, in which case the wool should be used as it is. The Peach or Nectarine should next



PEACH ROYAL GEORGE ON WALL OUTDOORS AT DITTON PARK GARDENS.

rail they must be carefully packed. How best to accomplish this work I will endeavour to show by detailing the method practised successfully by me for a great number of years; this plan was subjected to a test which was as severe as one could wish, namely, the journey from Windsor to Balmoral, a distance of about six hundred miles, yet I have no recollection of a complaint of the fruit having arrived in a damaged condition. When the grower knows that he has to send his ripe Peaches a long way by rail he must give careful consideration to the varieties he grows, as some travel much better than others. For instance, the early American varieties, such as Alexander and Waterloo, and many of the early varieties raised and introduced of late years, have skins so thin and easily bruised that it is absolutely impossible to send them any distance without their suffering damage. Again, ripe Peaches having to travel a journey should be gathered before they are quite ripe, say at least a day earlier than if they were intended for consumption at home, and if for a long journey two days earlier. The boxes I prefer for packing

be wrapped neatly in tissue paper and placed in the box. When the box is full, all the spaces around the fruits must be carefully filled up with more paper shavings; place sufficient also upon the top, that when the lid is put on the box, slight pressure will have to be used in nailing it down, thus making the packing so firm that no oscillation or displacement of the contents can possibly take place. A word of caution may here be given against using too many nails in fastening down the box. This only entails useless labour and shaking of the fruit in unpacking. A strong (the ends fastened with iron bands) box is provided large enough to hold three of these cases of packed fruit. When well secured in this box it is practically impossible for them to suffer even with the rough usage they invariably, and, I am afraid, unavoidably, are subjected to at the hands of railway employés. Here may I say a word about returning empties. Non-attention to this work is the cause of endless trouble and expense. True, it is in a degree out of the power and jurisdiction of the gardener to control this, but he may do much by impressing on

those in authority the importance of not only sending the packages home with despatch, but also the packing material, which can be used over and over again.

A. P. H.

THE KITCHEN GARDEN.

CABBAGE WHEELER'S IMPERIAL IN SPRING.

FOR several years I have taken a great interest in the early varieties of Cabbage, and I never remember a better return than this year, as the plants are very early, and so small a percentage of any variety has run to seed, whereas last year it was quite the reverse. My note more concerns the above variety, which this year has proved one of the best out of several. I do not think any garden should rely upon one variety of spring Cabbage. This year Wheeler's Imperial is better than Ellam's; it may be that I have a poor stock of Ellam's, but I think not. The one named above is certainly a splendid Cabbage for spring cutting. I had the seed of this variety from the owners at Warminster, Wilts, and certainly it is an ideal Cabbage. There is an absence of coarseness, the plants have not run to seed, are remarkably hardy, and of splendid flavour.

CAULIFLOWER SUTTON'S FIRST CROP IN MAY.

As soon as the late Broccoli is past the grower who needs a full supply of the best vegetables requires an early Cauliflower, and so far I have found Sutton's First Crop a most valuable variety. This is a remarkably early Cauliflower, a small compact grower, with very few outer leaves, and heads not much larger than a Melon; it is also of first-rate quality. For forcing under glass we find this variety very useful. From seed sown early in the year and the

plants grown on in frames a supply may be had early in May. We also grow a good number in the open between the earliest Peas. Owing to its compact growth very little space is needed. I find it very reliable; the plants rarely fail to give a good supply. There is no need to sow in the autumn in the old way when such quick results can be secured by sowing in heat, and good heads secured in less than four months. This mode of culture is a great gain, as often valuable space is occupied by early autumn-sown plants. By growing the First Crop there is a great saving of time and space; they take up little room when grown for a first crop in May or early June.

G. WYTHES.

BOLTING IN CABBAGES.

THANKS chiefly to the showery autumn and the mild winter, spring Cabbages are plentiful this year, and cutting began early. Further, so far as my experience goes, the plants are displaying little of that bad habit of running to flower instead of forming heads, which is so common in some seasons. "Bolting" is a good old gardening word with an expressive meaning, and, though more frequently applied to Cabbages than to any other plant, it refers only to the appearance of those yellow flower-spikes which are so unwelcome when they appear in the spring Cabbage bed. There are any number of theories which are supposed to explain the cause of "bolting," but one and all are as easily upset as a row of nine-pins, and why Cabbages should run to seed one spring and not another is a question still open to discussion.

Too early sowing is frequently urged as a cause of bolting, and though I am not in favour of sowing before August, I think it is more a question of the weather that follows the operation. Is there any means of preventing or checking the "bolting" habit? Some growers nip a bit off the ends of the roots when planting, while others slit the stems near the ground and insert a little wedge of wood, and the persons who practise these things naturally have faith in them, but my opinion is that if a Cabbage

plant is in a "bolting" humour it will have its own way, in spite of what may be done to prevent it. Whether some varieties are more prone to "bolting" than others is a much-debated question, and though I am ready to believe that all are liable to it, I am satisfied that there are few, if any, better spring Cabbages than Ellam's Early and Sutton's Flower of Spring, and they do not often misbehave themselves in the way of "bolting."

G. H. H.

CELERY STANDARD BEARER.

THERE are probably few gardens of any dimensions in which Celery Standard Bearer has not been grown and found to be as your correspondent "A. C. N." describes it, "a valuable late Celery," and especially is it useful to those having a wet, heavy soil to deal with, for under these conditions it keeps better than any other variety we have grown. Even when grown under these conditions it is benefited so far as its keeping properties are concerned by being planted in moderately shallow trenches and not heavily manured. The advantages of growing it in this way for very late use will be readily seen. When liberally treated it is a robust grower, though it is in no way coarse; it is solid, and its flavour of the best. We prefer pink and red varieties to white (they are hardiest), and of these for early and midseason use Early Rose and Major Clark's are in every way excellent; they blanch quickly, and remain for a long time in use. They greatly resemble each other, and unless for the sake of variety there is no advantage in growing both. The once rather common method of earthing Celery when it is quite young, and constantly stifling its growth by frequently piling soil against it, is happily now but little practised.

T. COOMBER.

INSECT PESTS.

THE SUPPRESSION OF BLACK CURRANT BUD MITE.

UP to the present science has to consider itself beaten in its fight against this terrible microscopic foe. Many theories of eradication have been formulated and put into practice, but the bud mite goes on its destructive way, spreading devastation in its path, till now the grower who can truthfully say that he is free from it may consider himself fortunate. A few years ago the bud mite plague was confined almost exclusively to market plantations, but now it has spread to gardens, and its depredations are as great there as anywhere.

The worst of it is that up to the present we are without a remedy. There are several so-called means of eradication, but until it is proved that they are efficacious not much faith can be put in them. I do not mean to say by this that a remedy is impossible, and if scientific men can find one they will confer a lasting benefit on fruit growers. But while experiments and researches are being made, is it not possible for growers to do something to help themselves? I think it is, and write this with the object of indicating the direction.

Of late we have heard a good deal about mite-resisting varieties of Black Currant, just as we hear about disease-resisting Potatoes, and though I am yet in doubt as to whether any variety of Black Currant will effectually resist the mite, it is quite evident that some are much more liable to be affected than others. It seems to me that one way of saving the Black Currant is to propagate and grow only those varieties not liable to mite, and to ignore all that are. This requires some sacrifice, because, unfortunately, two of the best Currants in cultivation, namely, Baldwin's Black and Carter's Champion (said by some authorities to be one and the same thing) are often victims to the ravages of the bud mite. But what is the good of growing them for the sake of the fruit if one is to lose the bushes through the pest under notice? It would be much better to let Baldwin's and Champions go out of cultivation



LÆLIO-CATTELEYA FASCINATOR SPLENDENS.

(Awarded a first-class certificate when shown by Messrs. Charlesworth and Co., Heaton, Bradford, at the recent Temple Show. Natural size.)

GARDENING OF THE WEEK.

FLOWER GARDEN.

DAHLIAS.

DAHLIAS are easily cultivated for garden purposes only, but to produce perfect blooms fit to grace the exhibition stand is quite another matter. For ordinary purposes they may be grown in a mixed border, and if plenty of old manure has been mixed with the soil and made somewhat light, a fairly good

varieties, especially of this section, grow too much to leaf when planted in rich, damp, heavy soils, more particularly in wet localities: the beds, if possible, should be made up of soil more light and porous than is desirable for dry situations. The depth of soil should be less and the beds more elevated and thoroughly drained, with the view of promoting a growth more productive of bloom. In some of the wetter parts of the country it is a good plan to plunge the plants in the beds in 6-inch pots; this will have a tendency to throw the plants into bloom. When this practice is adopted it is desirable to save and use a large proportion of the plants for several years in succession, as old plants flower more freely, and by being kept in their pots the blooming disposition is increased.

FRITILLARIAS.

The Crown Imperial, although not the most beautiful of our spring-flowering plants, is yet very stately and distinct in character. For back lines or in mixed borders they are well worthy of attention, or planted at intervals among lower growing plants in beds they would be equally effective; they are all very hardy and easy to manage, increasing freely if left in the ground. Bulbs planted in November will now have done flowering, and should be kept free from weeds. Take care that stronger growing plants do not crowd them.

Norwich. T. B. FIELD.

FRUIT GARDEN.

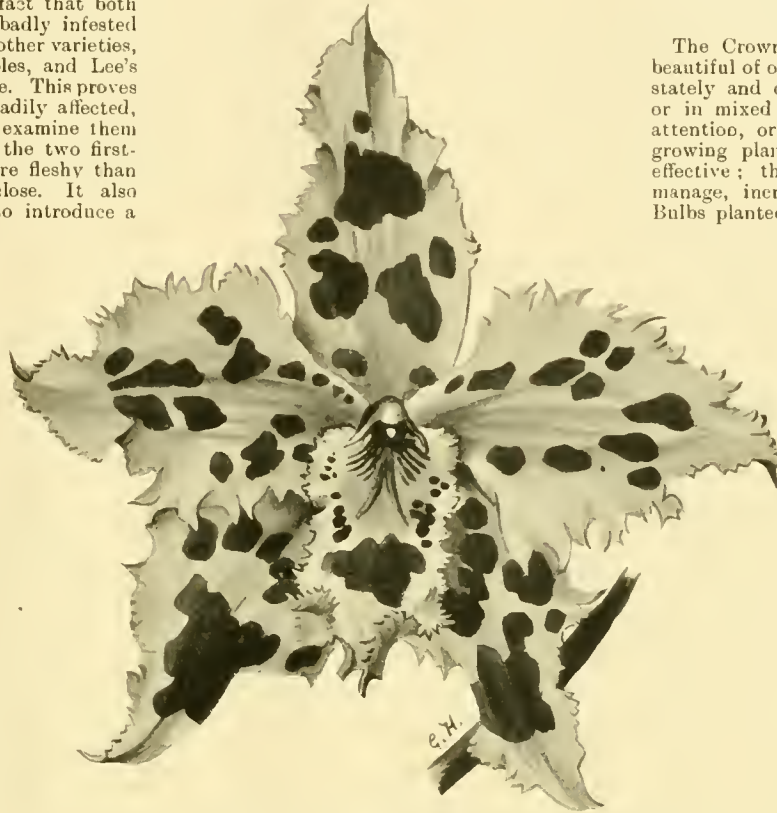
LATE STRAWBERRIES IN POTS.

THESE, which form the link between forced and outdoor fruit, are generally plunged in beds of leaves in cold pits in the autumn, where it is best to leave them undisturbed until the fruit is ripe. If proper foresight was brought to bear upon their original arrangements they will be a fair distance from the glass, not too close together, and the roots, having taken hold of the decaying leaves, will support a heavy crop of the finest and most valuable fruit of the season. Under such treatment the tender British Queen and the shy Doctor Hogg can be grown to the highest perfection, and with infinitely less trouble than when they are moved about and the pots are exposed to the baking influence of a bright sun. Moderate thinning will, of course, be

necessary, and the fruit will require a few Birch twigs to keep it well up to the influence of light and air. The pots being plunged, watering will be reduced to a minimum, but when watering is required it should be of a stimulating nature, and fine mornings favourable to liberal ventilation should be chosen for its application. If it is thought desirable to retard ripening the lights may be thrown off the pits on fine days and closed at night, otherwise good syringing and early closing with sun-heat will favour the production of the finest fruit. Occasional syringing with clear soot water will be found an excellent stimulant and insecticide, and the use of clear sulphur water will keep the plants free from mildew. When properly hardened off forced plants should be turned out for autumn fruiting, and maiden plants from which the early runners are to be obtained will require mulching and plenty of water in dry weather.

PEACHES.

If not already done, the fruit in early houses now taking the last swelling should be elevated on pieces of lath placed across the wires of the trellis so as to expose the points to the sun. The shoots that will be removed after the fruit is gathered, as well as the leaders approaching the extremities of the trellis, may at the same time be stopped to



ODONTOGLOSSUM WILCKEANUM VENERANDUM. (Natural size).
(Exhibited by M. Vuylsteke, Ghent, at the recent Temple Show, and then given a first-class certificate.)

result will be obtained, especially if abundance of water is given them while growing. But where special treatment is necessary it is better to prepare a bed for Dahlias alone. Dahlias require a rich, moderately light soil, in which their tubers can freely grow; it is best to prepare the bed several months before planting, mixing into it abundance of well-rotted farmyard manure. The early part of June is the safest and best time to plant. Tubers that have been started into growth should be planted a few inches below the ground, with the sprouting eye close to a strong stake driven firmly in. It is well at the same time to throw up a little earth around the spot at some little distance to provide for future watering purposes and also for mulching. From the moment they are planted care and protection will be needed against slugs, snails, and caterpillars. Slugs and snails may be kept off them by spreading a layer of lime or soot around, but caterpillars must be picked off.

ZONAL PELARGONIUMS.

For culture under glass few plants are more useful than these: they are also equally useful for beds in the flower garden. A light sandy loam, moderately enriched with either well-rotted manure or leaf-mould, and resting upon a dry gravelly bottom, is the best for producing a moderately strong growth and profusion of bloom. The stronger

altogether and grow something else that is not quite so good, if there is a chance of saving it from destruction. If one has a plantation of Black Currant bushes on which the tell-tale swollen buds are seen, it is no use mincing matters or standing on ceremony. They will have to come out sooner or later, and I would advise the exercise of discretion as to the variety that is to take their places.

I have under my observation at the present moment a plantation of Black Currants consisting of several varieties. Most of them have been growing together for five years, though one or two additions have been made since, and when planted there was no apparent trace of bud mite. I have closely watched the bushes from time to time, and a recent examination revealed the fact that both Baldwin's and Champions are so badly infested that they will soon be useless, while other varieties, notably Boskoop Giant, Black Naples, and Lee's Prolific, are still free from the plague. This proves beyond doubt which are the most readily affected, and if anyone takes the trouble to examine them it will be found that the buds of the two first-named varieties are softer and more fleshy than the latter, which are hard and close. It also suggests that it may be possible to introduce a variety of Black Currant having a bud so hard and close in texture as to be impervious to the mite.

G. H. HOLLINGWORTH.

NEW ORCHIDS.

LÆLIO-CATTLEYA FASCINATOR SPLENDENS.

AT the recent Temple show seven new Orchids obtained first-class certificates, and one of the most striking of them was Lælio-Cattleya Fascinator splendens, shown by Messrs. Charlesworth and Co., Heaton, Bradford, Yorks, and of which we give an illustration. It is a hybrid between Cattleya Schroderæ and Lælia purpurata. The petals and sepals are palest blush, almost white, and the large lip is rich deep purple, most intense at the entrance to the throat; this is a blending of orange and crimson. The chief beauty of the flower lies in the pretty effect produced by the richly-coloured lip against the pale-coloured sepals and petals.

ODONTOGLOSSUM WILCKEANUM VENERANDUM.

THIS is another of the Orchids to which a first-class certificate was awarded at the Temple show. It was shown by M. Vuylsteke, Ghent, who had other remarkably fine Odontoglossums also. *O. wilckeanum venerandum*, of which we give an illustration, is a large flower with fairly broad tapering sepals and petals, and heavily marked all over with chocolate-red blotches of varying size. The petals have prettily crinkled edges and a white ground: the ground colour of the sepals is tinged with yellow, and the lip is long and protruding. M. Vuylsteke also exhibited at the Temple show *O. ardentissimum concinnum superbum*, to which an award of merit was given. This flower much resembles *O. a. Exquisitum*, except that the markings are paler and the blotches smaller. *O. a. Exquisitum* is large, with white margined lilac-purple sepals heavily blotched with deep rose-purple.

throw size into the Peaches and to prevent the foliage from becoming crowded and impervious to a free circulation of air from the lower to the upper side of the trellis.

GATHERING.

When Peaches have to be packed for a railway journey they should be taken from the trees before they are dead ripe, otherwise they will not travel well, neither will the flavour be so sprightly as it might be. The fruit should, of course, be softening and throwing out that delightful aroma which no one can mistake at the time of gathering, when the greatest care must be observed in handling, as the slightest pressure of the fingers produces bruises. But all this can be avoided by taking a pad of cotton wool in the left hand and a pair of Grape scissors in the right, by means of which the largest fruit can be detached with perfect safety. When gathered and placed singly on squares of silver paper in well-padded baskets, a dry, warm Grape or store room will be found equal to the Peach house for storing purposes.

Madresfield Court Gardens.

W. CRUMP.

ORCHIDS.

This season, owing to the sunless weather, has been very unfavourable for the cultivation of the warmer Orchids. It is necessary, as many are growing freely, that the maximum temperature should now be maintained. If this cannot be done by sun-heat recourse must be had to the undesirable use of fire-heat. As the latter is very favourable to the increase of thrips, the cultivator must carefully and frequently examine his plants, and so by the use of soft soapy water or some insecticide prevent disfigurement by this injurious pest.

HEATING, AIRING, &c.

In the Phalaenopsis, Dendrobium, stove, and warm Cypripedium houses maintain a temperature of 70° to 75° by night and 75° to 80° by day by fire-heat, allowing a rise of 10° to 15° by sun-heat, always admitting some air by the lower ventilators, and increasing it according to the conditions of the weather; when warm and not windy a little may be admitted by the top ventilators, with the exception of the Phalaenopsis house, where top air is never needed. These houses should now be well charged with moisture. Allow the atmosphere to become somewhat drier at midday. Many plants in these houses, such as the Dendrobiums, Cypripediums, Miltonias, &c., are benefited if lightly sprayed overhead once or twice on bright days, though special care must be taken to prevent water remaining in the axils of the leaves of the Selenipedium, the Bellatulum section of Cypripediums, and many of the hybrids derived therefrom, and others that are seen liable to decay at the base of the leaves.

CATTLEYA AND MEXICAN HOUSES.

In the former maintain a temperature of 70° by night and 75° by day, the latter 65° by night and 75° by day, allowing 10° or more rise by sun-heat. In these air should be more freely admitted by the bottom ventilators, and by top ones on all favourable occasions, especially in the Mexican houses. Keep a nice moist atmosphere throughout the growing season by damping twice or three times a day, and syringe in among the pots on bright days. The Mexican *Laelia* should be sprayed overhead once or twice a day throughout the growing season.

COOL INTERMEDIATE HOUSE.

In this department the temperature of 60° to 65° by night and 65° to 70° by day should be kept up with as little fire-heat as possible. Keep a nice moist atmosphere and admit air freely by top and bottom ventilators when circumstances will permit, though not in such volumes as in the *Odontoglossum* houses.

ODONTOGLOSSUM HOUSES.

These should now be kept cool, moist, and as airy as possible; the nearer the temperature is kept to 55° by night and 60° by day the better it will be for the plant.

SHADING.

All plants will now need to be well shaded from the direct rays of the sun, though the *Dendrobiums*

and Mexican *Laelias* should be given a little morning sun, and again in the afternoon when the houses are closed.

WATERING.

Careful attention must now be paid to watering the plants; take care that those resting are not watered too freely, and those that are freely growing do not suffer for want of it.

F. W. THURGOOD.

Roslyn Gardens, Stamford Hill, N.

THE KITCHEN GARDEN.

WATERING THE CROPS.

Now that warm weather has set in the various crops will grow apace, and close attention to watering and mulching will be necessary. Dribblers are harmful to vegetable crops, and this cannot be too emphatically impressed upon probationers. If time and material can be spared, after affording copious waterings, give a slight mulch to conserve the moisture. Any rough, half-decayed manure will answer, even if it does not contain much nutriment, although, of course, if it is more or less rich in manurial properties so much the better, in that the crops will be stimulated by its being carried down to the roots by rains and hand waterings.

BEANS.

If early pickings of Broad Beans are required the tops of the earliest plants may now be pinched out to hasten the production of pods. Successional batches may be treated likewise as they become fit, though these should first be allowed to grow taller than the early ones. Runner Beans that are through the soil should be dusted slightly with soot or lime when the dew is upon them, and it is as well to afford some slight protection on cold nights as they are extremely tender. Gaps may be made good by lifting some of the later ones with good balls of soil and transplanting them carefully, or, better still, make them good from the reserve plants raised under glass. Encourage them to grow away freely by affording copious waterings, preferably with rain water or well-diluted manure water. No time must be lost in staking those that show signs of commencing to run, or the runners soon become entangled one with the other. Give a loose tie to start them up the poles, so that one or two shoots are ensured for each pole. Another sowing may still be made for latest pickings.

COLEWORTS.

These are in great request in some establishments, and deservedly so, for they come into use during autumn when the ordinary varieties of Cabbage are past their best. The delicate flavour of the Rosette Colewort is excellent, and is preferred by many to the other type of Cabbage. It is advisable to make two sowings, the first about the middle of the present month and another ten days later. Sow on a cool border, and if the ground is dry at the time afford a good watering with a rose can a few hours before sowing the seed, then cover the bed with old mats and keep them moist until the seed has germinated, when they must be removed. If there is danger of birds attacking the seedlings, cover with a net for a few days. Choose a plot of ground for growing this crop that is not too much exposed to the sun. Coleworts delight in a cool rooting medium and one that is fairly rich.

Stoneleigh Abbey Gardens.

H. T. MARTIN.

INDOOR GARDEN.

BOUVARDIAS.

Where pits with one row of hot-water pipes round them are available, prepare a bed of soil in which to plant the Bouvardias intended to cut from during the winter. Provide for efficient drainage before the border is formed. Use a compost of one half light loam, one fourth part leaf soil, and a fourth part peat, with a good addition of coarse sand. A depth of 8 inches of soil will be necessary. The plants should now be ready in 4-inch pots to put out into the bed. Give them 15 inches to 18 inches

space each way, and make the soil firm by treading after each row is planted. Syringe two or three times a day during fine weather, and shade them with a strip of tiffany until root-action is established. Those intended for pot cultivation should now be transferred to 5-inch or 6-inch pots and placed on a border of ashes in a light, warm pit. Maintain a temperature of 60° by night, and shade during bright sun.

SALVIA SPLENDENS BRUANTI,

S. s. *Glory of Stuttgart*, S. *gesneræflora*, S. *Pitcherii*, &c., should now be placed in the pots in which they are intended to bloom in a compost of loam, leaf-soil, and one fourth part dried cow manure passed through a fine sieve with some sand. Pot the plants firmly, and place them in a sheltered position on the ash border. Syringe them two or three times daily in fine weather, and as soon as root-action is well established take the points out of all the shoots to encourage a more branching habit.

COLEUS THYRSOIDEUS

from seed sown in early spring should now be ready for pots of 4½ inches in diameter. This very desirable plant progresses more satisfactorily if kept in an intermediate house and treated to plenty of light.

SAXIFRAGA PYRAMIDALIS.

Any offshoots that can be had from the bases of old plants should be potted up singly in small pots in light, sandy soil and placed in a cold frame. Shade them from bright sun until they are well rooted, when a lighter position may be given them.

CAMELIAS

which for want of room may have to be placed out of doors from May to September should have the advantage of a shady position. Syringe twice daily with clear soft water to prevent a deposit of lime remaining on the foliage. Water once or twice each week with liquid manure water made from cow manure and soot. Should scale be spreading, lay the plants down and give them a thorough syringing with XL All wash, being careful to syringe every part of the plants, including the stems.

ERICAS

of the soft-wooded section, *Acacia armata*, *Cytisus racemosus*, and similar plants when large may (except in cold, northern situations) be placed out of doors in a position shaded from the midday sun; at the base of a west wall is a good position for them. Attend carefully to the watering, and see that the drainage does not become blocked. Syringe them freely each fine afternoon, as not infrequently they fall a prey to red spider.

CRASSULA COCCINEA

when approaching the flowering period often suffers from the ravages of the small yellow thrips, and the plants suffer severely. It is therefore good practice to fumigate them two or three times previous to the plants coming into bloom. A sowing of *Celsia Arcturus* may now be made to produce plants for winter flowering.

Wendover.

J. JACQS.

SOCIETIES.

ROYAL HORTICULTURAL SOCIETY.

NEW PLANTS AT THE TEMPLE SHOW.

FLORAL COMMITTEE.

THE following received a first-class certificate:—

Ficus pandurata.—Even as a room plant this *Ficus* is of quicker growth than *F. elastica*. The thick, coriaceous leaves are alternately arranged on the stout stems on quite short petioles, viz., about 2 inches long. The nearly olive-green handsome leaves are 12 inches by 15 inches, and strongly veined. They are arranged on the stem in a semi-spiral fashion. One of the most effective of recently introduced foliage plants. Exhibited by Messrs. F. Sander and Sons, St. Albans.

Polypodium Knightæ.—A most graceful and pleasing species of drooping habit. The fronds are upwards of 2 feet long, distinctly pointed. The pinnae, nearly 3 inches long, are also finely pointed. Exhibited by Messrs. F. Sander and Sons, St. Albans.

The following received an award of merit:—

Phyllocactus Deutsche Kaiserin.—At first sight the pretty rose-pink flowers of this plant give one the impression of an

Epiphyllum, but the mode and freedom of flowering are very distinct from this latter group. The plant is most free, and the warm tint of colour very attractive. Exhibited by Mr. H. Kohlmannslehner, Britz, Berlin.

Dracaena Pire Charon.—This is one of the finest of the red-leaved Dracenas we have seen. The colour is blood-crimson, the entire leaf being suffused with the same tone. From M. L. J. Draps-Dom, Laeken, Brussels.

Azalea mollis × *sinensis Florodora*.—A good variety of a most attractive shade of pale orange. The flower individually is very large and freckled in the upper segments. From Messrs. K. and G. Cuthbert, Southgate.

Selaginella watsoniana.—A most charming variegated plant, which in its free growth and handsome markings is very attractive. Shown by Messrs. Sander and Sons, St. Albans.

Rose Blush Rambler.—This is the outcome of crossing Crimson Rambler with The Garland, the resulting plant being well described in its name. It is a marvel of freedom and beautiful flowers. Shown by Messrs. B. R. Cant and Sons, the Old Rose Gardens, Colchester.

Rose multiflora Waltham Rambler.—In colour there is much of the exquisite beauty so often seen in the Dog Rose, a delightful pink shade that all admire. The profusion of its great frusses of bloom is remarkable. Plants 3 feet or 9 feet high were covered with exquisite flowers. Shown by Messrs. W. Paul and Sons, Waltham Cross.

Begonia Mrs. Portman Dalton.—A very large double-flowered variety, salmon-rose in colour, with a perfect Rosebud-like centre, a most exquisite Begonia.

Begonia Mrs. Moger.—Also a double-flowered one, the colour intense deep salmon, with broad shell-like or Camellia-like petals.

Begonia Sir T. Lipton.—A double-flowered sort in which orange blends with orange-scarlet. It is very beautiful and large.

Begonia Hon. Lady Neeld.—In this double-flowered variety we see the outline of a fine Camellia; it is a flower of ideal form. The colour is deep rose-salmon, and very uniform throughout the flower.

Begonia Mrs. W. P. Neal.—A nearly pure white flower of large size and Camellia form. Externally the firm petals are salmon-pink. The above five double Begonias were shown by Messrs. Blackmore and Langdon, Tiverton-on-Avon, Bath.

Begonia Lady Howe.—This is a single-flowered variety, pure white, the margin of the petals strongly waved or undulated. Exhibited by Messrs. J. Laing and Co., Forest Hill.

Begonia Mrs. Moger (double).—For description see above. Shown by Messrs. B. R. Davis and Sons, Yeovil.

Geum Heldreichii superba.—This large-flowered form of the well known type has been frequently exhibited; the colour is pale orange; very showy on well flowered plants. From Mr. Amos Perry, Winchmore Hill, London, N.

Richardia hybrida Solfatara.—The spathe internally is of a creamy hue, a dark blotch encompassing the narrow base. The strongly proportioned leaves are green, and touched with white blotches here and there. Exhibited by Mr. G. Bornemann, Blakenburg, Harz, Germany.

Rose Queen of Sweden and Norway (Tea).—A fine addition to this section. The well-formed flowers are of a deep cream colour, merging to apricot in the centre. It is a really charming sort. Exhibited by Messrs. Paul and Son, the Old Nurseries, Cheshunt.

A cultural commendation was awarded to *Fuya lanuginosa*.—This was one of the most striking and interesting plants in the entire exhibition. It belongs to the natural order Bromeliaceae. From an Eryngium-like tuft of leaves a monster stem of 3 inches in diameter arises, crowned at 8 feet or 9 feet high with a colossal head of green-yellow flowers in which the gold anthers are very conspicuous. Individually the flowers are nearly campanulate, solitary, and about 3 inches long. The entire inflorescence is of bluntly pyramidal outline. For this noble and exceptional exhibit the society was indebted to S. A. Dorrieo-Smith, Esq., Tresco Abbey, Isles of Scilly.

FRUIT COMMITTEE.

An award of merit was given to *Cucumber Mortimer's Unique*.—It is the result of a cross between Improved Telegraph and British King. The fruit is very long, well shouldered, and with a dark green smooth skin slightly ribbed. Shown by Mr. S. Mortimer, Farnham, Surrey.

ROYAL BOTANICAL AND HORTICULTURAL SOCIETY OF MANCHESTER.

The annual Whit week festival was held in the gardens of the society at Old Trafford on the 30th ult. to the 3rd inst. The exhibition proved a distinct advance upon those of recent years, the entries showing an increase, and the exhibits filling the large show house and the spacious annex. The chief additions were in the classes for groups, which were of an excellent character throughout and highly creditable to the competitors. The exhibits were staged at the sides of the building as well as down the centre. This made them more effective, more easily seen, and added considerably to the comfort of visitors.

ORCHIDS.

These throughout were of high excellence, some of the exhibits containing many fine and rare forms. For the best collection in bloom for amateurs, E. Ashworth, Esq., Winslow (gardener, Mr. H. Holbrook), had the premier stand; second, W. Duckworth, Esq. (gardener, Mr. H. Tindall).

For the best collection confined to nurserymen, Mr. James Cypher held the leading position with a charming array staged on the floor.

Best collection of *Odontoglossums*, E. Ashworth, Esq., led with a very fine lot; Mr. John Robson was second.

Ten specimen plants (open), E. Ashworth, Esq., again was first with a grand lot, including *Epidendrum prismatocarpum*, *Cypripedium caudatum*, C. rothschildianum,

and *Odontoglossum luteo purpureum*; Mr. J. Cypher was second.

STOVE AND GREENHOUSE PLANTS.

For ten plants in bloom (nurserymen), Mr. J. Cypher again held the coveted position with moderate-sized plants, remarkably well flowered, comprising *Azalea Model*, *Victoria*, and *Roi de Holland*, *Ericas Cavendishii* and *ventricosa grandiflora*, *Dracophyllum gracile*, *Hederaoma tulipifera*, &c.

For six fine foliage plants, Thomas Harker, Esq. (gardener, Mr. T. Mulloy), led with good *Palma*, *Tree Ferns*, &c.; second, Mrs. F. M. Aitken (gardener, Mr. W. Simon).

For a collection of *Roses* in pots, arranged for effect, James Brown, Esq. (gardener, Mr. J. Smith), Heaton Mersey, had a fine lot with clean, strong foliage and good flowers.

For six exotic Ferns, Thomas Harker, Esq., was to the fore, followed by Mrs. Aitken and Major Cardwell.

For a collection of not less than thirty hardy herbaceous and alpine plants, Mr. J. Lamb was first with a fine assortment; second, Mr. J. Holt.

For not less than twelve plants, Thomas Shawcross, Esq., had the best. Dr. Pownall and Major Cardwell were second and third.

For the best collection, not less than fifty varieties, arranged for effect, the first prize was well taken by J. Derbyshire, Esq.; second, J. Robson, Esq.; third, W. H. Thorely, Esq.

For a collection of *Caladiums* the society's gold medal (first prize) was won with an admirable display by Messrs. J. Peed and Sons. The pick of a grand lot were *Rio de Janeiro*, *Oridamme*, *W. E. Gladstone* (rich coloured veins), *Henry Dixon*, and others.

For dinner table decoration the prizes went to Oswald Robinson, Esq. (gardener, Mr. J. Nixon), Mrs. Hodgkins, and Mrs. Hay, Hale.

GROUPS OF PLANTS.

For the best group arranged for effect, not less than 150 feet (amateurs), the leading award went to James Brown, Esq., with a group of charming colouring made up of *Palms*, *Bamboos*, *Crotona*, *Rose Crinsum Rambler*, and masses of *Gypsophila*; second, Lord Ellesmere (gardener, Mr. W. B. Upjohn), with a fine lot of *Odontoglossums*, *Lilies*, &c.; Mr. Thomas Harker took the remaining prize.

For the best group of not less than 100 feet (amateurs, local) J. Lamb, Esq., Bowden (gardener, Mr. S. Vickers) was first; second, Thomas Shawcross, Esq., Stretford.

For a group not less than 300 square feet (nurserymen), Messrs. R. P. Ker and Sons, Liverpool, were first with a combination of good culture and good quality. Comprised were well-grown *Palma*, *Acers*, *Bamboos*, *Crotons*, and *Ferns*, the flowering plants being *Amaryllis*, *Anthurium*, *Calceolarias*, *Gladioli*, &c.

NON-COMPETITIVE EXHIBITS.

As usual, these were strongly shown, and added much to the interest and value of the exhibition.

GOLD MEDALS.

Messrs. John Waterer and Sons, Bagshot, were, as usual, to the fore with a large group of their famous *Rhododendrons*, not quite so extensive as usual, but in quality possibly the best yet staged by this eminent firm. Included were the beautiful *Pink Pearl*, the admiration of all who saw it, *Doncaster*, *Gomer Waterer*, *Charlie Waterer*, *George Hardy*, and *Viscount Powerscourt*.

Messrs. W. Clibran and Son, Altrincham, had a grand array of herbaceous *Calceolarias* of a fine strain; they were very distinct and in wonderful variety of colouring. A most effective display.

Messrs. J. Cowan and Co., Gateacre, showed a fine group of Orchids. A first-class certificate was awarded to a splendidly spotted *Odontoglossum crispum*, and an award of merit to a deeply blotched variety of *O. crispum*. Other noticeable plants were *Cypripedium callosum Sanderæ*, *Cattleya intermedia alba*, *Coleogyne pandurata*, &c.

Messrs. Sander and Sons, St. Albans, showed a highly interesting group. First-class certificates were awarded to *Lælio-Cattleya arnoldiana magnifica*, *Brasso-Cattleya Empress of Russia*, *Odontoglossum ardentissimum amosum*, *Odontoglossum wilckeanum vandermond*, and an award of merit was given to *Odontoglossum amosum*, O. Adriane W. H. Young, *Lælio-Cattleya Bletchleyensis Lady Anette de Trafford*, and *Selaginella watsonia*.

Messrs. Charlesworth and Co., Bradford, also showed very well. A first-class certificate was given to *Lælio-Cattleya Major-General Baden-Powell*, and awards of merit to *Lælio-Cattleya Dora* and *L.-C. Phebe crawshayana*. Specially fine also were *Lælio-Cattleya G. S. Ball* and *L.-C. Phebe*.

SILVER-GILT MEDALS.

Messrs. Reamsbottom and Co., Kiog's County, Ireland, showed a collection of their famous *St. Bridgid Anemones* in varied colours.

Mr. John Robson had *Malmaison Carnations*, *Princess of Wales* and *H. J. Cutbush* being attractive.

Messrs. Hugh Low and Co. sent *Palms*, *Heaths*, *Carnations*, *Lilies*, *Crotons*, and a good lot of *Schizanthus wisetonensis*. A first-class certificate was given to *Dimorphotheca Ecklonii*.

SILVER MEDALS.

Messrs. Dickson, Brown, and Tait showed *Palms*, *Lily of the Valley* (fine bells), *Gladioli* and *Iris*, including *Kiog of the Blues*, *Snowball*, *Belle Chinoise*, *La Tendresse*, and *Thunderbolt*.

Messrs. Jones and Sons, Shrewsbury, sent cut *Sweet Peas*, including *Black Knight*, *Georgeous*, *Prima Donna*, *Baden-Powell*, *Emily Eckford*, *Lady Mary Currie*, *Mrs. Joseph Chamberlain*, &c.

Messrs. Dickson and Robinson showed *Mignonette*, *Verbenas*, and *white Stocks*.

Messrs. William Bull and Sons, Chelsea, had awards of merit for *Cattleya Mossie chelsiensis* and *Odontoglossum wilckeanum Nestor*.

Mr. William Holmes, Timperley, and the Ranelagh Nursery Company, also had silver medals for their displays.

Horticultural exhibits were arranged on the lawn from various manufacturers.

The arrangements were, as usual, in the capable hands of Mr. P. Weathers, curator of the gardens.

TERRINGTON AND MARSHLAND HORTICULTURAL SOCIETY.

AT the annual show of the Terrington and Marshland Horticultural Society, to be held at Terrington, Norfolk, on July 29, Messrs. Wood, Ormerod, and Co., fruit salesmen, of Edinburgh, make the following offer: For the best essay on "How our Produce should be Marketed," they offer a prize of £2. Should excellence merit it, they will increase the prize to £3. Of this they are to be the judges. The object is to bring before growers the best methods of dealing with the produce from the tree or the ground till it reaches the shopkeeper, and, the subject being of immense importance, it is hoped the competition will be wide and many new and practical ideas expressed. For this reason Messrs. Wood, Ormerod, and Co. make no restrictive conditions. Essays must reach the secretary of the above society not later than July 1.

RECENT PLANT PORTRAITS.

THE June number of the *Botanical Magazine* contains portraits of the following plants:—

Clematis megeniana.—Native of China. This is also known under the synonyms of C. Armandi, C. oreophila, and C. hedyarifolia. This is by no means a new plant, having been flowered by Messrs. Colville in 1822. It has pendulous bunches of white flowers with yellow stamens.

Laburnum carmanicum.—Native of Greece and Asia Minor. It is also known under the names of *Cytisus carmanicus* and *Podocytisus carmanicus*. This is a very pretty species, with upright spikes of yellow flowers with brown calyces.

Mimosa Spegazzinii.—Native of Argentina. This is one of the family known as sensitive plants, with bunches of rosy-stamened flowers, tipped with yellow. It requires the temperature of a stove house.

Dendrobium Madonne.—Native of New Guinea. This has white flowers, and is of mainly botanical interest. It is nearly allied to *D. Fairfaxii*.

Primula megaseaefolia.—Native of Asia Minor. This is a very beautiful Primrose, producing with great freedom bunches of rose-coloured flowers. The specific name refers to the resemblance of the foliage to the species of *Saxifrage* known as *Megasea*. W. E. GUMBLETON.

OBITUARY.

M. L. FOURNIER.

WE are sorry to hear of the death of M. Fournier, the well-known Orchid enthusiast. The late M. Fournier's collection is at La Cavaliere, near Marseilles, and contains many rare species and hybrids. M. Maron, Brunoy, for some years had charge of M. Fournier's Orchid collection.

MME. MAURICE DE VILMORIN.

THE many friends in Britain of M. Maurice de Vilmorin will sympathise with him on the occasion of the death of Mme. Vilmorin, which took place recently. Mme. Vilmorin, who had been ill for a long time, was only forty-three years old, and leaves five children. She was an excellent bouquetist, and her flower arrangements have on many occasions been greatly admired.

Messrs. Carter's "Notes" at the Temple show.—Every visitor to the Royal Horticultural Society's Temple show this year I am sure will agree with me in heartily thanking Messrs. Carter for the elegant and artistic production in the way of their "Notes," lavishly handed to all. They were most useful.—CHARLES WILLIAM CROSBY, *Dorking*.

An interesting exhibit.—At the recent Temple show Messrs. Gauntlett brought from Redruth, Cornwall, an interesting collection of the more tender *Rhododendrons*, that, despite the fact they had not travelled well, served to show how they flourish in the west. Prominent among them were *R. Aucklandi*, or *griffithianum*, and some seedlings therefrom, but the finest of all the *Aucklandi* hybrids was *R. Pink Pearl* exhibited by

Messrs. Waterer. Others in Messrs. Gauntlett's group were R. Dalhousie, with long campanulate flowers of a primrose tint; R. Smirnowi, a comparatively recent introduction from the Caucasus, with purplish lilac flowers; R. Lindleyi, a very rare species from Bhotan, with white campanulate flowers; R. Thomsoni, a deep red free-flowering species; R. Edgeworthi, large white flowers particularly valuable as having in the hands of the hybridist given us many valuable garden forms; R. campylocarpum, a species from the Himalayas, with distinct pale yellow blossoms; and R. glaucum, a dwarf branching bush with compact clusters of small rosy purple flowers. In addition there were three members of a distinct group, viz., R. cinnabarinum (syn. R. blandfordianum), with drooping Blandfordia-like flowers marked with red and yellow; R. Roylei, much in the same way, but with smaller flowers, and R. Keysi, in which the flowers are reduced to a tubular shape, but with the same red and yellow colour as the two preceding. Garden hybrids were represented by Exoniense, Princess Alice, and Lady Alice Fitzwilliam. Besides these some cut branches of the brilliantly coloured Embotrium coccineum made one long for the favoured climate of Cornwall.—H. P.

ANSWERS TO CORRESPONDENTS.

RULES FOR CORRESPONDENTS.

Questions and Answers.—The Editor intends to make THE GARDEN helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object will make a special feature of the "Answers to Correspondents" column. All communications should be clearly and concisely written on one side of the paper only, and addressed to the EDITOR OF THE GARDEN, 20, Tavistock Street, Covent Garden, London. Letters on business should be sent to the PUBLISHER. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper.

Names of plants.—C. B. M.—Both are specimens of the Bird Cherry (*Prunus Padus*). It is a very variable tree, both in time of flowering, form of leaf, and size of inflorescence.

Fungus on dead wood (A. MARTINELLI).—I am sorry to say that the fungus you sent had quite disappeared before it reached me into a slimy covering to the wood it was growing on, so I cannot name it, but from your description, and the manner in which it went off, I think there is no doubt but that it was one of the slime fungi or Mycetozoa, probably *Ceratomyxa mneida*. The slime fungi are a very curious family, varying very much in appearance and habits.—G. S. S.

Fungus on Apple shoots (VAUDERHUM).—The shoots of your Apple trees appear to have been attacked by the powdery mildew (*Podosphaera oxycanthæ*), which can be destroyed by spraying with Cupram. To make this mixture take 1oz. of copper carbonate and make it into a thin paste with a quarter of a pint of water, then add half a pint of strong ammonia slowly. This should produce a deep blue mixture, which should be diluted with 12 gallons of water. Or a solution of 1oz. sulphide of potassium, usually known as liver of sulphur in 2½ gallons of water. Spraying should begin as soon as the disease shows itself, and applied four or five times, with intervals of ten days. All the leaves from an affected tree should be collected as they fall and burnt.—G. S. S.

Seakale roots, &c., attacked (R. C. COOPE).—Your Seakale roots were so dead and decayed that it is impossible to say what may have been the cause of their death. The roots of the Physalis and the Runner Beans have evidently been attacked by some insect, but I could not find the culprits in or on the roots or the soil at the bottom of the box. Wireworms, snake millipedes, or perhaps leather-jackets may have caused the mischief. The Sweet Peas I think have been attacked by a fungus, but they were so dried up that I cannot be certain. It is impossible to suggest remedies unless one knows what the pests are. By all means give the dressing of lime you propose.—G. S. S.

Hot-water pipes (A. M.).—In order economically and successfully to stoke and manage a heating apparatus—to the end that the heat to the pipes may be regulated to the wishes of the owner—a considerable amount of practice and knowledge in the work of stoking a boiler is necessary, and this knowledge, no doubt, can best be attained by actual experience under the tuition of a competent hand. But, as some help to our correspondent, we may indicate a few points of importance it is necessary to observe before success can be attained. The furnace of the boiler should be effectively cleared of all ashes and clinkers as soon in the morning as the temperature of the house has risen sufficiently, either by sun-heat or by extra heat in the pipes, after stirring up the fire the first thing in the morning, which will be about ten o'clock in winter and eight o'clock in summer. After the ashes and clinkers have been removed, what remains of the fire will go into very small compass, and will usually be composed of a heap of red

clinders. On these should be laid a moderate quantity (according to the size of the boiler) of the smallest of the broken coke, reducing the flue draught considerably at the same time by partly closing the damper (which every due ought to possess). The fire will then burn very gradually and give off but little heat, but quite enough to cause a circulation of warm water in the pipes, which in most cases is all that is necessary during the daytime. But it sometimes happens that a sudden cold storm comes on, reducing the temperature too low, and it becomes desirable to apply greater heat in a short time to counteract this influence. This means is ready to hand by disturbing the smouldering fire and opening wider the damper of the flue, when greater heat will result in the course of a few minutes. It is not infrequently happens that a spell of warm, sunny weather follows this cold storm, making the atmosphere of the house, with the extra heat in the pipes and the sun-heat combined, uncomfortably and injuriously hot. This is the most difficult position to deal with, and the best way to reduce the heat in the pipes quickly is immediately to close the damper in the flue, and partly to stop the circulation of the hot water in the pipes by closing the valve on the blow-pipe, and in a case of urgency we should advise that the boiler and pipes should be partly emptied (by the tap which every boiler should have for this purpose), letting cold water in at the same time in similar quantities to that let out. The temperature is then quickly reduced. In ordinary cases it is sufficient to damp the fire down, close the valve on the blow-pipe, and shut in the damper of the flue.

Irisess failing (CORNSTALK).—Your Iris blooms appear to be suffering from fungus and slugs. It is the latter that are the chief cause of the present trouble, and their trail is quite clear upon the buds seot. Unfortunately, you are not alone in this matter this season. We have, indeed, lost a large number from the same cause. The insect your gardener refers to is merely taking refuge in the holes made by a far worse garden foe. The slugs have been nothing less than a great plague during the past winter, and some large beds of Pyrethrums have been cleared of every growth in the most astonishing way. The only way to get rid of the slugs is by night visits with a lantern. A sharply-pointed stick, some strong salt brine in a small bucket in which to dip it, will enable you to get rid of large numbers. The early evening is a good time. In those instances where it can be employed with safety dry salt is a good destroying agent if the slugs come in contact with it. It will rid them, too, from odd corners.

Slugs on Cabbage plants (J. A. W.).—Where slugs destroy newly-planted Cabbage and Cauliflower plants the first course to take is to search for them round and on the plants with a candle at dusk. It is then that they come out to feed; very many can be gathered up, then put into any netting and later killed by putting them into boiling water. If anyone dislikes to handle them use a sharp pointed stick or piece of wire. After doing that dust freely about the plants with fresh slaked lime or soot. If that be followed up each night for a week the pests will give no further trouble. Wood ashes mixed with the soil in the proportion of one-sixth are very good for Tomato plants. Coal ashes are useless. If the soil be very stiff rather more wood ashes and a smaller proportion of soot may be added. Your newly-planted Seakale roots must make all the growth they can, producing large leaves till the autumn. In that way stout crowns are produced which keep dormant for the winter, and when covered up close to exclude light and air in January or February produce fine blanched heads in two months.

Tomato and Cucumber plants dying (C.W.). Judging from the condition of the stems, foliage, and roots of the specimens sent, we can only suggest as the main cause of the trouble that the young plants had been kept too long in small pots before being transferred to their fruiting quarters in larger pots or borders. We are led to this conclusion by the dense and matted appearance of the roots immediately round the stem, as if they had been coiled tightly together for too long a time in small pots, and also by the extremely dry condition of the roots. Where this is the case and the plants are transferred to larger pots or borders it is next to impossible thoroughly to water the tight masses of roots without special effort, as by laying a ridge of soil round the stem of the plant, forming a basin for holding water. Many cases of loss similar to yours have come under our notice from time to time, caused by the long-continued dryness at the main roots. The remedy will suggest itself. We cannot trace any indication of disease in your Cucumber plants, but the stems of the Tomato plants are badly affected with the Tomato disease (*Peronospora infestans*). If many of your plants are affected in the same way, our advice to you would be to clear them all out and the soil as well, and make another start with a healthy stock. Use fresh soil, and guard against a too dry condition of the roots at any time in the case of the Cucumber and the Tomato, especially at this time of the year.

Carpet bedding (S. HARTLEY).—The design appears to be unnecessarily complicated, unless this is a very large bed, the most pleasing results in carpet gardening being attained by fairly broad breadths of colour relieved by occasional plants or clumps of taller, lighter habit. The absence, too, of plants of darker hue, other than the Cotledeon and Oxalis, is rather against effective groupings. Have you tried *Iresine Wallisi*? This often succeeds where *Alternanthera* fail, and is quite as amenable to pinching and clipping. *Agua reptans purpurea* would also mix well with the plants shown. Looking from the spot marked X we should recommend the Cotledeon in 4, *Echeveria* (allowed to flower preferably) in 10 and 7, Oxalis in 3, *Mesembryanthemum* in 2, dwarf Aloe, with a fringe of *Echeveria*, in 1, green *Crassula* or *Azorella* in 5, and perhaps *Mesembryanthemum* in 8. In the absence, however, of material to effect a marked contrast it is a little difficult to advise, the better plan would be to put a few plants of each in the different compartments and let the eye travel over them, considering which of the different associations would be the most pleasing. The list of plants

seems to indicate that the predominating idea is that a grey shade must pervade the bed.

Stove Orchid house (H. E. W.).—We strongly advise you to build the house with wood (in the modern style), span-roof, facing east and west, with drip-proof rafters, top and bottom ventilators, and sufficient piping fixed so as to prevent over-heating and to maintain the required temperature in cold weather. Iron houses have a tendency to draw the heat in summer and are very cold in winter.

Ocymum Basilicum (the Sweet Basil) (D. H. W.).—This is a native of a considerable tract of country through Central Asia, extending on to India. It belongs to the class of plants known as tender annuals, seed of which should be sown in a gentle heat in April, and, when large enough to handle, must be pricked off into pots or pans. After this they must be gradually hardened off and planted out in a border of good light soil about the end of May or in early June. If your seed is not yet sown, you might sow it now on a sheltered border and allow the plants to grow where they have been sown without transplanting them at all.

Evergreen climbers for trellis (A. C.).—Omitting Ivies, evergreen climbers are very few, and there are none that we can recommend for such a position as your name. The trellis might be covered with such evergreen shrubs as *Berberis stenophylla* and *Enonymus japonicus*, which is represented by several varieties. Free-growing deciduous climbers that might be planted alternately with the evergreens are *Celastrus scandens* and *Forsythia suspensa*, in fact we think that these four subjects would, when all the surroundings are taken into consideration, prove to be well suited for your purpose.

Propagating Broom (BELBROUGHTON).—The specimen you send is *Cytisus scoparius* var. *andreamis*. You can propagate it from cuttings of young shoots about 4 inches long with a slight heel of old wood. The most favourable time for taking the cuttings is the latter end of July. They should be inserted in a bed of sandy loam in a cold frame, and should have a bell-glass placed over them to keep them close. A good watering should be given as soon as the cuttings are put in, and an occasional dewing over in hot weather is beneficial, but on no account must water be given in cold and wet weather. They must not be disturbed until the following April, when roots should have been made. The young plants must be lifted carefully as the young roots are easily broken. They should be potted into small pots and be kept close until well established. Repotting should be done at intervals until the plants are large enough to plant out in the open permanently.—W. D.

Reasonable questions about fruit (Q. Q.).—1. The Jargonelle Pear naturally makes spreading growth, but when against a wall needs similar treatment to other Pears, though it is well, whenever possible, to lay in new side growths. Remove large, old spur growths that project out too far from the wall. Your ideas as to stopping and season for doing so are right, except that at the winter pruning thin out spurs too thickly placed or at all weak to give those left more room. 2. Apples against a wall need similar treatment, but even in this case too many old spur growths will cause small fruits, so that they occasionally require thinning out. A much larger percentage of fruit is obtained from spurs on the Apple than upon any other wood. 3. The Marie Louise Pear will, we fear, get worse instead of better under the treatment you give it—we mean the rich top-dressing and supplies of liquid manure. You omit to note what kind of soil the roots are in. That is an important point, and one that would have helped us much in giving you advice. In any case, light or heavy, you say the fruits are always very poor, and this makes us think your soil is heavy and probably not well drained. The roots are doubtless too low down, and that is why they are in the poor inert soil. Your good treatment in the way of top-dressing does not help, as there are few, if any, surface roots to absorb the food given, and you get poor crops. Another point, and one you cannot well get over, is that this variety, however well looked after, will not succeed in a cold moist position, and if grafted on the Pear stock it does not always thrive. It should be double grafted upon the Quince stock, and we have seen it fail even then. It needs more care than many others; indeed, we have in a few cases entirely given up its culture and grown *Emile d'Heyst*, a variety that is as good as Marie Louise in quality, is much harder, and crops more regularly. Your best plan is to root-prune in the early autumn, say October, or early November at latest, and dig a trench quite a yard from the wall, and when low enough down, say 2 feet to 3 feet, cut the strong roots. Probably you will find a large tap-root directly under the tree. Cut this, but preserve any fibrous roots, and fill in the trench with fresh materials added to old soil, such as burnt refuse, mortar or lime rubble, or chalk if your soil is heavy, of light, good heavy loam. In filling in use a rammer, and well place new soil under the trees, leaving no cavity. This done you will see in a year or two better results, but take care that no small roots are destroyed. 4. Lift the plants carefully in October, and set with a large ball of earth and roots. Replant and water if necessary, as the check will cause flower-buds to form next season.

GARDENING APPOINTMENTS.

MR. W. CHARLEY, foreman in Sidbury Manor Gardens, Sidmouth, Devon, has been appointed head gardener to E. A. Broome, Esq., Arley Court, Stourport, Worcester.

MR. CHARLES JOHN ELLIS, general foreman in the gardens, Warren House, previously general foreman in the gardens of the Viscount Downe, Dingley Hall, Market Harborough, under Mr. Clippstone, at one time under Mr. Divers at Belvoir Castle Gardens, Grantham, and a student of the late Mr. J. D. Miller, has succeeded Mr. Gleeson as head gardener to H. L. Bischoffsheim, Esq., Warren House, Stanmore.

* * * The Yearly Subscription to THE GARDEN is: Inland, 15s.; Foreign, 17s. 6d.

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KEW IN THE DAYS OF SIR WILLIAM JACKSON HOOKER.

IT was a happy thought of Mr. Irwin Lynch, curator of the Cambridge Botanic Gardens, to make a biographical abstract from the life-sketch of Sir William Jackson Hooker by his son, Sir Joseph Dalton Hooker, published in Volume xvi. of the "Annals of Botany." Mr. Lynch's biographical abstract appears in the last volume of the Journal of the Royal Horticultural Society, and gives an interesting insight into the beginnings of the Royal Gardens, Kew.

Of course, Sir William Hooker lived in an age when gardening, in the best sense, was at a low ebb, and we publish the following remarks to show how great a change has come over the most famous of botanical establishments since his directorship. Kew in these days is a botanic and at the same time a beautiful garden, in which is expressed the true nature of the things there collected for the sake of botanical knowledge. Sir William Thiselton-Dyer has grouped rare and common things in the most delightful ways, and made Kew a pleasant place from the time of the snowdrops until the end of the year, and this in the face of increasing difficulties from encroaching suburbs. The extracts also give a glimpse of a famous personality.

It was in March of 1841 that Sir William Hooker was appointed.

"On entering upon his duties under the Commissioners of Woods and Forests the new director was cordially welcomed, and to his surprise and gratification found that he had a free hand and promise of favourable consideration in projecting improvements in the botanic gardens.

"To give a clear account of the additions made and improvements carried out in the establishment of Kew it will be convenient to consider them as far as possible under the four heads of botanic gardens proper, pleasure ground or arboretum, museum, herbarium and library.

"*Botanic Gardens proper.*—The first recommendation of the new director was that these should be open to visitors on week-day afternoons throughout the year, of which privilege upwards of 9,000 persons availed themselves during the remaining nine months of the year. The next, in 1842, was that the permission of Her Majesty should be asked to add a few acres of the pleasure ground to the old arboretum for the purpose of opening a new entrance to the gardens from Kew Green. This was graciously granted, as were the far larger areas from time to time asked for, of which the next (in 1843) was for forty-eight acres, to afford sites for a new Pinetum, and for the erection of a

Palm house far exceeding in dimensions any previously constructed.

"Again it appears necessary to omit much interesting matter, this time with reference to the early history of Kew under the new director; but let us note a point of incidental information, that 'the first hardy herbacons collection in the Royal Gardens was formed in 1760, near the Temple of the Sun. It was an acre in extent, contained 2,712 species, and was called the Physic Garden.' After paragraph on the Palm house, which was commenced in 1844, we read: 'At this time the activity of the Commissioners of Woods and Forests was far-reaching, for it was in their contemplation to annex the Chelsea Botanic Gardens to Kew and to form a medical garden for the use of the colleges and schools of London. Referring to these schemes in letters to Mr. Dawson Turner, my father in 1843 writes in respect of the formation of a medical garden: 'It will be attended with many difficulties, but I shall encourage it, and have written a long memorial to the Board about it.' In 1845 he writes: 'I have to write to the "Woods" on an affair to be laid before the Queen respecting a medical garden adjoining the botanical garden.' And again in 1845: 'My report on the gardens is printed by the House of Commons, and my letter on the removing Chelsea Garden to Kew. Lord Lincoln thinks it will result in that garden being removed here, or in Government forming here a medical garden on a national scale.' Both schemes were abandoned.

"In 1844 my father was instructed to prepare a guide-book to the gardens for sale at the entrance, and to make an annual report on the progress and condition of the gardens, to be laid before Parliament. The first edition of the guide-book contains fifty-six pages and sixty-one woodcuts of objects exhibited. It was entitled 'Kew Gardens, or a Popular Guide to the Royal Botanic Gardens of Kew,' by Sir W. J. Hooker, director. After bringing out twenty-one successive editions he transferred the duty to Professor Oliver, the keeper of the library and herbarium, who in 1863 included the arboretum in the guide-book.

The following quotation makes an interesting comparison with the Kew of to-day:

"Returning to the operations in the Botanic Gardens, in about 1855 instructions were given to the Director (to his great discomfiture) to decorate the lawns and borders of the paths over a considerable area of the Botanic Gardens with 'carpet-beds' of flowers. These he regarded as out of place in a garden where objects of as great beauty and far greater interest, both popular and scientific, abounded. He further regretted the great expenditure on propagating-pits, frames, soil, and labour, on a show of but a few weeks' annual duration, whilst some scientific branches of the establishment were being starved, and a structure of the dimensions at least of the Palm house to rescue the magnificent collection of colonial trees, &c., from destruction or deformity was urgently needed. The object of the proposed decorations seemed to be to rival the London parks, where such an attraction was eminently suitable and admirably carried out. In the end he came to an arrangement with his chief (Sir Benjamin Hall, I think) that a sum of money should be added to the estimates and appropriated to this decorative work, and that he be supplied with a skilled

foreman to carry it out. The system was continued for several years, and was thereafter gradually suppressed.

"*The Arboretum, formerly the Royal Pleasure Grounds of Kew.*—In 1845 Mr. Aiton was relieved of the charge of that portion of the Pleasure Grounds (about 178 acres) then in occupation of the King of Hanover as a game preserve, which had not been as yet added to the Botanic Gardens, together with the Deer Park (350 acres), and my father was asked to include these in his directorate. This he agreed to do. . . . He had no doubt two good reasons for this compliance, one in having an eye to the remainder of the Pleasure Grounds as the site for an arboretum worthy of the nation; the other, that to have allowed these to be placed under any other authority might have led to complications.

"Thus the Director's rule was extended in four years from a Botanic Garden of eighteen acres and a few hundred yards in length to an area of nearly 650 acres, extending from Kew Green to the Thames at Richmond, two miles distant."

References to the museums then follow:

"*Herbarium and Library.*— . . . When the new Director of Kew took up his appointment neither books nor a herbarium were provided for him, but he was well equipped with those of his own; nor was it till he was moved into residence in the Royal Gardens that he received any other substantial aid towards their upkeep and increase than house-rent, and latterly stationery and some cabinets. It is also told that the new residence not affording that accommodation for these which the Government had guaranteed, they were placed in a building adjacent to the Botanic Gardens. On this occasion it was arranged between the Commissioners and my father, that on the condition of his herbarium and library being accessible to botanists he should be provided with such a scientific herbarium curator as he had himself hitherto salaried.

"Four years afterwards the Royal Gardens came into possession, by gift, of the very extensive library and herbarium of G. Bentham, Esq., F.R.S., which was second to my father's alone in England in extent, methodical arrangement and nomenclature, and which was placed in the same building. Its formation was begun in 1816, in France, where, and in the Pyrenees Mr. Bentham collected diligently; but its great expansion by the inclusion of exotic plants dated from his introduction to my father in Glasgow in 1823, when the friendship between the two commenced which remained undisturbed for forty-two years. From that date the two botanists may be said to have hunted in couples for the aggrandisement of their libraries and collections, sharing their duplicates, Mr. Bentham giving my father the preference in all cases of purchase, &c. The one great difference between their aims was, that the former confined his herbarium to flowering plants, whilst my father's rapidly grew to be the richest in the world in both flowering and flowerless plants. The offer of this gift was prearranged with my father, who with his wonted disinterestedness put aside the obvious fact that its acceptance would greatly diminish the value of his own herbarium and library, should the Government ever contemplate its purchase.

"Turning now to my father's concluding botanical labours, the last of his efforts, the

results of which have been far-reaching, was to address in 1863 a powerful appeal to H.M. Secretary of State for the Colonies, the Duke of Newcastle, K.G., in favour of H.M. Government undertaking to assist in the preparation and publication of a series of floras of our Colonial and Indian possessions. At the same time, for the information of the Secretary of State, he, in conference with Mr. Bentham, drew up and submitted the following estimate of the scope and cost of such a series of floras, which is interesting as giving the views of the two best-informed botanists in Europe as to the number of species of flowering plants and Ferns natives of the several Colonies, specimens of which were assumed to be available in herbaria for description at that time.

"The estimated number of species to be described is then given for the different colonies, and further on we read that 'the number of volumes required was estimated to be forty-three; the author's remuneration to be £150 per volume, payable at date of publication.'

"Of the botanical works published by my father during the twenty-four years of his directorship of Kew, the more important were the continuation of the *Botanical Magazine*, volumes lxxvii. to xc., with 1,440 plates; the 'Icones Plantarum,' volumes iv. to x., 700 plates; the 'Journal of Botany,' volumes iii. and iv., with 28 plates; the 'London Journal of Botany,' 7 volumes, with 166 plates; the 'Journal of Botany and Kew Gardens Miscellany,' 9 volumes, with 109 plates. On Ferns alone there were the 'Species Filicum,' 5 volumes, with 304 plates illustrative of 526 species; 'Filices Exoticae,' 100 plates; 'A Second Century of Ferns,' 100 plates; the 'British Ferns and their Allies,' 66 plates; 'Garden Ferns,' 64 plates; and, lastly, a commencement of a 'Synopsis Filicum.' To these must be added his 'Guide-books' to the Royal Gardens and to their Museums, and his 'Annual Reports,' to be laid before Parliament, on the progress and condition of the Royal Gardens.

"The number of plates published by Sir William is estimated to be nearer 8,000 than a lower number mentioned by De Candolle, and no less than 1,800 were from drawings executed by himself."

Then follows a description of the last days of this great botanist:

"With the commencement of a 'Synopsis Filicum,' which the completed 'Species Filicum' made a comparatively easy task, my father's labours terminated. His end was unexpected. On the Monday forenoon he spent two hours with me in inspecting Battersea Park, then in formation; here he left me and walked part of the way back to Kew, meeting by appointment the Queen of the Sandwich Islands and the Rev. Mr. Berkeley, with both of whom he spent the whole afternoon in the gardens. On Tuesday morning his servant came to tell me that his master could not swallow. I followed immediately, and found him perfectly well except for this paralysis of the muscles of deglutition. I at once sent to London for the best advice, but to no purpose. I saw him no more, for, sleeping on the floor by his bedside that night, under an open window, I was suddenly prostrated with rheumatic fever. Meanwhile he gradually sank, suffering no pain nor feeling the want of nourishment; and died from exhaustion, Saturday, August 12, in his eighty-first year. He was buried in the churchyard of St. Anne's, Kew. A handsome tablet in the church, with a central medallion profile by Woolner, and spandrels with groups of Ferns in the corners, all in Wedgwood ware, record the dates of his birth, death, &c., with the motto, 'Thou, Lord, hast made me glad through Thy works.'

"In person Sir William was over 6 feet high, erect, slim, muscular; forehead broad and high, but receding, hair nearly black, complexion sanguine, eyes brown, nose aquiline—had been broken in a school fight; his mobile face, and especially mouth, was the despair of artists. [In a footnote we read that 'he was a vigorous pedestrian, covering sixty miles a day with ease. When taking the week's-end rest at Helensburgh, during his summer course of lectures, he habitually on Sunday

walked to Glasgow, twenty-two miles, to be in time for his eight o'clock Monday morning class.] Many chalk portraits of him were taken for friends by Sir Daniel Maconee, of which the best known to me is that which prefaces this article. Other portraits of him are two life-size in oil by Thomas Phillips, R.A., one in my possession, and the other in that of Sir Leonard Lyell, Bart., of Kinnordy; the half-length in oil by Gambardella, in the Linnean Society's meeting-room; a small engraving in the series of portraits of members of the Athenæum Club, one by Maguire in the Ipswich series of portraits of scientific men; and an etching in profile by Mrs. Dawson Turner, from a profile by Cotman, unpublished, but widely distributed. There is also the bust in marble by Woolner in the Kew Museum, an excellent likeness."

NOTES OF THE WEEK.

FORTHCOMING EVENTS.

June 23.—Oxford Horticultural Show.

June 24.—York Gala (three days); Gardeners' Royal Benevolent Dinner, 7 p.m.

June 25.—Holland House Show (two days); Isle of Wight Flower Show.

The Gardeners' Royal Benevolent Institution.—As already announced, the anniversary festival of this institution will take place on the 24th inst., at the Hotel Metropole, when the Earl of Warwick will preside. Contributions to the chairman's list in aid of the funds are earnestly solicited, and will be gratefully received and acknowledged by the secretary if sent to the office, 175, Victoria Street, Westminster.

The Holland House show.—The Royal Horticultural Society will hold a great summer flower show at Holland House, Kensington (by the kind permission of the Earl and Countess of Ilchester) on June 25 and 26. The show will be open to Fellows (showing their tickets) and to others showing Fellows' transferable tickets at 12.30 on Thursday, June 25, and at 9.30 a.m. on Friday, June 26. All annual tickets must be shown at the gate, and all other tickets given up. The public will be admitted on Thursday, June 25, at 2 p.m. on payment of 7s. 6d., and at 9.30 a.m. on Friday on payment of 2s. 6d. The grounds will be cleared of visitors at 8 p.m. on Thursday and at 6 p.m. on Friday. The only entrance to the show is by the great gate in Kensington High Street, and the only exit by a gate leading into Melbury Road, where carriages may be ordered to wait. Tickets will be on sale at the entrance to the show ground, but, in order to avoid overcrowding at the gate, the public are earnestly requested to obtain their tickets on or before Tuesday, the 23rd inst., at the society's offices, 117, Victoria Street, London, S.W. These offices will be closed on the days of the show, and consequently no letters should be addressed there on the previous day. The judges will meet at the secretary's tent at 10.30 a.m., and the fruit, floral, and Orchid committees at 11 a.m. on Thursday, June 25. An official catalogue of this show will be issued and distributed gratis among the visitors, and will contain a plan of the show, schedule of the exhibits, with the names and addresses of all the exhibitors entered up to Monday, June 15, a short historical sketch of the Royal Horticultural Society, particulars relating to the society's new hall and offices now in course of erection, and the programme of the music to be performed each day by the band of His Majesty's Royal Horse Guards (Blues).

This meeting will take the place of one of the ordinary fortnightly shows at the Drill Hall, but will in all essentials be conducted on the same lines as the annual shows at the Temple. All classes of plants, flowers, and fruits may be exhibited at this show. Entries for Roses, and application for space for miscellaneous groups must be made not later than Wednesday, June 17. Single plants, &c., for certificate may be entered at the secretary's tent on the morning of the 25th before 10.30. The Roses will be judged by special Rose judges, whose awards will be final. The judging of other groups

will be on the same system as that which obtains at the Temple. The rules and regulations applying to the Temple, and to be found on pages 66, 67, and 68 of the society's "Arrangements, 1903" and numbered 1 to 16 inclusive, will be in force at the Holland House show. Copies of the "Book of Arrangements for 1903" can be obtained on application to the secretary, Royal Horticultural Society, 117, Victoria Street, London, S.W. The only entrance and exit for carts and vans is in Melbury Road. Empty vans may stand in a small field adjoining Melbury Road and Kensington High Street. Exhibits will be admitted from noon to 8 p.m. on Wednesday, June 24, and from 4 a.m. to 9 a.m. on the 25th. Exhibitors are particularly requested to warn their drivers to be careful to keep off the cricket pitch. N.B.—At this show all assistants and attendants at groups shown by trade firms must wear a badge with their firm's name. There can be no exceptions made to this rule. The badge used must be the one approved by the council, and no other. The badge can be obtained from Mr. Pinches, 27, Oxendon Street, London, S.W.

Cucumber Cardiff Castle.—In reply to "W. S." on page 394 of your last issue, we would state that Cucumber Cardiff Castle was raised by the late Mr. Pettigrew, head gardener to the Marquis of Bute, in 1881, and recognised by the Royal Horticultural Society in 1882. The entire stock of seed was purchased by us from him, and he also grew our requirements for many years afterwards. This fine cucumber is a cross between Hedsor and Telegraph, and Mr. Pettigrew described it as remarkably free bearing, producing three or four fruits at a single joint, and wonderfully hardy, invaluable either for summer or winter work, and we can confirm his description in every respect. Westill have a large demand for it, and are sorry to find it under other names in the trials of Cucumbers which we make every few years. It is a first-class variety for a gardener who wants one sort to carry him through the year.—JAMES CARTER AND CO.

The hardy fruit prospects at Lockinge.—During a recent visit to these famous gardens I was sorry to notice the sad havoc wrought by the late severe frost among all kinds of outside fruit. As most people are aware Lockinge has long been noted for its excellent fruit, both inside and out, and one only has to call to mind the magnificent collection staged by Mr. Fyfe last October at the Drill Hall, which gained for him the Royal Horticultural Society's gold medal, this being only one of many such efforts. Perhaps the most striking example was a grand lot of young pyramid Apples which might be considered in their prime, and consisting of nearly all the best varieties in cultivation. These gave great promise, being laden with fruit buds, which were just discernible. Scarcely a flower was left, the whole being completely killed without opening a petal. Two varieties only appeared to have escaped. These were Besspool and Court Pendu Plat, and they were late. Older standard trees had suffered in just the same way. Pears and Plums are also a complete failure; there are very few Cherries either sweet or Morellos, but the Peaches and Apricots are the worst. Both are grown in large quantities and were protected. Not only has the whole of the fruit been killed, but the trees have suffered to such an extent that to all appearances they are permanently injured. Of small fruits there are practically none, such as Currants, Gooseberries, and Raspberries, the latter having suffered terribly, all next season's suckers being killed to the ground. Early Strawberries are spoilt. Fortunately there is a wealth of fruit in all stages under glass, nevertheless it is a bad prospect, as it not only means the loss of the crop for this year, but in many cases next season's also to a great extent. Vegetables, trees, and shrubs have suffered the same in proportion. Twelve and fourteen degrees of frost registered 2 feet from the ground and 19° on the grass, night after night, after a mild winter, during the middle of April were sufficient to cripple all vegetation, but certainly this is the worst example I have seen.—E. BECKETT.

Dimorphotheca Ecklonii.—Daisy-like flowers are just now very popular, and at the recent Temple show this *Dimorphotheca* attracted a very large share of attention. It is a native of South Africa, and has been for the last half-a-dozen years or so grown at Kew, but it is only of late that it has been generally distributed. The specimens shown were neat, bushy plants, for the *Dimorphotheca* is of a sub-shrubby character, and may be grown after the manner of a *Marguerite*, to which, indeed, it bears a considerable resemblance. The flowers, which are borne on long clean stems, are about 3 inches across, the florets being ivory-white on the inside and heavily tinged with purple on the exterior, while the central disc is of a violet tint. When at its best it is certainly very pretty, but, like some of its allies, the *Gazania* in particular, the flowers close up to a greater or lesser extent in dull weather. It is a plant of easy culture, for cuttings strike root readily, and the plant grows freely under ordinary greenhouse treatment. Planted in the open ground it will flower freely throughout the summer months.—T.

Field studies in natural history. The Education Committee of the Essex County Council have decided to continue during the course of the present summer the special series of Saturday afternoon demonstrations on field botany and other branches of Nature-study so well attended by the teachers of the county in previous years. The plan adopted last year, for the first time, of having two distinct rambles in different parts of the county on each Saturday afternoon during June and July has proved sufficiently successful to warrant its continuance, and will again be followed this year. By this means a much larger number of teachers is given the opportunity of attending and the county is more completely covered. As before, each ramble will be conducted by a member of the biological staff, and teachers wishing to attend by referring to the detailed programme of rambles will be able to select each Saturday the district most easily accessible for themselves. Nature-study is now recognised by the Board of Education as a most desirable subject for the intellectual training of children in rural elementary schools, and the main object of the present series of demonstrations is to encourage such teaching. The proposed rambles will afford teachers anxious to give effect to the recommendations of the Board opportunities of gaining some helpful experience in the methods adopted in the study of Nature in the field and an insight into the way in which plants grow, especially in their relations with their environment. While these demonstrations are organised exclusively for school teachers, they are by no means intended only for those who have already studied the subject of botany. Any teacher is eligible who takes an interest in general natural history and is prepared to devote a little of his or her time to its study. As far as possible different types of country have been selected for the rambles, so that different forms of vegetation and other life may be expected to occur, and in this way it is hoped that an introductory knowledge may be gained of the natural history of the county.

Lilies at the Temple show.—As usual, Messrs. Wallace, of Colchester, put up a representative collection of Lilies at the Temple exhibition, many of which were greatly admired; indeed, the entire group was made up of choice and interesting plants. Particularly noticeable among the Lilies was a pretty group of *Lilium rubellum*, which, despite its early promise, does not seem much more amenable to cultivation than its older relative *L. Krameri*. The stately *Nankeen Lily* (*Lilium excelsum* or *L. testaceum*) was represented by a fine group, while a good form of *L. longiflorum* was equally conspicuous. This superior type of *L. longiflorum* seems to be now quite taking the place of the old Dutch form, *Lilium tenuifolium*, that pretty little Siberian species with its grassy leaves and deep, scarlet Turk's-cap-like flowers, always attracts by its richness of colouring and gracefully disposed blossoms. This flowers well the first year after importation, but cannot afterwards be depended upon. Another Turk's-cap, viz., the Japanese

Lilium Hansonii, whose pale yellow petals are as massive as if cut out of wax, was very noticeable in the group. This will usually flower year after year, but this season out of doors the foliage has, in many cases, been badly cut by late spring frosts. Being the earliest of all Lilies to start into growth, this species is naturally liable to injury from late frosts. *Lilium szovitzianum*, that resents disturbance at the roots to such an extent that it needs two or three years to establish itself, was also noted with *L. umbellatum* or *davuricum* represented by several varieties. The best form of the white *Martagon* (*L. Martagon album*), with its symmetrical-shaped flowers and compact spikes, was much admired, and of all the varieties of the dwarf *L. elegans* or *thunbergianum* the massive, brightly-coloured Orange Queen stood out as one of the best.—H. P.

Flowers in Regent's Park.—Workers were busy just commencing summer bedding here when the writer had a quiet look recently through this delightful park to see the dying beauty of the spring bedding. How charming are the late Darwin Tulips (mixed), most beautiful self colours. A grand bed was noted of that fine late Tulip *Bouton d'Or*, golden-yellow, a very lasting flower, while interspersed was *Anemone fulgens*, with its conspicuous brilliant scarlet flowers. In the shade afforded by the greenery of the surrounding trees and shrubs this bed produced a very telling effect. Very attractive was a mixture of *Violas*—*Lottie McNeil*, *heliotrope*; *Duchess of Sutherland*, one of Messrs. Dobbie's fine introductions, who have done such good work among this class of flowers, bluish mauve, usually a self, but sometimes with white, very free bloomer; and *Canterbury Bells*. Golden Wallflowers and the well-known *Viola Molly Pope* were noted as a pretty combination, edged with *Saxifraga Andrewsii*, that interesting and handsome hybrid. A fine late double Tulip is *Marriage de ma Fille*, white, red feathered; it was edged with *Saxifraga muscoides*. Golden Eagle, the colour well indicated by its name, looked well edged with *Saxifraga globosa*. Referring again to *Violas*, for some years their culture has been cherished in this park. Planted in quantities among shrubs they are quite at home, the partial shade thus afforded suiting them admirably. For such a purpose there are no better varieties than *Blue Bell* and *Bullion*.—Quo.

Ochna multiflora.—I recently saw this plant in one of the propagating houses at the Redbraes Nursery of Messrs. James Grieve and Son, Edinburgh. It is described by Mr. George Nicholson in his "Dictionary of Gardening" as "a remarkable and handsome plant," and yet it is scarcely to be found in any plant catalogue. The species named above is a stove evergreen shrub. A native of the tropics, it blooms in spring, the yellow blossoms being of short duration, the receptacle gradually increasing in size, becoming globular in form, about the size of a Strawberry, but less conical and similar in colour; upon it are the black seed-like bodies about the size of Peas, which are really the carpels, and these present a striking contrast with the bright crimson receptacle and calyx. An interesting and decidedly ornamental plant, and the specimen at Redbraes seemed to be doing very well with other plants, without a suspicion that there is any difficulty about its culture. It is evidently an old plant which has dropped out of cultivation, having been introduced in 1820. It is propagated during the summer months from cuttings made of the half ripened shoots.

Early-flowering Everlasting Peas. With me the earliest to show colour is *Lathyrus rotundifolius*; it is already showing its bright carmine tint, but it will be closely followed by *L. grandiflorus*. When the late Mr. Charles Green was gardener at Pendell Court, Bletchingley, he sent me a form of *L. rotundifolius* under the name of *L. Drummondii*, and I obtained a first-class certificate for it from the floral committee of the Royal Horticultural Society in 1878 under that name. I always thought the latter to be earlier in flowering and brighter in colour than *L. rotundifolius*, and I still grow it as *L. Drummondii*. I often wonder this is not more grown as a pillar

specimen or in bush form in gardens, as when in full bloom it is a mass of striking colour, bright pale carmine, and it is very free, forming a dense mass of flowers. My brother once happily described it as "the burning bush," and a specimen in my garden at Faling, 6 feet in height and 3 feet to 4 feet through, will in a week or two justify that designation. Why the culture of *L. grandiflorus* should be so much confined to cottage gardens is a cause for wonder. Perhaps its habit of throwing out underground stems and so extending itself causes it to be regarded by gardeners as too much given to encroachment. Some say this species does not seed, but I think it must have done so with me last year, for in my seed grounds at Houslow there is a specimen planted in an out of the way spot, and of whose existence I had no knowledge until this spring, which appears to have seeded, for a few weeks ago I found around it a number of plants so far removed from the parent as to be distinct individuals, and I regarded them as self-sown seedlings. I observe that Mr. Nicholson in his "Dictionary of Gardening" makes *L. grandiflorus* to be an annual climber, but what is commonly grown under this name is a perennial. A trial of perennial *Lathyrus* would be interesting at Chiswick if retained long enough, or in the garden of the future; but I trust we shall not be quite off with the old love at Chiswick before there is some prospect of being on with the new. A permanent plantation of distinct species, or of well marked varieties of merit, should be a feature in the society's garden.—R. DEAN.

Raspberry weevil.—An insect is strongly in evidence in the Raspberry quarter this year which bears a resemblance to that described in various books under the heading of *Lampronia rubiella*, but as the method of attack seems different I shall be very glad if "G. S. S."—whose contributions to THE GARDEN on insect pests are so valuable—will kindly identify the insect and suggest a remedy. The shoots, sometimes only 1 inch, at others 3 inches or 4 inches long, droops at the top, and appear as though frost-bitten, but an examination of the same shows that they have been tapped close to the base and an egg apparently deposited. On opening the shoots one comes on a maggot, about an eighth of an inch long and dull red in colour, working its way towards the top and eating the heart out of the shoot. If the idea is correct that a fly is primarily responsible for the mischief will "G. S. S." kindly say if syringing a strong solution of, say, quassia extract, or something of a similar nature, early in the season would be likely to render the shoots distasteful to the fly. I have picked off all infested shoots and consigned them to the furnace. In nearly every case the maggot was still inside. Such remedial measures are, however, naturally of a very partial character, and it is with a view of checking the visitation another season that I am asking information. We have Raspberries in two different positions, i.e., on south-west and north-west borders, and both quarters are attacked, the earlier border rather the worst.—E. BURRELL.

A yellow Cineraria.—Such was the general impression made on all who saw in the centre of Messrs. Sutton and Sons' very attractive group of Star Cinerarias at the Temple show a few plants of what seemed to be a yellow form of the same tribe. Closer examination, however, showed it to be a *Senecio* and named *auriculatus*, perhaps on account of the colour of the flowers. These were a trifle smaller than were those of the Cinerarias, though having the narrow pointed petals of the kind, the flower-stems were less woody or rigid, and the leafage smaller. Whether it may be possible to introduce the blood of this *Senecio* into that of so closely an allied plant as the Cineraria has to be shown, but whilst a pure bright yellow variety would no doubt be greatly welcomed amongst Cinerarias, there can be no reason why it may not be possible, through close selection and intercrossing of the finest flowers, and especially those on plants having the stoutest habit, ultimately to obtain a bright yellow-flowered spring-blooming greenhouse plant, easily raised from seed, that would be as useful as any Cineraria.

Staging cut Carnations.—Although there were many fine groups of Carnations in pots

at the Temple show, yet all, because tied up to stakes so rigidly, were very stiff and formal. Still further, where flowers are restricted to but one or two or three on a plant, all are so evenly placed in the group as to be unpleasing to the eye. It is the growers' style and taste, but is the reverse of artistic or natural. No exhibit of Carnations displayed more real beauty and charm than did the few large bunches of cut flowers on long stems set up by Mr. A. Dutton, of Bexley Heath, who had quite large clusters of Mrs. T. W. Lawson, Mrs. G. H. Crane (scarlet), Mme. Melba (pink), and alba (white). The blooms were really superb, and the collection constituted one of the most beautiful, as well as most graceful, exhibits in the show. Not all Carnation growers can put up such large bunches, but the method of exhibiting cut flowers greatly exceeds all others. Well may we hope that the vase method on long stems will largely prevail at shows for Carnations, Roses, Cactus Dahlias, and Chrysanthemums.—A. D.

Ocimum viride and mosquitoes. In a recent number of *Nature* there appeared an account of a Basil (*Ocimum viride*), a plant which is known to the natives of Nigeria as a protection against mosquitoes. Captain Larymore, by whom this information was first obtained, in a letter to the *Times* mentions that he has brought home a plant which he has presented to the authorities of Kew Gardens, and that it may be seen there. He also states that the natives believe in its efficacy when taken as an infusion in cases of malarial fever. Further evidence is offered in another letter to the *Times* by Sir George Birdwood as to the knowledge widely spread among the Hindus of these qualities of the Basils, which occur wild, and are generally cultivated in India. Thus, during the formation of the Victoria Gardens in Bombay, the workmen were attacked both by mosquitoes and malaria, when, upon the recommendation of the Hindu manager, Basil plants were placed round the gardens, with the result that the unhealthy nature of the locality was effectually changed.—*Nature*.

THE ROSE GARDEN. NOTES IN SEASON.

OUTDOOR Roses have benefited by the recent hot weather. I do not remember such progress in so short a time. Shoots that were looking miserable owing to the frosts have apparently revived; but I think we must view them with suspicion, as I quite anticipate a quantity of malformed flowers from this early growth. Care must be taken when disbudding to observe closely whether the centre bud appears deformed, and if so to sacrifice this to one of the best of the side buds. Now is the time to

REMOVE SUPERFLUOUS SHOOTS.

Old wood retained at pruning time, but which now is breaking very weakly, should be cut clean away. Better to have one or two good healthy young growths which will carry each three or four new shoots than a whole bunch of thin weakly wood.

FEEDING ROSES

is a matter often too long deferred, and consequently the first crop receives little benefit. I believe in a good application of farmyard manure in autumn, and lightly forking it in at the same time. If this be done no further manuring is required until the buds just show themselves. Then is the time to begin feeding. The drainings from a cowyard cannot be surpassed, except that I would throw into the tank a bag of soot. I am of opinion we give the plants such manure as this in too weak doses.

After a good rain such liquid may be given almost neat, and let each plant have at least two to three quarts twice a week. Try and apply the manure so that the roots are induced to run after it. I have found it very helpful if an application of some good approved fertiliser be given, say, early in June, taking care in dry weather to water the

Roses first, and apply the artificial manure in liquid form. A week hence the farmyard liquid may be applied as mentioned.

THE HOE

should be freely used just now. After the ground has been well moved, I prefer the Dutch hoe, this being the best implement, as one may hoe one's Roses without treading on the soil. If we were only more fully alive to the need of letting in air to the soil greater successes would be achieved.

CLIMBING ROSES ON WALLS

must be given a good soaking once a week, using liquid manure freely to the strongest. Where borders are narrow it is a good plan to make two or three holes with a crowbar, so that the liquid may more readily reach the roots. Bush or dwarf plants often manifest an inclination to grow rather irregularly. In order that each leaf should be well provided with sunlight and air I would advise that the shoots be tied out to a small stick where it seems necessary. Certainly all Roses whose flowers are at all heavy, such as Marie Baumann, Earl of Dufferin, Mrs. E. Mawley, &c. would pay for a small stick to each growth.

MULCHING

with really well-rotted manure is a great help to the plants if applied now. It should not be placed too thickly on the ground, and the soil must be previously well hoed. Where plants appear to require a little special help a handful of bone-meal placed around the plant and then covered over with the rotted manure mulch tells its own tale in fine healthy growth.

MAIDEN PLANTS,

that is, those budded last summer, must be kept tied to prepare them against strong gales. Standard Briars budded are breaking well and promise to be very fine. These give splendid flowers, which, however, should not be cut, as this robs the plant of its foliage at a time when it most requires it.

PILLAR ROSES

are a pleasing feature in the Rose garden, and I am pleased to find their popularity increases. There are now so many Roses suitable to this purpose that there should be no difficulty in maintaining a delightful variety. Roses with the central growths trained up to span an arch and the side growths allowed to fall outward will be, I imagine, quite a popular style. Take, for instance, the beautiful Electra with its creamy yellow buds, the snowy Thalia, or the pink Euphrosyne; then the newer Waltham Rambler, so beautifully exhibited at the Temple, the charming Queen Alexandra, and the delightful Blush Rambler, useful because of its semi-double flowers, are all excellent for good positions. If one has an old tree whose life seems ebbing away the pretty American novelty Dorothy Perkins will clothe the unsightly object with a wealth of blossom, which for beauty and delicacy of colouring is quite unsurpassed among all our climbers.

ROSES IN POTS

that have made their second display this year should now be examined, and those requiring it repotted ready for forcing another winter. Plants not repotted would be helped by a top-dressing of good soil. Plants of the Rambler class grown in pots, and which have become somewhat exhausted, should be cut back hard and placed in heat. By the autumn a fine new growth will have taken the place of the old. Such Roses require to be freely syringed.

INSECT PESTS

must be kept in check. Diligent hand picking for the maggot cannot be surpassed. Every day the plants should be looked over. Aphis is becoming very numerous; probably the best destroyer is paraffin emulsion. Dissolve one quart of soft soap in two quarts of boiling soft water; remove from the fire, and while still boiling hot add one pint of paraffin, and then churn the mixture with a syringe. Dilute with ten times its volume of water. Take a bowl of this, and where practicable wash the ends of the growths in it, or hold the bowl beneath the shoot and with the hand thoroughly wet the shoot, both above and beneath the foliage.

ROSE JOHN RUSKIN (H.T.)

THIS was well shown at the recent exhibition in the Temple Gardens. Evidently it is a good novelty, and for pot culture must be useful. The colour is rosy carmine. The flower has the fine form of Robert Scott, the centre being well developed. The petals are massive, smooth, circular, and the flower is very fragrant. There is no mistaking the beauty of these erect growing Hybrid Teas for pot culture. The sorts which make long stems are doubly valuable. I do not think the Rose under notice would come under this category, but certainly it is worth noting for another season.

ROSE L'INNOCENCE.

THIS grand hybrid Tea Rose is one of the best to grow as a standard for pot culture. It well displays its origin from Caroline Testout, and the pure white blossoms are large and well formed. A very fine plant carrying some twelve blossoms was seen in the Waltham Cross group at the Temple show.

PHILOMEL.

NOTES ON HARDY PLANTS

HABERLEA RHODOPENSIS

IT seems singular to those who know these plants that while the Ramondias are very popular and much grown, the lovely little flower called Haberlea Rhodopensis is hardly ever seen except in the most select collections.

One is rather at a loss to account for this, as the Haberlea surpasses any of the Ramondias in the beauty of its flowers. There may be, however, some doubt as to its perfect hardiness in British gardens, and perhaps this is the reason why it has not yet been brought more into notice by nurserymen. The Gloxinia-like flowers are called by some "bluish lilac with a yellowish throat," but certainly with more of white in the colouring than the description of bluish lilac would convey. In its habit it closely resembles the best known of the Ramondias—*R. pyrenaica*—but it is to me even prettier than the lovely white variety of that pleasing flower, although not so pure in colour of course.

Regarding its hardiness here I have no doubt whatever. It is planted in an exceptionally good place, being on the north-east face of a rockery, which is rather dry naturally, but is well watered in dry springs and summers. I cultivate it in sandy peat and on a level terrace, but with the roots well jammed in between two stones, which, by the way, were put there after the plant was in the soil. Here it has been for several years, and it has not suffered in the least. Care is taken that the soil which may be washed away from the neck of the plant is replaced before winter comes in as well as before the drought of summer. According to "The English Flower Garden," Haberlea rhodopensis is hardy with Messrs. Froebel at Zurich. Even our damper winters need not be injurious to it, seeing that it grows among moss and leaves on damp and shady slopes of the Balkans. Unlike many alpine plants it seems as happy in a wet winter as in a dry and frosty one when it has a covering of snow. Among those who once told me that they did not consider it perfectly hardy was, if I recollect aright, Mr. Mungo Chapman, who had charge so long of the late Mr. Charles Jenner's wonderful rock garden at Easter Duddingstone, Edinburgh, and who is now located near Stirling. Possibly Mr. Chapman may have changed his opinion, for I believe it to be hardy in most places in Great Britain and Ireland if it is given a proper position with shelter from the sun, especially in spring, when late frosts are so injurious to many things.

Carsethorn, by Dumfries, N.B. S. ARNOTT.

LUPINUS ARBOREUS ALBUS.

WHILE agreeing with every word "E. J." has written on page 348 as to the Tree Lupine, I feel I must supplement his note with praise of this most delightful of all the family. From a seed of

the yellow—I had no white—I raised one white one, which I am sure has been sent out under a distinct name, but words fail to convey an idea of its beauty and delightful perfume, a few sprays quite scenting my room as I write. I consider seed much surer for strength of growth than cuttings; but the latter will ensure the sort required, while seedlings are very uncertain; for instance, the hybrid *Andreas* will almost always give the original yellow, not its own beautiful combination of colour.

Riverston, Nenagh.

J. H. POE (Capt.).

PHLOX AVALANCHE.

THIS fine white Phlox is a variety that should be in every garden. It is of moderate height and very free of bloom. The illustration shows one panicle and is rather under half size. On a very poor, sandy soil, where the greater number of these fine autumn flowers can scarcely be kept alive, *Avalanche* grows and spreads and blooms without fail, as do also other whites that appear to be related to it.

These late Phloxes, now all classed under *Phlox paniculata*, were formerly also known as *P. cordata* and *P. corymbosa*. This, and the different behaviour of the various garden sorts, would seem to point to some natural difference in their earlier parents, some geographical distinction possibly not of enough botanical importance to claim specific distinction, but that shows itself clearly in our gardens.

G. J.

LYCHNIS LAGASCÆ.

THIS rare alpine is figured and described by Sir J. Hooker in the *Botanical Magazine*, tab. 5746 (A.D. 1868). It is there said to be confined to a very narrow belt of the region of the North-western Pyrenees, but I cannot find it recorded in any catalogue of Pyrenean Flora; the habitat specified by Willkomm ("Flora of Spain," vol. iii., p. 641), being the mountainous district between the provinces of Leon and Asturias in North-western Spain. Sir J. Hooker, however, remarks that when he wrote its history only two or three botanists had ever seen it growing, and Willkomm could not have been one of them, as that botanist describes the flowers as white, though they are deep rose, deeper than the colour of the portrait in the *Botanical Magazine*. The plant is so easily raised from seed, which it ripens plentifully in cultivation in England, that both plant and seed have become common in nursery catalogues, though it is rare to see it well grown except in pots. Being in habit evergreen and having very frail stems, it is scarcely fitted to survive the snows and thaws of an English winter, by which it is liable to be destroyed amongst the stones of a rockery. I have cultivated it intermittently at Edge for twenty years with indifferent success, until I tried planting it on the perpendicular face of brick walls, on which it does well in any aspect, even on surfaces where it is difficult to see how it attaches itself to the wall. I have now dozens in flower, and they are amongst the brightest ornaments of the garden in May and June. I have measured my best plant and find it 2 feet across and 16 inches from top to bottom, and it has about a thousand flowers now open on it. This has been where it now grows, about 4 feet from the ground, for four years. The seedlings should be planted out

when very small, and I raise them in pans as the seed does not seem to grow when self-sown, as that of *Erinus alpinus* does. Probably the larger seed of the *Lychnis* does not lodge so readily on the bare wall.

C. WOLLEY-DOD.

Edge Hall, Malpas, June 2.

ERODIUMS.

SEVERAL species are now in bloom with me, the best at present being *E. guttatum* and *E. trichomanefolium*. The former is a delightful plant on a sunny day, when all its deeply blotched flowers are fully expanded above the tufts of finely cut grey-green foliage. It grows most readily from seed, and succeeds admirably at the edge of a border surrounded by a few sunken pieces of rock. A very beautiful hybrid—*E. pelargoniflorum* × *E. hymenodes* (of Mount Atlas)—is now in flower here, and will, I fancy, surpass *E. pelargoniflorum* in beauty. The foliage is not so sticky as in the last named, nor is it nearly so deeply divided. The three petals at the top of the flower instead of being rounded, as in *E. pelargoniflorum*, are

Thompson tells me that it is more interesting than showy, and is remarkable from the fact that it is the only species of the genus which loses all its foliage during the winter.

MYOSOTIS SUTTON'S PERFECTION.

WE have been positively delighted with a bed of this *Forget-me-not*, and it is one of the best flowers for spring bedding I have yet seen. The common *Forget-me-not* is a most precious plant in many ways, but on some soils it grows so rampant that it is scarcely suitable for using with the dwarfier-growing Tulips and suchlike things. I do not usually like to see vigorous and branchy plants reduced to the standard known as "dwarf and compact"; but in this case we really have a gain, as the plants have lost that straggling habit which in the old sort was rather a defect when used for bedding, and also because the flowers are held up on erect stems and are therefore not damaged by the heavy spring rains. It is extraordinarily floriferous, and the blue variety, which is the one we have tried, is a very lovely soft shade of colouring. The flowers are large, with a



HERBACEOUS PHLOX AVALANCHE. (Flowers white.)

ovate; they are also whiter, while the two lower ones are blotched with deep purplish crimson. It is exceedingly free-blooming, and a decided acquisition.

GEUMS.

THESE are most useful plants, and seem to grow in almost any soil and position, provided that it is not too dry. The more I see of that lovely orange-coloured hybrid *Geum montanum aurantiacum* the more pleased I am with it. *G. triflorum*, which came to me from Bath Botanic Garden, is certainly not a showy though an interesting species. Its peculiar drooping rose-coloured blossoms have the appearance of never opening properly. The petals when examined are white tinged with rose at the extremity.

I cannot quite reconcile my plants to Nicholson's Dictionary, where the extremity of the petals is said to be purplish red and the calyx dark purple, as, with the exception of the stems, I am unable to discover a trace of purple in the plants sent me by Mr. Milburn. *Geum speciosum*, one of the late M. Alboff's discoveries in the Caucasus, has not yet bloomed with me. Mr.

bright yellow eye, and possess many more petals than the old variety.

Kidderminster.

A. R. GOODWIN.

LATHYRUS PUBESCENS.

I AGREE with everything said by "G. R." from Kent regarding this beautiful Pea. I have had it flowering two years in my greenhouse, and this year it is now in bloom and growing strongly in a sheltered situation outside, where it has been all the winter without any protection. This in the rather inhospitable climate of Cheshire stamps it as a valuable outdoor climber if you can give it a sheltered situation. It is worth taking some pains with as the colour of the flower is a lovely blue, and it has a sweet scent besides.

Astle Hall, Cheshire

GEORGE DIXON.

NOTES FROM BADEN-BADEN.

LINARIA PALLIDA is clothing the rockwork with its large mauve or lilac-coloured flowers, the beauty of which is much enhanced by the deep green foliage; it is a robust plant, which dies away in winter to come up with renewed strength in the

spring. *Oxytropis Lamberti*, the rose variety, is a handsome plant; the spikes of Pea-shaped blossoms are of a deep rose-red. *Gentiana syphonantha* is a first-class beauty; its numerous beads or clusters of deep gentian blue are extremely attractive. *Aster subcerculeus* is now quite showy; the deep orange disc harmonises so well with the peculiar lilac-purple of the rays; it is a neat alpine. If you tell a gardener of a *Plantago* he may be alarmed, but there is *Plantago maxima*, which is a very showy and striking plant. It has very large leaves, and the spikes, about 2 feet high, are 6 inches long by $1\frac{1}{2}$ inches in diameter. They are of a very showy, soft white colour. *Lathyrus Mulkak*, from Central Asia, much resembles *L. latifolius*, but the colour of the larger flowers is much deeper, and they are deliciously fragrant; it is much earlier than *latifolius*, and in all respects a neat and very showy plant. In the greenhouse *Tropæolum albidum* is covered with hundreds of its big, showy flowers, which, moreover, are not pure white, but have a sort of flesh-coloured changeable tone.

Baden-Baden.

MAX LEICHTLIN.

PRIMULA FARINOSA ALBA.

I SEND you a photograph of a few plants of *Primula farinosa alba*. I have been propagating from two plants which I found three years ago. I blundered in keeping the plants under glass to prevent insects interfering with pollen from the type, and thus I got no seeds at all for two years. This time I kept them in the open air, away from the pink type, and I hope now to obtain a good stock, for I noticed a number of ground pests entering the narrow tubes of the corollas, and on reappearing they were covered with pollen.

In your issue of June 7, 1902, page 383, I sang the praises of the lovely wildling *Cardamine pratensis* fl.-pl. I have again this year enjoyed its masses of delicately tinted graceful Stock-like blossoms for fully three weeks.

Planegg, near Munich.

E. HEINRICH.

TULIPS.

I.—SPECIES OR SPECIFIC VARIETIES.

TULIPS, the brightest of spring flowers, have long been cultivated as garden plants. They are natives, in a wild state, of the cool, temperate regions of the Northern Old World, and are found growing under all possible conditions of climate and in all soils; the forest, mountain-side, sheltered valley, or desert have their representative types, showing marked adaptations to the conditions of growth which surround them, and the characters form a substantial basis for their classification, botanically and culturally. A few plants, and those the parents of many good garden Tulips, are unknown in a wild state. They owe their origin to Turkish gardeners, who cultivated them for many generations, and their introduction to Western Europe was effected by Gesner and others about the middle of the sixteenth century.

Flanders and Holland in their turn effected still greater improvements, and when Tulips reached England in the early part of the last century, they were ripe for the development that was speedily forthcoming at the hands of the British florists, and which found its standard in the English or florist's Tulip so well known to-day. This standard was rigidly maintained to the exclusion of all that fell short of the florist's type, and there can be no doubt that many good Tulips, faulty, maybe, in one or several respects from the florist's standpoint, but still excellent as garden plants, were relegated to the comparative oblivion of the wayside cottager's garden, and were unearthed fifty years later to share the popularity now enjoyed by the whole race of May-flowering

Tulips. Nowadays Tulips are regarded simply as garden plants, whose form, colouring, or markings need not agree with any ruling provided they are refined and pleasing. Recently introduced Tulips are valued for their divergence from the florist's type and from one another; the elegantly reflexed flower, the cone-shaped flower, and the star-like flower each find their admirers, whilst species of recent introduction represent some new and pleasing features, suggesting a wider use for the Tulip in the garden beautiful than has hitherto been allotted to it. Tulips have long been cultivated in Holland as one of the staple industries of that country, and we owe many of the early-flowering varieties to the Dutch. To Italy and France in a lesser degree we owe some of the late-flowering Tulips, whilst recent additions to the late-flowering group, hailing from British nurseries, are slowly but surely raising the May-flowering Tulips to the highest possible favour with home planters. Their

CULTIVATION

presents no difficulty that cannot be overcome in any part of the British Isles, and there is not the slightest reason why every Tulip required by British planters should not be grown on British soil; and, so far as vigorous constitution and sturdy health are concerned, the British-raised Tulip bulb is just as good as that produced in Holland, better than that of France, and infinitely better than that produced south of the Alps; whilst the petals of British-raised varieties, if the recent additions may be accepted as types of what can be done, are remarkable for great substance and refinement, weathering the season 1903 bravely and comparatively unscathed, whilst their brethren were reduced to a very unhappy state, mangled and spotted, with colours bleached and inconstant under the heavy rainfall.

This substance of petal was, fortunately, one of the principal "points" required by the earlier florists in selecting their "breeders," and the result of that selection is now manifest in the bold weather-proof petal of the British-raised Tulip. The

IDEAL SOIL

for the Tulip should be light and sandy, but in most cases one can regard the Tulip as a plant that will accommodate itself to any soil or situation, provided it is lifted to ripen. One often hears the disappointed amateur express regret that he cannot grow Tulips in his garden, because "the soil does not suit them; they dwindle and die." Almost any

soil would suit them, provided they are lifted to ripen. I have grown them well in clay, in a loam overlying limestone, and in the soil of a reclaimed common, with the simple addition of sand, mainly as a protection to the bulb rather than as a rooting medium, and they have with careful harvesting turned out firm, clean, and of good size. One may leave many of the small-flowered species that are adapted for rockery planting outside from year to year, mainly because the conditions of soil on such rockeries are dry and productive of absolute rest; but there is no doubt that the vigorous health of a collection of garden-raised Tulips and the larger-growing species is best maintained by lifting and ripening for at least two, or, still better, for three, months.

PLANTING TULIPS.

Leaf-soil is the best medium for enriching naturally poor soils; it is surprising what magnificent growth Tulips make in a soil freely dressed with leaf-soil, but if the site is poor and freshly broken up a liberal dressing of old manure must be added, throwing the soil into weather ridges to pulverise by the action of wind, rain, and sun months before planting. Every Tulip should be in its flowering quarters by the end of November. Later planting may be carried out on shady sites for a continuation of the floral display, but the majority push their roots during November, and must then be planted. The depth to plant varies, but 3 inches to



PRIMULA FARINOSA ALBA.

4 inches is the standard, deeper for light than for heavy soils, whilst strong-growing forms, such as the Darwin race, always require 4 inches, and dwarf species, such as *T. persica* and its kindred, 3 inches as a maximum. Ripening is a serious matter with Tulips, and it should form the main feature of cultivation. Exposure to sunshine as soon as lifted does much harm, cracking the tunics of the bulbs and reducing their substance to the nature of tinder, thus destroying their chief value, viz., as a protective covering to arrest evaporation, rendering the bulbs commercially valueless, owing to their appearance, and exposing their unprotected raw tissues to the action of air. French bulbs, proverbially light and chalky, owe their failure to grow and flower well to the exposure to high temperatures during the resting period. Their first year's growth in this country is poor, but the second year's growth is glorious, their flowers magnificent in size, and their colours are rich and refined.

An airy shed is the best storehouse both for

RIPENING AND STORAGE,

whilst exposure to the sun is good for the dry region species, such as those from Turkestan, and the small-flowered species with hard, horny tunics of a reddish tint, once well dried under cover. The average yearly increase of bulbs under good cultivation should be five, viz., offset No. 1, half the size of the original; offset No. 2, half the size of No. 1; offset No. 3, half the size of No. 2, and two or three small fry. They require ripening carefully, and should never be exposed to strong sunshine till their tunics are quite firm and close; they require to be planted by October, and the small offsets of all bulbous plants start into growth sooner than their parents. Seeds of good kinds and of rare species should be sown as soon as gathered, choosing a light soil in the open, freely charged with sand near the surface. Many beautiful species, such as Greigi, kaufmanniana, Eichleri, sylvestris and varieties, may be reared quite easily from seeds, but the external colouring remarkable in many Turkestan Tulips never becomes so brilliant in home-raised plants as in imported bulbs collected wild. *T. Greigi* as home or Dutch-grown seedlings is inferior in colour, size, and clearness of marking to collected *T. Greigi*, a circumstance mainly due to the absence of intense heat during their later growth—so marked a feature of Turkestan. The flowering season of the whole group of Tulips extends from February to the end of May, beginning with the lovely *T. kaufmanniana* and ending with the brilliant *T. Sprengeri*. Practically all shades of colour are represented either separately or in combination, and they range in stature from the little *T. Korolkowi*, which so much resembles a ripe Cherry, to the tall 3 feet shafts of *T. flava* and the noble race of Darwin Tulips. In the following account of Tulips, species of garden origin have been included as a matter of convenience, and varieties of such species bearing Latin names, though of garden origin, are also included, mainly because one would instinctively look for an account of them with that of true species. In one or two cases their affinity with a species to which they are supposed to belong is not very apparent, and in this respect it must be borne in mind that Tulips of garden origin vary greatly under all and every circumstance. It is the only race of plants that is ever changing of its own accord. They break or rectify, revert to an original type, vary greatly as seedlings from each other and from their parent, colour tints appear and disappear, remaining for ages in one case and for one

season only in another; their markings may be exquisite one season and a medley of ill-defined tracery the next, and a flower that opens a pallid yellow may develop the rich glow of a glorious sunset before it collapses.

T. acuminata, known also as *T. cornuta* and *T. stenopetala*, the "horned" or Chinese Tulip, is of garden origin, with stems 1½ feet long, bearing singular-looking flowers, the petals of which are in the form of six narrow, tapering ribbons each 6 inches long, recurved, twisted, stiffly erect or drooping, coloured yellowish at the base, variously marked with crimson on the margins and always at the tips. Fully expanded the flower measures 9 inches to 12 inches across, and when closed at night the petals intertwine and are often unable to expand next day, owing to the tips being interlocked.

Var. lutea, a pure yellow form, is the only variety separated from the type. Its self colour is not constant, but recurrent.

T. armena (Boissier) is a dwarf plant with very long, broad leafage, stout stems 1 foot high, olive green three-sided buds, which develop into rich crimson flowers with tapering, very thick, pointed petals. The base of the flower is furnished with a rich black disc, zoned with clear yellow as a dividing colour; the outer surfaces are tinted olive, which gives place to dull crimson with age. The flowers are 8 inches across when fully expanded. A border Tulip of great excellence, the habit being distinct, the flowers good and well coloured, and the plant's constitution leaves nothing to be desired. Many forms may be selected from imported bulbs collected wild. *T. galatica* may prove on careful examination to be a form of this species. Flowers late.

T. aximensis.—A new Tulip belonging to the late-flowering section, and with the habit and leafage of *T. Didieri*. Its flowers are coloured crimson, heavily flushed externally with grey, furnished with a clearly defined black disc internally. The petals are pointed, but do not recurve, and the flower when fully expanded is cup-shaped. In a bud state it does not look very interesting, but when expanded the grey tone of the three outer petals is in beautiful contrast to the rich crimson of the three inner ones, thus giving to the flower a characteristic and very pleasing feature. It hails from Savoy. A good border Tulip of easy culture.



FLOWERING SHOOT OF XANTHOCERAS SORBIFOLIA (SOUTH OF FRANCE).

TREES AND SHRUBS.

XANTHOCERAS SORBIFOLIA.

FULLY twenty years have passed since the introduction of the subject of this illustration. Native of the Amoor river district in North China, it is perfectly hardy, and deserves a place in any shrub garden. It is not very free flowering in some situations and in damp climates, but it is so extremely beautiful when really well flowered that it should find a place in every garden. It has one merit that is not well known, namely, that of thriving well and flowering freely in the most calcareous soil, so much so that I suspect those who grow it in soils deficient in lime would find their harvest of bloom greatly increased by a liberal addition of bone-meal and lime rubbish. A lover of hot sunshine and summer drought, it will not flower well in a moist or shaded position; but I have seen it in good flower in the North of England, where tender plants entirely refuse to live. The photograph of the shoot represented was taken at Nice, where it becomes a small tree laden profusely with its exquisite heads of flower that show the crimson eye, contrasting most beautifully with the delicate white petals.

G. B. MALLETT.

(To be continued.)

E. H. WOODALL.

NEW SPECIES AND VARIETIES OF THE LAST TEN YEARS.

(Continued from page 388.)

PLATYSPERION PLATYCARPUM (syn. *Sophora platycarpa*).—A Japanese tree much in the way of the well-known *Sophora japonica*, from which it differs in both its larger leaflets and flowers, the inflorescence is more lax, and it has curiously flattened seed-pods.

PÆONIA LUTEA.—A charming and distinct Pæony. It forms a woody stem as in *Pæonia Moutan*. It is principally remarkable for the colour of the flowers, which are about 3½ inches in diameter, and of a clear rich yellow tint, quite unlike those of any other Pæony. It is a native of the province of Yunnan, and was discovered by the late Abbé Delavay in 1882, but it did not flower at Kew (and

that probably for the first time in this country) till 1901. It was offered by M. Lemoine of Nancy in his catalogue last spring at 50 francs each, but as it did not occur in the autumn one the stock was probably very limited. In the hands of the hybridist *Pæonia lutea* will perhaps be the means of adding some distinct shades of colour to the Tree Pæonies.

POLYGONUM BALDSCHUANICUM.—In the "Kew Hand List of Trees and Shrubs" this *Polygonum* is included, though during a severe winter the shoots die back to a great extent. It is a delightful climbing plant, with masses of creamy-white flowers tinged with pink. Some four or

said by Professor Sargent to form a tree 25 feet to 30 feet high, with a slender trunk, and branches covered with smooth, pale, or light red bark. The leaves are elliptical in shape and soft green. The flowers, which are borne on long, slender pedicels, in axillary racemes 3 inches or 4 inches long, are half an inch across and white. They are succeeded by small Cherry-like fruits rather less than a quarter of an inch long.

P. MUME.—The genus *Prunus* is now such a comprehensive one that it includes several genera

that were at one time kept separate. This belongs to the Apricot section, and, like the common one, it flowers early, that is, during the latter part of March and in April. It forms a bushy specimen, with ascending branches, which are, while still leafless, clothed with bright pink flowers an inch or nearly so in diameter. We have received

from Japan both double and single forms, white and pink. Differences in habit are also represented amongst them. It is a universal favourite in Japan, being met with in nearly every garden, but in this country it is still quite rare.

(To be continued.)

AN ARTIST'S NOTE-BOOK.

RUBUS MOLUCCANUS.

A STRIKING plant, introduced from the Malay Archipelago, is the *Rubus moluccanus*. It was shown before the floral committee of the Royal Horticultural Society

on the 5th ult., and again on the 19th ult., when it received an award of merit. It is of climbing habit, with rather rough, densely hirsute stems and palmate leaves. It is said to be somewhat variable, and particularly so in the leaf markings. The leaf centres are olive green, and this colour merges into white or cream towards the margin. This latter colour, however, was not conspicuous in the plant shown, and with age may become more decided. *Rubus moluccanus* thrives best in a warm greenhouse. It was exhibited on the occasion referred to by Mr. F. G. Lloyd, Langley, Bucks, and by Messrs. James Veitch and Sons, Limited, Chelsea.

USES OF BRITISH PLANTS.

VII.—LEGUMINOSÆ.

(Continued from page 391.)

RED CLOVER (*Trifolium pratense*).—This species, as well as the white or Dutch Clover (*T. repens*), meadow Clover (*T. medium*), and Alsike Clover (*T. hybridum*, introduced from Sweden) are the principal sorts cultivated. The crimson Clover (*T. incarnatum*) has also been introduced, and produces a heavy crop, especially in the south.

Kidney Vetch (*Anthyllus Vulneraria*).—A yellow dye used to be obtained from this plant. Sheep eat it, especially on the Downs, and it has been recommended as a good fodder crop.

Sainfoin (*Onobrychis sativa*).—Though regarded as a truly British wild flower, it may often be a



RUBUS MOLUCCANUS. (Not quite one-half natural size.)

five years ago it is questionable if any other plant at Kew attracted so much attention as this *Polygonum* during its flowering season. First discovered in Turkestan in 1882, it was a long time getting into general cultivation.

PRUNUS.—The different members of the Plum and Cherry family are very great favourites with the Japanese, and during the last few years we have received many beautiful forms, some of which may have been grown previously, but to the general public they were practically unknown until the last decade or so. The most distinct are:

P. MAXIMOWICZII.—The plants of this species in England are at present small, but in Japan it is

relic of cultivation. It grows about 2 feet in height, and bears spikes of pink or crimson flowers with one-seeded, wrinkled pods. It was introduced as a fodder plant in the seventeenth century, though long cultivated on the Continent. It grows particularly well on chalky soils, as on the Surrey and Sussex Downs, and yields an abundant return and makes excellent hay.

Tare, or Vetch (*Vicia sativa*).—This is a very old fodder plant in Southern Europe, and is probably not truly indigenous, though often found in a wild state here. It is an annual, with one or two nearly sessile purple flowers seated in the axil of the leaves. As it is a climber, Oats or Rye are often grown with it for a support. Like other leguminous plants it is very nutritious, as they all abound in nitrogen. It has been ploughed in to enrich the soil, a practice common in Pliny's time, only the husbandmen then used other leguminous plants as well. The seeds are used for poultry and other birds. Pliny makes the interesting observation that Vetches and Lupine enrich the soil; "indeed so far is a field or vineyard from standing in need of manure that the Lupines will act upon the soil as well as the very best." We now know the cause of this to be that leguminous plants can store up the nitrogen of the air by means of microbes which are located in the nodules formed upon the roots.

Everlasting Pea (*Lathyrus latifolius*).—This is very near to our wild species *L. sylvestris*, of which it may be only a cultivated form, and is occasionally itself found in a wild state. Though the stem and foliage, like those of the common meadow Vetchling (*L. pratensis*), are highly nutritious, such perennials are not suited for field culture. It may be advisable to add that the yellow Vetchling (*L. Aphaca*) is one of the few which have distinctly poisonous properties. This species is readily known by its long stalked solitary yellow flowers and pairs of triangular stipules. The leaf is represented by a long slender tendril usually without any leaflets.

Sea Pea (*L. Pisum maritimum*).—This plant grows on shingly beaches of the eastern counties, as at Walmer and on the Suffolk coast. Though the seeds are unpalatable, they were used in a time of great scarcity in 1535 at Aldborough. It is not now grown anywhere as a cultivated plant.

Bitter Vetch (*L. (Orobis) macro-rhizus*).—This bears a cluster of purple flowers on a stalk, and, instead of the leaf terminating in a tendril, it has only a short point. It is common in woods. The old name (*O. tuberosus*) refers to the small underground tubers or rhizomes, which have a sweet taste, abounding in starch or sugar, and are very nutritious whether cooked or not. They are chewed in the Highlands of Scotland like the Betel-nut in India. In some parts of Scotland a spirit is made from them. On the Continent they are roasted like Chestnuts.

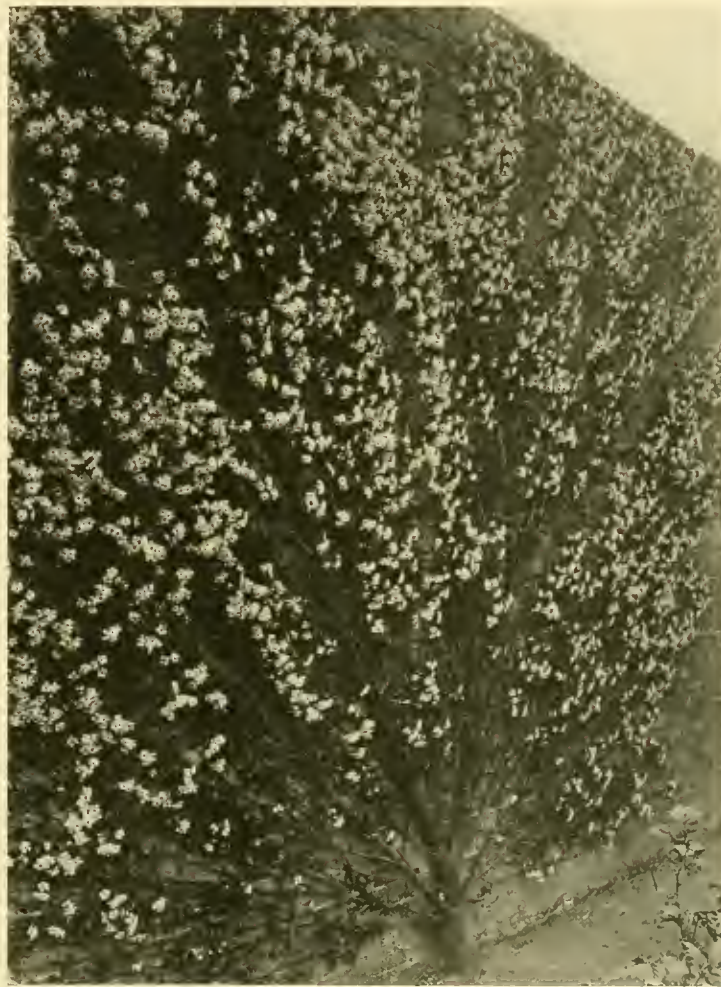
GEORGE HENSLOW.

THE FRUIT GARDEN. CHERRY GROWING.

THERE can be no two opinions about the popularity and usefulness of Cherries, and, though it is safe to say that the fruit is represented in some form or other in the majority of establishments throughout the country, yet, generally speaking, its culture

is of a spasmodic character. The reason for this undoubtedly is that the Cherry is a fruit of strong likes and dislikes. Give it what it enjoys in the way of soil and situation, and it will flourish like a Willow; attempt to grow it under unsuitable conditions, and the result is failure. These facts should always be the guide of intending planters, particularly if the idea is to grow Cherries on anything like a large scale, and, if the soil is not quite what it should be at the outset, care should be taken to make it as suitable as possible before planting is done.

The finest object-lesson in Cherry culture that the country possesses is to be found in Kent, which county practically holds the monopoly of commercial Cherry growing. There mile after mile of Cherry orchards may be seen containing specimens like forest trees, that are beautiful in the spring



THE MORELLO CHERRY IN FLOWER IN THE CHISWICK GARDENS OF THE ROYAL HORTICULTURAL SOCIETY.

when laden with pink and white blossoms; beautiful, again, in the summer, when tempting red fruits peep out from a canopy of fresh green foliage, and profitable withal. Practically speaking, the country's supply of this luscious fruit comes from Kent, excepting early fruits imported from abroad, and why is this? For the most part because the soil and situation of the southern county are favourable for the fruit. The Cherry abhors a stagnant water-logged rooting medium, and does not take to clay, but it rejoices in a deep, free loam where lime is not deficient. Lime I take to be one of the essentials of Cherries, and in Kent the presence of chalk underneath and the natural dryness and fertility of the loam in districts where the fruit is grown are largely responsible for the vigour of the trees and the weight of the crops.

There are various phases of Cherry culture suited to requirements of different cultivators, and they are naturally governed by the facilities to hand and the objects in view. For profitable purposes Cherries are mostly grown in grass orchards, but before laying out capital in this direction any intending planters will be wise in making sure that their conditions are suitable. Under garden treatment Cherry culture is attended by less risks, and may be entered upon in the majority of cases with reasonable hope of success if dwarf trees are planted and due care is taken in the preparation of the soil, should that be in any way unsuitable. Cherries, again, have been grown for generations as wall trees, and, provided the conditions are favourable, I know of a no more desirable fruit for this purpose. For the best positions sweet varieties should be selected, and for clothing north walls, which are so often allowed to remain bare and unprofitable, the Morello Cherry is an ideal fruit. Lastly, there is pot culture, a phase of Cherry growing that has become exceedingly popular of recent years. This is not to be wondered at considering the ease by which good crops of fine fruit may be obtained where the requisite glass accommodation can be provided.

STOCKS AND PROPAGATION.

For the purpose of this article there is no need to go deeply into the question of propagation, for though every grower may raise his own trees if he is disposed to do so, the operation is better in the hands of the nurseryman, who understands it thoroughly, and is able to supply established trees at such a price that home-raising is quite an unnecessary transaction. A word on stocks, however, may not be out of place. For years orchard trees have been raised by working them on the seedling Cherry stock, and the Gean is also used for the purpose, but garden Cherry culture has been greatly facilitated since the introduction of the Mahaleb stock, which is suitable for dwarf specimens and trees intended for pot culture. In short, the Mahaleb stock for Cherries is what the Paradise stock is for Apples. It does not follow, however, that all Cherries do equally well on the same stock, for as a rule the varieties that belong to what is known as the Duke class are well adapted for working on the Mahaleb, while many orchard varieties of the Bigarreau and Heart sections do the best on the Cherry stock. Both budding and grafting are resorted to as a means of propagation, but the former is preferred, as it is quicker, a better union is made, and there is not so much risk of sap being exuded and an open wound resulting, as in the case of grafting. Budding, of course, is a summer operation, while grafting is performed in the spring. Propagation from seeds is not unknown, and in Kent there are many trees of the small Morello—common to the county—that have been raised in this way, and for culinary purposes a very useful variety this is.

G. H. HOLLINGSWORTH.

(To be continued.)

POT FRUIT TREES AT GUNNERSBURY HOUSE.

VISITORS to the Temple show of the Royal Horticultural Society missed the usual exhibit of pot trees from the above garden, but those that saw the trees Mr. Hudson sent to the meeting at the Drill Hall, Westminster, on the 19th ult., only a week before, will remember how well he grows fruits in

pots. It was unanimously awarded the Hogg Memorial Medal, and deservedly so. This medal is only given upon special cases for exhibits of unusual excellence.

Of the Cherries shown special mention should be made of the beautiful Guigne d'Annonay, a very early blackish red fruit, large, and a very heavy cropper, evidently a grand pot variety for forcing. With me on open walls it is not so free as I could wish. Bigarreau de Schrecken, also a black fruit, appears to be a splendid pot tree, and it is certainly very fine on open walls; a very large heart-shaped fruit and richly flavoured. The Empress Eugénie was also very fine and fruiting right down to the pot; this is a soft-fleshed, rich fruit, very early, a deep colour, and a grand tree in the open. It appears to be a favourite pot variety with Mr. Hudson. The same remarks apply to the Frogmore Early Bigarreau. This was very fine in every way. There was a grand crop of large, pale amber fruits; it is an enormous bearer on walls also. Pot trees of Governor Wood were also shown, but the fruits were later, though the trees were fully laden, showing its splendid forcing qualities and its value for pot culture. Other Cherries were grandly shown in boxes, the fruits having been gathered at Gunnersbury. Such varieties as Elton and Bedford Prolific especially were very large and well coloured.

Plums were represented by the excellent Rivers' Early Prolific, both trees and gathered fruits; it is a valuable forcing Plum and a grand pot tree. There were also some very fine Cardinal Nectarine trees staged in pots and boxes of gathered fruits. Both were excellent examples of good culture. The fruits from the fine old Lord Napier tree at Gunnersbury were staged in fine condition, and were equal to those of the Cardinal in size and finish. The tree shows the value of free extension in its early days, a point well worth attention, as so many trees suffer through being unduly restricted, especially forced ones. There were also some very fine Royal Sovereign Strawberries in baskets. These were notable for their bright colour and finish.

G. WYTHES.

HOUSE-GROWN FRUIT.

"CHERRIES," said Mr. James Hudson, the other day in the gardens at Gunnersbury House, "will not do in the same house as other stone fruits—Peaches, Nectarines, and Plums." That is not because Cherries are proud or regard themselves as select, but because they are modest. The other named fruits need warmth to induce flowers to set and fruits to swell. Cherries prefer to have a rather lower temperature, and for that reason we see them at Gunnersbury in separate houses, where the numerous pot trees fruit splendidly. What fine rich-coloured black Cherries are Guigne d'Annonay, Belle d'Orleans, and Bigarreau de Schrecken, whilst the white varieties, rather later, need yet a week or ten days to fully ripen the fruit. In the other houses, filled full of Peach, Nectarine, and Plum trees, the fruits make a brighter show, especially the Cardinal Nectarines, for these are vermilion-red, the earliest fruits being quite ready to gather. The earliest Plums, also fully ripe, were the popular Rivers' Early Prolific, so black, yet so coated with bloom. There were also many trees laden with Green Gages, which will soon be ready to gather also. But while inside trees were thus richly fruited—and there are many others elsewhere to follow in succession, happily under cover—what a contrast is presented by this wealth of fruits under glass and the paucity outside. The frosts have punished the trees terribly. In all directions embryo fruits litter the soil beneath the trees, whilst not a set fruit is visible on them, and this, too, where there is abundant shelter. So far, the most probable outside crops on walls are Morello Cherries, and there is ample bloom on the Apple trees to lead to the inference that we may save some Apples out of the general wreck. It would be little wonder were the disasters of this season to lead to a great development of glass culture for fruit. Certainly the shelter of glass houses does something to save crops that otherwise might have been destroyed.

A. DEAN.

CORRESPONDENCE.

(The Editor is not responsible for the opinions expressed by correspondents.)

LAYERING STRAWBERRIES.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I am in doubt as to the best method of layering Strawberries, and as the season for this important operation is, I am told, almost at hand, I should be extremely glad of advice. Other readers would doubtless benefit also.

Cambridge.

H. W. E.

[The first thing to consider is the preparation of the soil with which to fill the small pots wherein the runners are to be layered. We have found nothing more suitable than good loam. Preparing the soil and filling the small pots should be commenced early, so that when the runners are ready for layering there need be no delay occasioned by having to wait for pots. Before commencing to insert the runners in the small pots there are several minor details whose observance will greatly tend to convenience of working, and also, to some extent, will affect the future welfare and progress of the plants. In the first place, the worker should so dispose the pots as to leave the path between every other row entirely clear, so that one may pass along without fear of doing any damage to the plants. It is not wise to layer a larger number of runners from any one plant than is necessary to make up the quantity required. The object should be to have the runners distributed as evenly as possible throughout the plantation. If sufficient plants can be obtained, take only one from each stalk, and that nearest to the parent plant will usually be found to be the best. When two or more plantlets originating from the same stalk are layered, the first one invariably takes the lead, much to the detriment of the others. But even more important is the necessity for discarding any "blind" runners there may be, and layering only those which are good and sound. A "blind" runner can easily be recognised, for the centre of the tiny plant, if felt, will be found to be empty—to contain no embryo leaves. Having selected a sufficient number (which may range from five to a dozen) of runners from each plant, a corresponding number of small pots should be placed around the plant where the runners may be most conveniently layered into them, bearing in mind the necessity, as above explained, of keeping every alternate pathway open to allow of watering being done without difficulty. The pots should be plunged in the ground, so that the roots can be kept cool and not exposed to the fierce sun-heat.

By layering the runner is meant its insertion in the pot of soil that it may become well rooted, and eventually firmly established there. Having plunged the pot in the ground, take a piece of raffia or a shred pulled from an old mat, or cloth shred (such as is used to attach the shoots of fruit trees growing against walls) about 3 inches or 3½ inches long, double it around the stalk of the runner close to the plant, and then with a small pointed stick press the shred into the soil of the pot so deeply that the plant itself is brought down to the soil, and, indeed, partly covered by it. It should be so low that while its base is covered the heart or centre of the plant is not. In inserting the runner another important point to bear in mind is that of making the plant firm. Indeed, throughout the culture of the Strawberry this must be practised if a successful issue is to result. Satisfactory crops of Strawberries were never yet obtained from plants not made firm in the soil, no matter at what stage of their development, whether as runners in small pots or as established plants in fruiting pots. If the runner is placed as deeply as mentioned above, and the shred is made secure in the soil, there will be little danger of the plant not being firm. Supposing sufficient plants to be obtained by layering one only from each stalk selected, the remaining ones should be cut off, so that they may not interfere with the development of the layered one. Make a point also of choosing the firmest and most

vigorous runners, for they will make the best plants. When sufficient plants have been secured, there remains but little to do until they are ready to be transferred to the fruiting pots. The thing to attend to is, of course, the watering, for upon the proper performance of this duty will largely depend the plant's progress. It has been before mentioned that they require a great deal of water during the period that elapses between layering and repotting. And this is due, as may be easily understood, to their being in quite small pots, which become quickly filled with roots, and that the season is the hottest part of the year (the months of July and early August). Early morning and again in the afternoon are the best times to give water to the plants, for then it has an opportunity of soaking through the soil and so reaching all the roots. If given during the middle of the day the water is dried up so quickly that the roots can derive practically no benefit from its application, and very shortly afterwards the soil is as dry as before the water was given. The number of times that it is necessary to water the runners will depend entirely upon the weather, whereas one day once would suffice, three waterings would not be too many on another occasion. Whatever the number the layers, as we may now call them, must never be allowed to suffer from drought. To facilitate watering a tub fixed on two wheels and a framework, with handles to enable it to be pushed along easily, is in use in many gardens, and proves most convenient.—Ed.]

NOTES ON NEW PLANTS.

A NEW CHILIAN ORCHID.

(*Chloroea crispa*.)

IN the Orchid house at Kew there are now (May 24) in flower several species of Chloroea, a large genus of terrestrial Orchids, peculiar to extra tropical South America. Many of the species have long been known to botanists as strikingly beautiful plants, but no effort has ever been made to introduce them, although two or three species have been imported by chance and have flowered in this country. Dr. Lindley figured one of these (*C. virens*) in his *Botanical Register*, 1845, t. 49, where he remarks that "now that the possibility of cultivating these plants has been shown, and that they are found to be not more difficult of management than a *Spiranthes*, it is to be hoped that some pains will be taken to procure their roots. They are as common over all the subalpine country between Concepcion and Valparaiso as the meadow Orchises here." The late Miss Marianne North went into raptures when she saw them in Chili eighteen years ago when on a flower-painting expedition to that country. She described the "Embothriums, Ourisias, Lapagerias, Mutisias, Fuchsias, Alstromerias, Amaryllis, and ground Orchids exceedingly lovely, with exquisitely fringed petals, which it would pay one of our great gardeners to import and cultivate."

There is no greater gardener than Mr. Elwes, and we owe the plants now in flower at Kew to his visit to Chili two years ago when he brought back with him roots and seeds of many interesting and beautiful plants. Among them are three of the Beeches peculiar to that country, a probably new *Embothrium*, and various bulbous and herbaceous plants. He found the Chloroeas "at sea level in black volcanic, sandy soil, very loose and dry, the fleshy horizontal roots 3 inches or 4 inches underground, and the flower-spikes 2 feet to 3 feet high." At Kew they have been grown in Belgian leaf-mould in a greenhouse.

The species here figured is the best of the three. It has a flower-spike 2 feet high and

flowers which in size and expression are not unlike those of the white *Watsonia*, being pure white, the lip elegantly fringed along the margins and on the crest in front. We have yet to find out what will be the effect of flower production on the health of these plants. I suspect that *Chloræas* under cultivation will be like the African *Disas*, which grow well and flower freely in some localities and not in others.

W. W.

GARDENING OF THE WEEK. INDOOR GARDEN.

PRIMULA SINENSIS.

YOUNG plants pricked off some little time ago should now be placed singly in small pots, using a mixture of equal parts loam and leaf-soil, with some finely broken charcoal and silver sand. Care is necessary to avoid potting the plants too deeply or they invariably suffer from damp; while, on the other hand, if potted too high they are apt to move and continually break off. To prevent this the plant must be tied lightly to a very light stake or small twig, or two short pegs may be used for support, one on each side the stem of the plant. Keep the plants near the glass

in a somewhat close cold frame or pit, ventilate carefully, and shade from bright sun. Layers of the double varieties should by this time be well rooted, and where this is the case take them from the old stools, retaining intact the small balls of soil into which the young roots have worked, both while removing the young layers and during the process of potting them; afterwards give them the same treatment as the seedling plants.

POINSETTIA PULCHERRIMA.

Cuttings put in a short time ago should now be ready for potting off. Use a light sandy compost for the purpose, and place them singly in small pots. When potted give a light position near the glass in a warm house, and until established shade them from bright sun. Liliams for late summer blooming will require a top-dressing as soon as the roots from the top of the bulbs are seen. Loam, leaf-soil, and a little fine dry cow manure make a good top-dressing for this season of the year. Keep the growths tied up to neat painted stakes, and a sharp look-out for aphids on the points of the growth. Dust them occasionally with tobacco powder, to be followed in a day or two by a good syringing with weak soft soap water, and shade them from strong sun.

LILY OF THE VALLEY.

Retarded crowns should be potted up as soon as they arrive. Plunge the pots to the rim in fine ashes in a cold frame, keeping them close until the crowns have started freely, which will be in a very few days, then ventilate moderately. They can safely be had in bloom in three or four weeks. Retarded crowns start with remarkable uniformity. Keep them moderately moist, and shade in bright weather. As the hard-wooded section of

ERICAS

pass out of bloom prepare for repotting such as require more root space, first picking off all old flowers and seed vessels that may have set, and remove any dead shoots and foliage. Select sound hard peat, which must be broken up by hand into pieces about the size of a pigeon's egg. To this add one-eighth finely broken charcoal, also sufficient coarse silver sand to render the whole porous. Turn the plants out of their pots and remove the drainage so as to interfere with the roots as little as possible, and prick round the side of the ball with a sharp-pointed stick to liberate a few of the roots. Select perfectly clean or new pots: if the latter soak them in water for two hours and allow them to become quite dry before using. Particularly guard against using too large pots. The pots must be well drained as the plants require to be potted very firmly. Work the fresh soil quite down to the bottom of the ball, and make firm

each layer of soil as it is put into the pot. Leave an extra space on the surface for water, as it percolates slowly through the firm soil, and to allow a plant to become dry in the centre of the ball is almost sure to prove fatal. *Aphelaxis*, *Phenocomas*, *Dracophyllums*, and *Hedaromas* require practically similar treatment.

Wendover.

J. JAQUES.

CHRYSANTHEMUMS.

GENERALLY the plants are looking remarkably well this season so far, and provided they receive the necessary attention onward good results should follow. All that I have seen appear healthy and robust, very different to what we often notice at this time of year. Those cultivated strictly for producing exhibition flowers, whether for competition or for home decoration, must receive unceasing care. Personal attention must be given, without which one can never expect to succeed; the grower may have plenty of labour and every convenience, but the man placed in a much less favourable position who devotes his spare moments to their interest will often succeed best. There is certainly no class of plants cultivated in pots which needs closer attention during summer than the *Chrysanthemum* when perfection is to be hoped for.

SUMMER QUARTERS.

Plants which were duly shifted into their flowering pots and placed close together will now have recovered from the slight check, for however carefully this is performed the roots are certain to suffer somewhat, and should be arranged in the open. The site will no doubt have long since been decided upon, but in any case it should be an open and sunny one, and if protected somewhat from the west winds so much the better. Opinions differ as to the best way of arranging them. Some prefer them in blocks and others in long rows by the sides of the garden paths, but it is not always that one has the choice, consequently circumstances will have to decide this. Personally, I prefer the latter plan, as generally more air and light can reach them, and their wants are more easily attended to. Where both Japanese and incurved are cultivated the first-named should be given the most sunny position, as the incurved varieties develop their flowers more kindly when the wood is not over-ripened. Stand the pots on 9-inch boards, care being taken to make them perfectly level, and avoid overcrowding. Allow sufficient room for the sun and light to reach the whole of the growth. The plants should be securely staked and fastened to strong stout cords stretched to neat posts, and well driven in the ground at a moderate distance apart. This is a very important rule to observe as the pressure of wind on long rows of well-grown plants is very great.

WATERING.

The greatest pains must be taken about this, until the pots become filled with roots especially. This can only be thoroughly accomplished by examining them two or three times daily in hot weather, and on no account give any till the plant is in need of it. When any is given make quite certain that the whole of the soil is thoroughly moistened by filling up the pots at least twice, and should a plant by any chance become very dry place the pot up to the rim in a vessel of water for half an hour.

SYRINGING.

Frequent damping of the foliage and about the pots during hot days does much to promote a healthy growth. The points of the shoots should be dusted once a week with tobacco powder during the evening and thoroughly syringed out the following morning. Green aphids is almost certain to infest them at this season, and, though the injury may hardly be apparent, if allowed to go on unchecked the foliage will develop imperfectly. Traps should be placed about the plants for earwigs in good time. Pieces of Broad Bean stalks about 6 inches in length make an enticing lodging place for them. Examine them every morning and blow them into a vessel of hot water. E. BECKETT.

Aldenham House Gardens, Elstree, Herts.



THE NEW CHILIAN *CHLORÆA CRISPA* AT KEW. (About natural size.)

FLOWER GARDEN.

THINNING ANNUALS.

THINNING is one of the most important points in the cultivation of annuals, and in many cases but very little attended to. They are oftentimes thickly sown and allowed to run up into flower without being thinned at all, and the result is just the same as would occur in the case of a thickly-sown bed of Leeks allowed to grow without thinning or transplanting. As soon as they can be easily handled thinning should be done. The more upright-growing varieties, such as Larkspurs, for instance, will not require so much thinning as those of a more spreading or branching habit; but they should all be sufficiently thinned to allow each plant to develop itself properly. After the operation of thinning slugs are sometimes very troublesome; the best way to deal with such enemies is to look over the beds at night, and morning especially, and catch and kill as many as can be found. Lettuce leaves laid down among the rows will decoy them, and if looked over every day in this way they will be mastered.

AGAPANTHUS UMBELLATUS.

This should be found more often than it is in our flower gardens; its foliage is very lovely at all times, while it yields large umbels of blue flowers that last in bloom for a long time. It is easily propagated by dividing the plants; this should be done just before they start into growth. A

beauty of the plant is lost. Many of these plants die off during the summer months, especially where the ground is dry and hot and the sun has most power. A good mulching should now be given. *C. graveolens* is a yellow-flowered species from China, flowers in July, and is of rapid growth. It is one of the most interesting of the *Clematis* family, and should have a place in every collection.

T. B. FIELD.

Aswellthorpe Hall Gardens, Norwich.

THE FRUIT GARDEN.

ORCHARD HOUSES.

THE weather at the present time is highly favourable to the colouring and ripening of Peaches and Nectarines in the early forced houses, and with the judicious use of water and liberal ventilation the flavour also should be good. When the fruit begins to soften for ripening syringing may be discontinued and the supply of water to the roots considerably reduced, but at no time must watering be left off. Trees which have rooted into beds or borders should not be disturbed, and the pots, after being well watered, should be heavily mulched. When the time arrives for gathering the fruit, remove every Peach before it is ripe enough to fall from the tree, place them in shallow boxes well bedded with soft, dry moss, and convey them to a dry, airy fruit room for use when in condition. In the late or general house fruit of all kinds is now

Many people make a rule of pinching the point out of every shoot to induce a fruitful habit; but this end can be better attained by partly lifting and replanting the tree at the fall of the leaf, by thinning out all shoots which have reached the extremity of the trellis at the winter pruning, and by laying in at full length the young growths of the current year. When treated in this way Fig trees become perpetual bearers, as they are constantly growing and producing a fruit at the base of each leaf.

HARDY FRUIT.

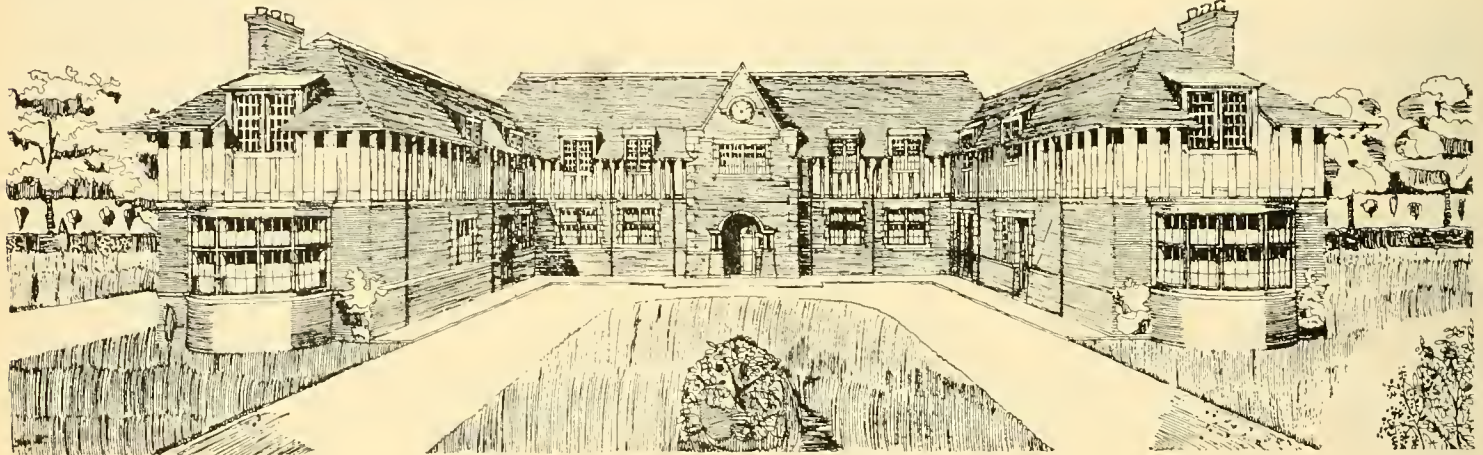
With the exception of Peaches and Nectarines, which are tolerably clean, fruit trees of all kinds are infested with insects, therefore timely and continuous washings with the engine must be kept up until they are brought under subjection. It is a common mistake to suppose that trees trained on the full extension principle are very liable to make gross growth, but such is not the case, at least in our experience. If the broad copings have not been removed, frequent syringing will be necessary; it is highly beneficial to the fruit and foliage, and copious waterings on well drained borders will be found a powerful aid in keeping the trees clean and healthy.

WILLIAM CRUMP.

KITCHEN GARDEN.

PEAS.

To maintain a supply of these as late in the autumn as possible should be the aim of every gardener,



THE NEW BOTHERIES AT WINDSOR.

fairly good, rather moist, soil is required to grow it to perfection. It must have plenty of water in the growing season, and should never be over crowded with other things. In winter all the protection that is needed is to cover up with coal ashes or Coconut fibre.

THE GENTIANELLAS.

Few plants are more charming than these. They form dense tufts of dwarf foliage, studded over with brilliant blue flowers. I have never seen them look better than this season. *G. acaulis* thrives most luxuriantly in rich loamy soil, and *G. verna* will grow freely in a tenacious loam approaching to clay. To bloom well the plants must be freely exposed to the sun; neither of them will flower freely if removed every year. When it becomes necessary to remove them it should be done immediately they have done flowering, and in patches, with soil to each patch, and care should be taken to lift the roots entire, using loam and leaf-soil, in which they will root freely. After planting they should be well watered, keeping the soil firm and moist around them.

THE CLEMATIS

delights in a cool, sheltered situation, and in a deep, rich, fibrous soil. These plants can hardly be surpassed for training on rockeries, stumps of trees, fences, or trellises. Those of the Jackmani group flower on the new wood, and should now have attention, for if left only for a little while the young growth becomes entangled, and much of the

swelling freely, and a good syringing twice a day is indispensable. Use soft water if it can be obtained, and see that every part of the tree is well bathed, otherwise aphid and spider will soon appear.

PEACHES, PLUMS, AND CHERRIES.

Pay daily attention to pinching and thinning where strong upright growths are robbing the lower parts of the trees. Give an abundance of water to the roots and stimulants where feeding is considered necessary. As the fruit gets more advanced and the stoning process begins, frequent additions of the richest mulching material and constant feeding with warm, diluted liquid may be indulged in without fear of forcing a gross growth, as is sometimes the case when this treatment follows immediately after the flowering period. Thin out the fruit of Peaches, Nectarines, Pears, and Cherries where too thickly set, always bearing in mind that light crops of fine fruit give the greatest amount of satisfaction to producer and consumer, and pay best when sent into the market. If Strawberries still occupy the shelves an effort should be made to keep them quite clear of the trees, and in a position favourable to copious feeding and good syringing without fear of injury to the permanent occupants of the house.

FIGS.

Go over the trees once a week and thin out all superfluous growths. Keep all leaders neatly tied in, and do not allow the foliage to become crowded.

for they are highly appreciated at that time. In the northern counties the last sowing of late varieties should have been made before this, but some of the early varieties may be sown at this time for producing pods quickly. These must be sown on a cool border and given liberal cultivation throughout. In salubrious districts further south some seed of *Autoerat*, *Ne Plus Ultra*, or *Carter's Michaelmas* may still be sown in trenches, and provided the weather remains sufficiently open many pickings may be had from them throughout a great part of October. Those Peas that are up 3 inches or 4 inches should be moulded up and staked, and a few days afterwards apply a mulch of manure on either side of the rows. Apply clear and manure water copiously during dry weather in order to maintain a vigorous unchecked growth; 6 feet or 7 feet should be allowed between the rows, this will allow of sowing either one or two rows of Spinach or other quick-growing subjects down the centre.

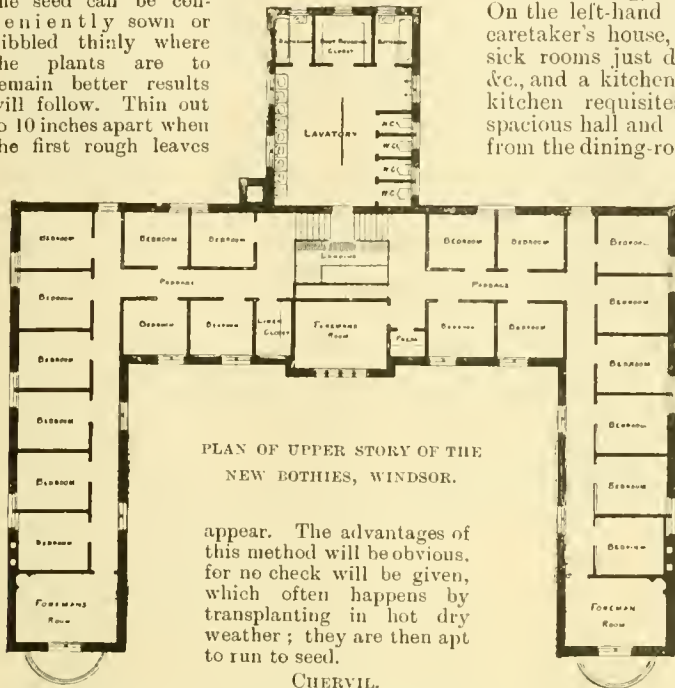
LEEKS.

The main crop should now be planted either in shallow trenches or by making holes 3 inches in diameter at the top with an iron bar and dropping the young plants into them. The latter method answers well for the main crop for ordinary kitchen use, and the blanching of the stems is brought about naturally by the soil falling in and filling the holes as the plants grow. I have grown excellent well blanched Leeks by this method, but it is

essential that the plants be strong at the time of planting, so that when the roots rest upon the bottom of the hole the tops protrude above the ground level.

ENDIVE.

A little seed should be sown at intervals of two or three weeks. A partially shaded spot should be chosen for them, and if the seed can be conveniently sown or dibbled thinly where the plants are to remain better results will follow. Thin out to 10 inches apart when the first rough leaves



PLAN OF UPPER STORY OF THE NEW BOTHIES, WINDSOR.

appear. The advantages of this method will be obvious, for no check will be given, which often happens by transplanting in hot dry weather; they are then apt to run to seed.

CHERVIL.

In many establishments this herb is much called for, and it is a simple matter throughout the summer and autumn to have an abundance by sowing a small patch every few weeks.

PLANTING BRASSICAS.

Too often these are left in the seed-bed too long; if possible it is good practice to prick out at least some of them, if only 3 inches apart, for a period of two or three weeks until they can be finally dealt with. If only the time can be spared the operation will repay the cultivator a hundredfold. Such plants of the Brassica tribe as are wanted for producing their respective crops in autumn and early winter should now be put out with as little delay as possible. These comprise Brussels Sprouts, Autumn Giant Cauliflower, Snow's Winter White, and Self-protecting Broccolis, and Early Ulm Savoys.

Stonleigh Abbey Gardens. H. T. MARTIN.

MISCELLANEOUS.

THE NEW BOTHIES AT WINDSOR.

SOME time ago several notes appeared in THE GARDEN on the subject of gardeners' bothies. His Majesty the King has shown a deep interest in this matter, as in all others pertaining to the welfare of his subjects, and recently there has been erected in the Royal Gardens at Frogmore, as part of the reconstruction of the gardens, a bothy which may be truly said to be a Royal bothy. This building, the details of which have had His Majesty's special approval, has accommodation for twenty-four unmarried gardeners. It occupies three sides of a square, and is two storeys high. On the right of the main entrance, over which there is a handsome clock, there is on the ground floor a dining-room 25 feet by 30 feet, a reading and recrea-

tion-room 27 feet by 15 feet, and isolation or sick rooms with separate entrance. These latter comprise a bedroom 11 feet by 10½ feet, a sitting-room 16 feet by 15 feet, with large bay window, and a bathroom, lavatory, &c. This suite of rooms, which may be called a small hospital, is entirely cut off from the rest of the building, and is complete in every way. On the left-hand wing of the building is the caretaker's house, which corresponds to the sick rooms just described, also stores, larder, &c., and a kitchen 25 feet by 21 feet, with all kitchen requisites, cooking range, &c. A spacious hall and staircase divide the kitchen from the dining-room, but a connexion between

them is provided by a service passage behind the staircase. The sleeping accommodation for the men is on the upper floor. Each man has a separate bedroom, about 10 feet by 8 feet, ensuring absolute privacy, and there are three larger rooms for the accommodation of the foremen, these measuring about 15 feet by 10 feet. All the rooms open into a wide corridor running round the building. Behind the main staircase is a lavatory, 27 feet by 19 feet, with two bathrooms, nine washing basins, &c., and a boot brushing-room. Underneath the lavatory and the dining-room, covered by a steel and concrete floor, is the stokehole and the boiler house for the east section of the garden. This is 40 feet long by 19 feet wide, and the stokehole part is about 17 feet high and abundantly lighted. The entire work has been carried out by Messrs. Mackenzie and Moncur, Limited, hothouse builders to His Majesty.

The whole of the bothy has been well finished, and every care taken to ensure the health and comfort of the men. It is practically fireproof, and a complete system of hot water heating and hot water supply is installed throughout the building. All the rooms have been most comfortably furnished, and an abundance of good books and many fine pictures have been supplied from Windsor Castle.

FLOWERS AT THE ROYAL ACADEMY.

OILS.

OF flower studies that are studies of flowers solely there are few of great merit in the galleries devoted to oil-paintings this year, but flowers play a not unimportant part in several of the best works by artists of note. In Mr. J. W. Waterhouse's "Wind-flowers" (204) we have a delightful picture of a slight girl struggling in the breeze, the pinkish mauve tints of her wind-blown gown repeated in the flowers she carries in her arms. The work has all Mr. Waterhouse's usual charm. Close by hangs the "Pot Pourri" (209) of Mr. Edwin Abbey, demure maidens engaged in making

Pot Pourri from the heaps of Rose leaves that surround them. The colour is delightful, masses of delicate bright pink scattered everywhere, the effect heightened by the white marble walls around. Yet another picture, in which flowers are very much to the fore is Mr. H. H. La Thangue's "The Violets of Provence" (541). Working in one of his usual quiet colour schemes, Mr. La Thangue gives us a scene, in the foreground of which is a girl tying up bunches of Violets, the flowers lying in bunches at her feet. There is a sober reality about the whole which attracts one greatly, and the colour in the masses of Violets themselves will not easily be forgotten.

Turning to flower studies proper, two noticeably good paintings by Miss M. Helen Shaw are "Peonies" (313), a decorative arrangement of creamy-pink Peonies against a dull green background, a very pleasant scheme of colour, and "An Autumn Study" (480). This work might be called a study in silver and gold, being gracefully arranged sprays of silvery Honesty and orange Cape Gooseberries, set up in a Chinese jar, repeating and emphasising the orange-red colour, the whole skillfully worked out.

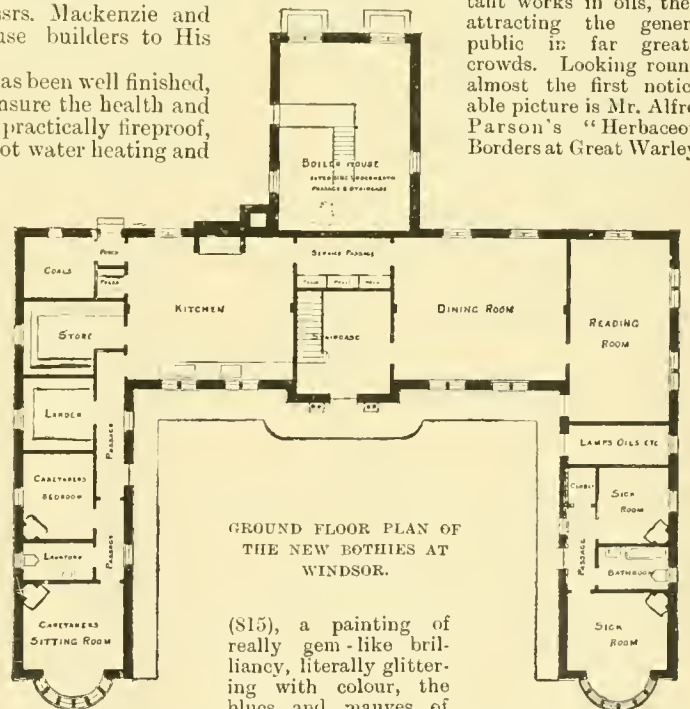
Miss Catherine M. Wood's flower paintings are always worth attention, and her "Wallflowers" (177) are very good.

"Carnations" (187) is a decorative little study in which the colour is very brilliant and pleasing, the delicate bright colours of the Carnations being thrown into relief by a dark screen.

Two fresh bright paintings of blossom in landscape are Mr. David Murray's "June" (50) and "The Pear Orchard" (192) of Mr. Alfred Parsons, and in "After Rain" (256) Miss Hilda Montalba gives us a charming study of Birch trees in a misty atmosphere, a quiet little landscape altogether pleasing.

WATER COLOURS.

The flower-lover can spend an hour very happily in the water-colour room. One uses the word "happily" advisedly, for, apart from the distinct interest of the paintings of flowers and gardens, it is possible to walk round in leisurely fashion and really see and enjoy the pictures, a feat impossible of accomplishment in the galleries devoted to the larger and more important works in oils, these attracting the general public in far greater crowds. Looking round, almost the first noticeable picture is Mr. Alfred Parson's "Herbaceous Borders at Great Warley"



GROUND FLOOR PLAN OF THE NEW BOTHIES AT WINDSOR.

(815), a painting of really gem-like brilliancy, literally glittering with colour, the blues and mauves of Delphiniums predominating. Miss Maude Angell's picture of "Roses" (890) is a delicately drawn little study, very pure in colour, each separate Rose is insisted on rather too much perhaps, but the colour is really delightful. In direct contrast to this rather over-insistence of

detail is Miss Edith Tye's "Pinks" (898), hanging near by. Here the artist has contented herself with what is merely an impression of Pinks, cool, green tones predominating the whole, it is distinctly satisfactory, though very slight.

Miss Helen Thornycroft is one of our very best flower painters, and one would have liked to see a little more of her work here, "Harebells" (933) being her sole exhibit, however. This one picture is charming alike in colour and drawing; it might be called a "mauve" scheme, the Harebells being here and there lost in the background of delicate mauve colour and then working up into deeper blues, those in the foreground reaching their deepest colour; mauves are softly blended in the colouring of the iridescent glass they are placed in. It is quite a small picture, but perfect in its way.

Miss G. E. Offord has a study of "Horse Chestnut Blossoms" (949) of good colour, somewhat spoilt by the purplish background. The "Roses" (990) of Miss Stock is a pretty bit of colour, being a wealth of pink Roses blooming in the open air. Mr. Ernest Shepard has a delightful little "garden" picture, "They toil not, neither do they spin" (1020), a restrained and gentle study of Madonna Lilies, quiet and restful in colour, and finally two small landscapes worthy of notice are Mr. C. J. Adams's "Under the Beech Trees" (850) and "Spring" (1060), the brilliant sunlight gleaming through the trees in the first mentioned being very well rendered.

THE LATE MR. A. F. BARRON, V.M.H. APPLE AND PEAR CONGRESS REPORTS.

A SUGGESTION.

Now that the good work of this distinguished pomologist is fresh in our minds it seems a most appropriate time to suggest that his labours at the Apple and Pear congresses, held at Chiswick in 1883 and 1888, be brought prominently before the rising generation of gardeners, so that the good and enduring work he then performed in reducing order out of chaos in these popular fruits should have the widest publicity. At present Mr. Barron's labours in the direction indicated are buried in the Royal Horticultural Society's Journal. It would be a good thing if the council issued these reports at no distant date in book form at a popular price. And out of this suggestion arises another, the carrying out of which would help the Gardeners' Orphan Fund, for which Mr. Barron worked so nobly and successfully. Supposing the suggestion of bringing out the Apple and Pear congress reports in cheap book form be carried out, let the proceeds be applied to what might be called a Barron Memorial in connexion with this fund, which, it must be confessed, does not receive the support of gardeners. The younger gardeners want rousing on the matter.

The finances of the Royal Horticultural Society are now, fortunately, placed on such a sound footing that the profits made by the society on such a publication would doubtless, having regard to the good object in view, be generously given.

Quo.

THE WEATHER IN GLASGOW. 1902.

MR. JAMES WHITTON, Superintendent of Parks, Glasgow, publishes each spring a booklet which gives an interesting record of the weather experienced in Glasgow during the previous year. The notes are compiled from records kept at Queen's Park. We extract the following particulars from Mr. Whitton's remarks:—

"Regarding the rainfall of 1902, we find, on comparing the records of previous years, that the amount registered was 30.82 inches. This quantity is much below the average of the past twelve years, which is 36.52 inches. Only once in the period named has there been a lower rainfall, when in 1895 the amount, 27.57 inches, was abnormally low. The number of dry days during the year was 185. For the third year in succession December proved to be the wettest month of the year, with a total of 4.84 inches. In 1901 the amount was 4.50, and 1900, 7.71 inches. April

belied its reputation for showers, proving to be the driest month of the year, with the abnormally low rainfall of 0.83 inch. The driest month of 1901 was February, with a rainfall of 1.40 inches. The wettest day of the year was August 27, when for the 24 hours the amount of rain registered was 1.08 inches. This amount for one day was exceeded both in 1900 and 1901.

"The thermometer was at or below freezing-point (32° Fahr.) on 65 days, and frost was registered on 50 days to the extent of 392°. In 1901 frost was registered on 57 days, and the total was 327°, while the freezing-point was reached 78 times, both years being pretty nearly alike on these points. The lowest readings of the thermometer occurred in February, when 21° of frost were registered on the 13th, and 22° on the 14th. The lowest reading in 1901 was 17° (15° of frost), on November 16. On eight days the temperature did not rise above freezing-point during the 24 hours, this happening only twice in 1901, and five times in 1900."

Regarding the general effect of the weather on vegetation, Mr. Whitton says a more unsatisfactory season could hardly be looked for. The prospects of a brilliant floral display and an abundant fruit harvest were rudely dispelled by the untoward weather which prevailed when the trees were in bloom, as the gales stripped blossom and leaf off the plants, and also shortened the flowering season. Rarely, indeed, were the promises so good and the results so meagre as regards the fruit crops. The cold sunless season has had its effect on perennial plants, and the growth generally is below the usual standard.

BOOKS.

The Rose Garden.*—It is a keen pleasure to receive the tenth edition of so famous a book as "The Rose Garden," written by that veteran rosarian Mr. William Paul, founder of the well-known nurseries at Waltham Cross. The book is in two divisions, one division embraces the History and Poetry of the Rose, the Formation of the Rosarium, and a detailed account of the various ways of growing the flower. It is brightened with twenty-one coloured plates and numerous engravings in the text. The second division contains an arrangement in natural groups of the most esteemed varieties, English and foreign, with full descriptions and remarks concerning their origin and methods of culture, illustrated with twenty-one full page engravings. The plates of the Banksian Rose Intea or yellow, Hybrid Perpetual Merveille de Lyon, H.P. Star of Waltham, and the Tea-scented Corallina are excellent. The information is, of course, as sound and as practical as the most ardent Rose grower could desire. It is the outcome of a ripe experience. We have recently received several letters about the orange fungus upon Roses, and give the following extract from Mr. Paul's book to show its practical worth: "Orange fungus, sometimes known as red rust, is a frequent visitant in some districts. When observed under the microscope and enlarged 200 diameters it is seen as a densely compacted mass of jointed orange-coloured clubs. The clubs grow by forming new joints at the bottom, and constantly push off the top joints, which in turn germinate and reproduce the fungus. . . . It is curious to note that as upper joints become mature they become finely hairy or spinulose. . . . This early condition of orange fungus is known to botanists as *coleosporium pinque*. As autumn approaches, the orange tint of the *coleosporium* fungus becomes replaced by an intense brown or black hue, and this black colour is a sign that the mature condition of the fungus is reached on the now dying leaves. . . . When in a very infantile state orange fungus is pale sulphur in colour, or even cream-coloured. This very early condition, seen just before the development of the orange colour, is known as *Lecythea rosæ*. Orange fungus in its different stages is not confined to garden Roses, for it grows with great virulence on many of the wild Roses of our hedges; our gardens are there-

fore frequently infected from wild Roses. As orange fungus grows within the substance of the foliage and stems it is impossible to reach it with any mixture from the syringe. In places where this pest frequently occurs care should be taken to gather together and burn the dead Rose foliage of the autumn. By this means the resting spores of the fungus may be destroyed, and there will be less chance of the recurrence of the fungus in the following spring. In bad cases some of the resting spores will remain upon the leafless stems and branches of Rose plants; these may be syringed off, but they will probably retain their vitality upon or in the ground unless some poisonous solution is used. The following infusion has produced good results: Four ounces of Hellebore root to half a gallon of water, then dissolve half a drachm of bichloride of mercury in a little spirit, and add this to the solution with half a gallon of lime water." The book is well bound, excellently printed, and is just the kind of present to make to a gardening friend.

Le Livre d'Or des Roses.—The second part of this sumptuous French work upon Roses contains many interesting chapters, that upon the perfume of Roses in particular. The coloured plates are numerous and for the most part good, and represent the following varieties: Maréchal Bugaud, Alfred K. Williams (which, however, does scant justice to this famous exhibition Rose), Anna Alexieff, Mlle. Eugénie Verdier, Georges Moreau, La France, Mme. Gabriel Luizet, Magna Charta, Marie Baumann, M. Boncenne, Préfet Limbourg, Prince Camille de Rohan, Princess Louise Victoria, Princesse Mary of Cambridge, and *cristata* (Moss). Many of the flowers shown appear unusually small, but this is due probably to the selection of quite natural growths, with no desire to set forth the characteristics of an exhibition bloom. This is noticeable in the plate of that famous Hybrid Perpetual A. K. Williams. The work may be obtained from M. Lucien Laveur, 13, Rue des Saints-Pères, Paris.

A Text-book of Botany.†—The responsible authorship of this book may be attributed no doubt to Dr. E. Strasburger, the well-known Professor of Botany in the University of Bonn. For many years he has been eminent for the high character of his work as an investigator and for the keenness of his devotion to botanical science, as well as for the valuable publications by which his name is familiar. It is, therefore, not surprising, especially as three other professors have collaborated, that this work should stand—as, indeed, it does—in quite the first rank of botanical text-books. All the German editions of this work, as well as the first English edition, have been greatly sought after by students, so much so that I am now unable to see any of them for purposes of this review, because all the volumes have been taken out of two important libraries in which I might have found them. It may therefore be taken for granted that this new edition will meet with an extensive demand. I find references in it to publications of the present year, so that it is brought well up to date. The book is well got up, the illustrations are good and numerous, many, indeed, not of the ordinary run in text-books, and there is the very attractive and useful feature of coloured illustrations. There are over fifty of these; many are exceedingly good, and but one or two fail, as does that of Foxglove, to well represent the plant. Much admiration must be expressed for the system of copious references throughout the work to the extensive lists of publications at the end. Accompanying an important statement is a number in brackets, by which the original publication may be found, and this must be of great value to the advanced student. Another good feature exists in the plan of giving important words and sentences in larger type, so that it is

* "The Rose Garden." By William Paul, F.L.S. Tenth edition. Published by Simpkin, Marshall, and Co., 4, Stationers' Hall Court, London.

† "A text-book of Botany." By Dr. E. Strasburger, Dr. Fritz Noll, Dr. H. Schenck, and the late Dr. A. F. W. Schimper. Translated from the German by H. C. Porter, Ph.D. Second edition, revised with the fifth German edition, by W. H. Lang, M.B., D.Sc. London: Macmillan and Co. Price 18s.

easy in the first place to observe and afterwards to find them. The work is well translated, and there are apparently no points of obscurity such as are sometimes found in translated works. Occasionally one does meet with a sentence originally intended for Germany alone which might have been made to include Great Britain; and why, for instance, could we not have had "lower new red sandstone," or whatever the best rendering may be, instead of the German word "Rothliegende?" Certainly the spelling should have been rendered in conformity with English usage. We can hardly be expected to approve *Pirus* in the place of *Pyrus*, or *silvestris* in the place of *sylvestris*. The use of the word metamorphosis with reference to the different forms which roots assume is perhaps unusual. It should rather refer to change of form accompanied by change of function, and in this we are confirmed by Mr. Daydou Jackson, who gives the meaning as "change of one organ into another." A good feature of the work is the systematic index of officinal and poisonous plants, in which the plants officinal in Germany, Austria, or Switzerland are indicated. Why, however, in this translation should the British Pharmacopœia be ignored? Some plants, such as Lily of the Valley, are marked as poisonous, of which no one need be afraid on that account. *Ethusa Cynapium* is marked as poisonous, but it has been claimed and perhaps demonstrated that this is a libel. The general plan of the work is all that could be desired, and the different parts appear to be well balanced. The first part is termed "General Botany," and under this head is treated external morphology, internal morphology (histology and anatomy), and physiology. The second part, termed "Special Botany," contains the systematic portion, and the system adopted as the basis of arrangement is that of Alexander Braun as modified and further perfected by Eichler and others. It is a good system from certain points of view, and if regarded as scientifically the most advanced, no other could perhaps have been substituted upon utilitarian grounds. At the same time we may go so far as to say that no work of this kind written in English is complete without an exposition of the system of Bentham and Hooker for Phanerogams. It is used in other countries, but in this country and the colonies it is the universally adopted system; all herbaria and all floras are arranged according to it, and there can be no change for many years to come. It is an exceedingly good working system, and for various reasons it is of great practical importance. In this work the *Caryophyllaceæ* and the *Chenopodiaceæ* are placed as families under the order *Centrospermeæ*—and it is important to be aware of relationship—but in all botanic gardens and herbaria they are placed far apart, and with good reason, from the classification point of view. Some years ago Strasburger endeavoured to solve the problem of how sap ascends in the plant, and in view also of subsequent attempts by others it is interesting here to read the latest information, which is that the cause of the ascent of the transpiration current is still unexplained. There is therefore still an important field for the investigator, and he may probably best begin with Strasburger's discovery of years ago that it does not depend upon life. If it were possible there is much of interest in this work that might be abstracted; indeed, all who know a little elementary botany must find a great deal that is entertaining as well as instructive. On the point of the origin of life the authors apparently believe, in common with some most eminent biologists, that it originated from non-living matter at some period of the earth's history when conditions were more favourable than they are now. There are two strongly opposed camps. In the one are those who believe that life is but a manifestation of



STANDARD PLANT OF RHODODENDRON DELICATISSIMUM.

(In Messrs. John Waterer and Sons' exhibition of Rhododendrons, Royal Botanic Gardens, Regent's Park.)

physical and chemical forces, and who, reasoning from the fact that we can now synthesise many organic chemical compounds which formerly were supposed to be solely of vital origin, feel themselves trembling upon the brink of further discovery, the one step more which shall command the manifestations of life itself. In the other camp are those who believe that there never was a time when life was more certainly unfathomable than it is at present. In conclusion, it must be said that this work includes the most essential knowledge of several special books; it is almost a library in itself, and is, moreover, a guide to botanical literature. It is well worth its price, and should be looked upon as a necessary possession.—R. IRWIN LYNCH, *Botanic Garden, Cambridge.*

A RHODODENDRON EXHIBITION.

IN the delightful grounds of the Royal Botanic Society, Regent's Park, Messrs. John Waterer and Sons, Limited, Bagshot, Surrey, are holding their exhibition of Rhododendrons, as they have done during June for many years past. A dell in the gardens is for the time being transformed into a garden of Rhododendrons. Instead of the grassy banks one is confronted with masses of Rhododendron plants in bloom, in never-ending variety and of the most attractive shades of colour. The centre of the dell is occupied by a large circular bed of some of the very best garden sorts, yet among them one has no difficulty in finding the variety Pink Pearl, without doubt the most lovely of Rhododendrons. Its large yet elegant trusses of rich pink blooms are the admiration of all. Grouped in surrounding beds and borders of various shapes and sizes are other plants, many of them of unusual size and bearing a wealth of flowers. Both new and old varieties are represented in such quantities, and throughout so remarkable a range of colouring as to provide a veritable feast of flowers. Adding to the picturesqueness of the scene are several large standard Rhododendrons, with stems some 4 feet to 5 feet

high, and enormous heads of flower and foliage. One of the finest of these is the variety *Delicatissimum*, shown in the accompanying illustration. Conspicuous among others were Gomer Waterer, a lovely flower with lilac tinge; Michael Waterer, brilliant crimson; Charles Dickens, deep scarlet; Kate Waterer, clear rosy crimson; and Rosamund, bright pink. *Kalmias*, too, are most attractive, and form a pretty edging to some of the beds. Messrs. Waterer's Rhododendron exhibition will remain open throughout June.

EDITOR'S TABLE.

AT this season the flowers of the garden are coming forth abundantly, and we invite our readers to send us anything of special beauty and interest for our table, as by this means many rare and interesting plants become more widely known. We hope, too, that a short cultural note will accompany the flower so as to make a notice of it more instructive to those who may wish to grow it. We welcome anything from the garden, whether fruit, tree, shrub, Orchid, or hardy flower, and they should be addressed to The Editor, 20, Tavistock Street, Covent Garden, London.

WHITE PINKS FROM DAWLISH.

Mrs. Bayldon sends a boxful of fragrant white Pinks, in the way of Mrs. Sinkins, from Oaklands, Dawlish, Devon, with the following note: "I am sending you a handful of Pinks for your table. You may remember that in October, 1901, I cut some from the same plants, stating that they had been in flower since May, being truly perpetual. They are now in a border some 130 feet long. A running river of perfumed snow, which the sun is melting rapidly."

ANTIRRHINUM GLUTINOSUM AND MYOSOTIS RUPICOLA.

Mr. George M. Taylor, Pinkie Hill, Inveresk, Midlothian, sends flowers of these plants, which,

in an accompanying note, are well described as "charming little things all too seldom seen. Both are from seedlings raised here last year. The Antirrhinum does specially well with us." The Antirrhinum is a dainty flower for warm soils, and the shoots sent were very fine. There is much beauty in the soft greyish leafage and wealth of white-yellow centred flowers with dark crimson veining.

FLOWERS FROM KILLERTON, BROAD CLYST, DEVON.

Lady Acland sends a charming variety of flowers from her Devonshire garden. Among them are the following: *Olearia stellulata*, which has been very fine for some time at Killerton. It is one of the prettiest of all summer-flowering shrubs. *Leptospermum bullatum* is another interesting plant with very white flowers, and worthy of note are *Iris graminea* (purplish mauve and dull red), the rich yellow *I. juncea*, *I. Boissieri*, *Azalea indica* (white and red forms), the bright rosy purple *Ethionema grandiflora*, *Lupinus arborea*, and a lovely white variety well named Snow Queen.

IBERIS GIBALTARICA.

A bunch of this was very welcome upon our table. Its colouring is very delicate and charming. It has been flowering at Killerton for eighteen months, and one plant on a wind-swept terrace facing south is a mass of flowers. This plant measures 4 feet 3 inches across.

ABUTILON VITIFOLIUM.

Flowers of this were sent from a plant put in two years ago. It is now 10 feet high and smothered with bloom.

CLIANTHUS PUNICEUS.

This has been in flower with Lady Acland since Christmas. It ripens seeds, from which seedlings have been raised.

EUCALYPTUS COCCIFERA.

Flowers were sent of this beautiful species, which is one of the hardiest of the genus. The soft primrose colouring, downy shoots, and grey leaves are in happy association. A few sprays are a pretty ornament in vase or bowl.

VARIETIES OF ORIENTAL POPPIES.

Mr. E. M. Molyneux, Swannore Park Gardens, Bishop Waltham, sends some remarkable forms of *Papaver orientale*. The most noteworthy were Mrs. Marsh, a bold dashing flower of gorgeous crimson colouring with a black base to each petal; Livermere, another noble flower of warm crimson colouring; bracteata Salmon Queen, brilliant salmon-rose, a clear and pure colour; Semi-duplex, intense scarlet; and Blush Queen, which has flowers of quite a soft lilac shade, but in no sense weak or ineffective. Another very distinct form is Royal, which is a glowing orange shade. All the varieties sent were named and sufficiently distinct to warrant it. Mr. Molyneux also sent flowers of the orange-yellow *Hemerocallis Dumortieri*.

EASTERN POPPY MRS. MARSH.

Mr. Amos Perry, Hardy Plant Farm, Winchmore Hill, London, sends flowers of this handsome variety of *Papaver orientale*. It is scarlet in colour, with white variegation and black base to the petals. Mr. Perry raised this form, which may be considered one of the most distinct departures from the type and not in the least degree "spotty" through this white variegation.

IRIS SUSIANA.

Mr. Field sends from Ashwellthorpe Hall Gardens a flower of this interesting *Iris* with the following note: "This is a very distinct and remarkable looking *Iris*, it blooms early, and makes a good plant for a mixed border. It is one of the tuberous-rooted species, and does best in a good light soil. The plant from which the bloom sent was taken is growing on a border well exposed to the sun. This moderately dry season has suited it well. Some recommend taking up the tubers after they

have done flowering and baking them in the sun; this I have never done. When I find plants of this variety doing well I leave well alone. A wet or shady border, with me, does not suit them. Under these conditions the snails and slugs play sad havoc. I always give a top-dressing of leaf-mould early in spring, and when the plants begin to throw up their flower-spikes and the weather is dry I give them plenty of water. This *Iris* should have a place in every collection."

Mr. Field also sends flowers of

CYPRIPEDIUM PARVIFLORUM,

with the following note: "This is one of the most interesting and at the same time one of the most easy of all the hardy *Cypripediums* to cultivate. It can be grown as easily as most of our ordinary herbaceous plants, and when our rock and bog gardens come to be more appreciated we may hope to see these plants blooming with vigour with many other subjects of similar character. The plants from which I cut the flowers sent are growing in the open border, partially shaded by a high wall from the south and east (not coddled in any way). The ordinary soil was taken out about a foot deep and replaced by peat, loam, and a mixture of potsherds and sandstone finely broken up and well mixed together. After planting a layer of pure leaf-mould is placed on the surface. The plants should be kept free from weeds, and the spot where they are planted should be marked so that no harm comes to them during their resting season. I believe the secret of success in the cultivation of this interesting American *Orchid* is to give it plenty of help in the way of water in the growing season."

KEW NOTES.

INTERESTING PLANTS IN FLOWER.

Temperate House.

AGAPETES BUNIFOLIA, *Alberta magna*, *Anigozanthos flavida*, *Bacchousia myrtifolia*, *Berlandiera tomentosa*, *Buddleia Colvillei*, *Celastrus angularis*, *Dracophyllum gracile*, *Elaeocarpus cyaneus*, *Mitrasia coccinea*, *Phenacoma prolifera*, *Rhododendron Maddeni*, *Scopolia Brownii*, *Solanum Wendlandii*, and *Strelitzia angusta*.

Water Lily House.

Nymphaeas in variety.

Orchid Houses.

Ansellia humilis, *Bifrenaria inodora*, *Bulbophyllum barbigerum*, *Cattleya Aclandiae*, *C. luteola* var. *Roezlii*, *Cirrhopetalum pulchrum*, *Cymbidium rhodochilum*, *Dendrobium devonianum*, *D. superbum anosmum*, *D. trinervium*, *Diplocentrum congestum*, *Disa tripetaloides*, *Epidendrum elongatum*, *E. obrienianum*, *Liparis Bowkeri*, *Lycaste Deppei*, *Masdevallia macrura*, *M. Peristeria*, *Microstylis congesta*, *Oncidium candidum*, *O. divaricatum*, *Ornithocephalus grandiflorus*, *Pelexia maculata*, and *Sobralia Amesiae*.

↑ Range.

Echmea dealbata, *Eschynanthus lobbiana*, *Amorphophallus virosus*, *Billbergia zebrina*, *Carissa grandiflora*, *Gesnera cardinalis*, *Hoya imperialis*, *Hypoxis obtusa*, *H. Rooperi*, *Ilex paraguayensis*, *Jatropha podagrica*, *Pelargonium* in variety, *Physostelma Wallichii*, *Primula imperialis*, *Stenomesson incarnatum* var. *trichromum*, *Tillandsia* in variety, and *Utricularia montana*.

Greenhouse.

Arrhenatherum erianthum, *Begonia ascotensis*, *Campanula persicifolia* var. *Bachhousei* fl.-pl., *C. p.* var. *grandiflora* alba, *Cannas* in variety, *Clarkia elegans*, *Incarvillea Delavayi*, *Jasminum confusum*, *Lantana salvifolia*, *Lonicera sempervirens* var. *minor*, *Nemesia strumosa*, *Schizanthus pinnatus*, *Senecio Heritieri*, *Streptosolen Jamesoni*, and many other things.

Succulent House.

Crassula pallida and *Protea cynaroides*.

Alpine House.

Aster alpinus var. *albus*, *Crepis aurea*, *Dianthus*

callizonus, *Iberis tenoreana*, *Lilium columbianum*, *L. tenuifolium*, *Linaria origanifolia*, *Phyteuma Michellii*, *P. Scheuchzeri*, *Rehmannia glutinosa*, and *Wahlenbergia serpyllifolia* var. *divarica*.

Rock Garden.

Ethionema grandiflora, *Anemone palmata* var. *alba*, *A. rivularis*, *Anthericum Liliago*, *Anthyllis vulneraria*, *Aster alpinus*, *Bulbinella Hookeri*, *Calceolaria plantaginea*, *Chamaelirium carolinianum*, *Cypripedium spectabile*, *Dianthus arenarius*, *D. fragrans*, *D. plumarius*, *D. sylvestris*, *Erigeron flagellaris*, *E. philadelphicus*, *Gladiolus segetum*, *Gypsophila repens*, *Hippocrepis comosa*, *Houstonia cœrulea*, *Meconopsis paniculata*, *Melittis melisophyllum*, *Meum athamanticum*, *Nardostachys Jatamansi*, *Orchis incarnata*, *O. latifolia*, *Potentilla splendens*, *Primula sikkimensis*, *Senecio doronicum*, *Silene alpestris*, *Thalictrum tuberosum*, *Tradescantia virginiana*, and many other things.

Herbaceous Borders.

Adonis autumnalis, *Ethionema pulchellum*, *Allium acuminatum*, *A. atropurpureum*, *A. giganteum*, *A. ostrowskianum*, *A. Schuberti*, *A. subvillosum*, *A. Suworowi*, *Aquilegia* in variety, *Arnica montana*, *Crambe maritima*, *C. orientale*, *Delphiniums* in variety, *Dianthus* (various species), *Fragaria* (various species), *Geranium* (various species), *Geum chiloense* var. *miniatum*, *G. coccineum*, *Hedysarum microcalyx*, *H. neglectum*, *Iris* (various species and varieties), *Lathyrus filiformis*, *L. grandiflorus*, *L. maritimus*, *L. niger*, *L. undulatus*, *Libertia formosa*, *L. grandiflora*, *L. striatum*, *Lychnis Viscaria*, *Potentilla* (various species), *Veronica incisa*, *Vicia Orobus*, and many other things.

Arboretum.

Ceanothus divaricatus, *Jamosia americana*, various species of *Rosa*, *Spiraea*, *Lonicera*, *Cytisus*, *Genista*, *Ononis*, *Jesculus*, *Crataegus*, *Rubus*, *Vaccinium*, and other genera.

SOCIETIES.

NATIONAL AMATEUR GARDENERS' ASSOCIATION.

The day following a Bank Holiday is not a good one for a meeting of horticulturists; at least, in so far as Londoners are concerned. Notwithstanding this disadvantage, the June monthly meeting of this association of amateur gardeners was a thoroughly good one, and, all things considered, was well attended. The meeting was held on Tuesday, the 2nd inst., at Winchester House, Old Broad Street, E.C., the president, Mr. T. W. Sanders, F.L.S., being in the chair. After the reading of the minutes and the election of new members, Mr. A. J. Foster gave a short lecture on "Gloxinias and Streptocarpus" from an amateur's point of view. These were two subjects to which the lecturer had given considerable attention, and his simple and ready way of giving cultural hints appeared to be highly appreciated by those present.

An excellent show was again arranged in the large hall, and was convincing evidence of the comprehensive character of the members' tastes. *Orchids* were wonderfully well shown by Mr. R. Forbes of Tottenham, who won first prize and a certificate for a large collection. Mr. George Hobday, Romford, staged several excellent vegetables and a beautiful silver bowl arranged with handsome trusses of show *Pelargoniums*. Mr. D. B. Crane won Mr. William Sydenham's cup for *Violas*, also first prize for six bunches of hardy cut flowers. *British Ferns* were well shown, a specimen plant exhibited by Mrs. Norton being adjudged worthy of a certificate. *Phyllocacti* made an excellent exhibit, and many other individual exhibits were instructive and interesting. Miss Oliver, Tollington Park, N., was placed first in the class for a table decoration of *Iceland Poppies* and grasses, as well as in another table decoration exclusively composed of wild flowers and grasses. The association is making splendid progress, and holds its annual conversonze on July 7 next, when a capital exhibition is expected.

ROYAL HORTICULTURAL SOCIETY.

DRILL HALL MEETING.

THERE was a bright display of flowers at the Drill Hall on Tuesday last, *Roses*, herbaceous flowers, *Gloxinias*, *Carnations*, &c., and *Orchids* all being well shown. The floral committee made six awards of merit to new plants, while the *Orchid* committee gave three awards of merit and one first-class certificate. None are given by the fruit committee. The lecturer in the afternoon was Miss Bradley, of the Lady Warwick Hostel, Reading, and the subject "Fruit Bottling."

ORCHID COMMITTEE.

Present: Harry J. Veitch, Esq. (chairman), Messrs. James O'Brien, de B. Crawshaw, H. M. Pollett, James Douglas, Norman C. Cookson, W. A. Bilney, H. T. Pitt, A. McBean, F. W. Ashton, W. H. White, E. Hill, W. Boxall, W. H. Young, H. A. Tracy, H. Little, J. Wilson Potter, H. Ballantine, M. Gleeson, and J. G. Fowler.



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PROSPECTS OF EMPLOYMENT IN CAPE COLONY.

ADVICE TO INTENDING FRUIT GROWERS.

FOR capital and energy there is a vast field open in the fruit-growing districts of Cape Colony, as may be learnt from the interesting articles we are publishing on the subject. This undoubted fact is leading many young men—a large proportion of them of good birth and education—to launch forth on an unknown sea of expectancy, hoping that their rudderless skiff may drift somehow into the quiet haven of success. Advices reach us that it is very unwise for a man without resources to go out to South Africa, unless he has made definite arrangements beforehand as to his prospects of employment on landing. It is true that the lack of labour is a burning question, but it is Kaffir labour that is wanted, which the white man cannot give, and the “gentleman” who is wholly unaccustomed to manual work belongs to the class which is, in all respects, least likely perhaps to drop into a suitable post. There is room everywhere, of course, for the capitalist; but there is also room in Cape Colony for the man of modest means who has had special training in his calling, and does not lack pluck and perseverance, who is willing to take his courage in both hands, and not to be cast down by the first or the second disappointment, or it may even be disaster, for these are safe to come. There is room also for the trained expert with no capital other than brain and muscle, if he be willing to go out for a year or two as a learner and not as a teacher. This few men are willing to do. It goes against the grain for an “old hand” to be put into leading strings, but it is the only wise course to follow, and such an one will find it come true in due time that “he who humbleth himself shall be exalted.” Climate in South Africa is different—conditions and methods are different and may well be antiquated and even obsolete to English ideas—and it takes a year or two to shake down into these new circumstances and to sift out the pros and cons, but these details once mastered the day will come when the experience gained in the Old Country and brought into assimilation with the new requirements will bear its own good harvest of rich ripe sheaves. We happen to know of an educated man of good station in life, backed by some years of thorough training in fruit culture, who is content—all honour to him—to work for his board until he can prove that he is worthy to

take a position of trust. This proves, however, that remunerative employment is not to be had in South Africa for the asking. It cannot be too often repeated that there is no royal road to success, even in the Eldorado of our new Imperial Colonies. The colonist must carve out his destiny for weal or for woe with his own hands, and the shiftless, the idle, and the faint-hearted find no place in a new settlement. Without the restraints of civilised life such characters will in all probability sink to a lower level than they occupied at home, unless, indeed, the absolute necessity of hard work becomes their salvation.

But it is not all hard work—colonial life has its compensations. Plenty of elbow room, simplicity of living and freedom from burdensome conventionalities, open-hearted neighbourly kindness, with adequate returns, in the long run, for skilled and reasonable labour and outlay—these go far to make up a happy life. This being so, it is evident that there is a great future in store in the agricultural and fruit-growing districts of South Africa, with good prospects of new homes and wholesome family life for the worthy sons and daughters of the teeming Motherland.

PRESERVED FRUITS.

THE unusually large number of Fellows who gathered round Miss Edith Bradley and listened so attentively to the pleasing exposition of her methods, and those of her able assistant, Miss Crook, at the recent Drill Hall meeting, showed how deep an interest attaches to the subject of fruit preserving, and especially of whole fruit bottling. It is but a side issue, as it were, arising out of fruit culture, but it is a very important one all the same, and the more it develops the greater is likely to be its influence on fruit culture in the future. But Miss Bradley's exposition applied chiefly to fruit preserving, and especially to whole bottling, in a domestic sense. It is not possible for any private person to teach the trade bottler anything. His methods, conducted on a large scale, are already of the most perfect description; but the recent lecture, accompanied as it was by exhibits of preserved fruits in bottles from Lady Warwick's Hostel, over which Miss Bradley presides, from the Ladies' Horticultural College at Swanley, and the small but interesting exhibit sent by Miss Jackson of purely domestic or rural products, served to show that private persons, provided with simple appliances and having a fair knowledge of methods, especially as explained by Miss Bradley, can, with ordinary care, conduct fruit preserving with considerable success. It may not be, perhaps, wise to purchase fruit for home bottling largely, and thus incur some

risk of loss, but with own grown fruit much may be done. To preserve tart fruit in water or dessert fruit in syrup seems to be equally easy. Examples from the respective exhibits named, and those shown by Miss Martin of New York, were tasted by the fruit committee. In the home examples the natural flavour of the fruits was well preserved. Those from America were greatly over sweetened, far too much so for our palates, and Pears kept in alcohol were offensive.

EDITOR'S TABLE.

At this season the flowers of the garden are coming forth abundantly, and we invite our readers to send us anything of special beauty and interest for our table, as by this means many rare and interesting plants become more widely known. We hope, too, that a short cultural note will accompany the flower so as to make a notice of it more instructive to those who may wish to grow it. We welcome anything from the garden, whether fruit, tree, shrub, Orchid, or hardy flower, and they should be addressed to The Editor, 20, Tavistock Street, Covent Garden, London.

CROSS-FERTILISED SWEET PEAS.

Mr. Hugh Aldersey, Aldersey Hall, Chester, sends charming flowers of Sweet Peas, the result of cross-fertilisation, with the following note: “The seed was sown last autumn in pots and wintered in cold frames, the plants being put out against a south wall on February 16. They were caught by the severe frosts in mid-April, and in consequence the flowers are smaller and later than they otherwise would have been, but I was able to gather a good bunch at the end of last month (May). I am a great admirer of the dark shades, and only use those flowers with bold upright habit, such as Duke of Westminster, for cross-fertilising purposes.” The flowers sent were as fine as anything we have seen, and of beautiful and tender colouring, salmon, softest yellow touched with pink, rose-purple, rose-carmine, and other shades, but all very pure and distinct. Added to the charm of colour is that of size, without coarseness, and extreme freedom.

PANSIES FROM SCOTLAND.

“R. P.” writes: “I forward a few seedling Pansies of Messrs. Dobbie and Co.'s strain, groups of which have been beautiful for some time. Compared with named varieties they are less expensive, but not less effective either in the border or for cutting.” A very pretty selection of a well-known strain of Pansies.

ARUNDINARIA SIMONI.

From “A Surrey Garden” comes a boxful of flowers of this beautiful Bamboo. It is very interesting to see such flowers as this from the open garden.

A BEAUTIFUL PEA.

Mr. R. Dean, Ranelagh Road, Ealing, writes: “I am sending a few flowers of a form of Lathyrus

rotundifolius, which I grow under the name of *L. Drummondii*. It is early, very bright, and so wonderfully free blooming as to be a pleasant object in the garden just now." We quite agree with Mr. Dean. The colour is a warm salmon-rose, and in the sunshine very bright and pretty. Its freedom is very apparent by the flowers sent. A good garden flower in every way.

TWO GOOD GRASSES.

Mr. W. B. Hartland, Ard Cairn, Cork, sends two beautiful Grasses with the following notes:—

"THE WOOD RUSH (*LUZULA SYLVATICA*).

"What a beautiful effect this wild plant of the woods has when mixed with either white or yellow-coloured flowers or even pink for table decorations, particularly with the gold of Daffodils, or, later on in the season, Day Lilies. Just lightly place the blooms in a dish or bowl and intermix the sprays with the Grasses. I am sure it could be dyed white like Grasses for wreaths and winter bouquets, and would to my mind be far more effective. Anyone rambling through the woods in spring where Daffodils abound and where the *Luzula* may be indigenous will at once see the effect of it in full flower with the yellow harbingers of April.

"*BROMUS STERILIS* (WILD OATS).

"This is another very useful Grass for mixing with flowers. Why it is called *sterilis* I know not, because it seeds here freely and appears in April and May through the Daffodil and Tulip beds, and parties wanting foliage to go with the blooms desire nothing more effective. Another most telling blend is the bronze-leaved *Epimedium* put with a gathering of *Tulipa fulgens lutea*, or any good May-flowering yellow one."

NOTES OF THE WEEK.

FORTHCOMING EVENTS.

- June 23.—Oxford Horticultural Show.
- June 24.—York Gala (three days); Gardeners' Royal Benevolent Dinner, 7 p.m.
- June 25.—Holland House Show (two days); Isle of Wight Flower Show.
- July 1.—National Rose Society's Show in the Temple Gardens.
- July 2.—Hereford and Reading Rose Shows.
- July 7.—Royal Horticultural Society's meeting; Southampton Horticultural Show.
- July 8.—East Anglian Horticultural Club meeting; Farningham and Croydon Shows.
- July 9.—Woodbridge Show.

Rose show prospects.—We are afraid Roses at the Holland Park show will be poor, and the National Rose Society's exhibition in the Temple Gardens is not likely to prove a record. The outlook is dismal.

Linnaeus and the Gorse.—In the account of the Gorse (*THE GARDEN*, page 391) the old story is repeated of Linnaeus's first view of the beautiful shrub. I should like to know the original authority for the story, which I have never yet been able to find. As the plant grows in Denmark, it seems strange that Linnaeus had not seen it, and the same story is told of Dillenius.—HENRY N. ELLACOMBE, *Bitton Vicarage, Bristol.*

National Chrysanthemum Society.—The annual outing of the members of this society will take place on Monday, July 13, a visit to be made to the gardens and grounds of Park Place, Henley-on-Thames, by the kind permission of Mrs. Noble. Arrangements have been made by which the party will leave Paddington (Great Western) Station at 10.30 a.m. to Reading, calling at Ealing and Slough, and on arrival embark at Caversham Bridge on the River Queen steam launch, and proceed to the landing stage at Park Place. Dinner will be served in the grounds at 2 p.m., after which there will be an inspection of the gardens; tea will be served at 5 p.m., and at 6 p.m. the return journey will be made so as to catch the fast train to London at

8.25 p.m. from Reading, which stops only at Ealing. The cost of return rail and river journey, dinner and tea is 10s. 6d. Tickets can be obtained from the secretary, Mr. R. Dean, Ealing, W.

Heavy Rains.—Damage to fruit crops.—We have received many reports from gardeners and others about the excessive rains and low temperature of the past few days. The Strawberry crop is threatened generally. Land in West Somerset is under water. There will be a shortage in Cider, as the small fruit Apples are below the average. The fruit crop prospects in Devonshire are bad. The Easter frosts ruined the early Apples, and the rains have damaged most of the other crops of fruit. From the East Coast come several reports of early morning frosts. In the Norwich district severe frosts have caused havoc among the fruit. The Plum crop has been damaged by cold winds and drought. For half a century there have not been such bare fruit trees. Early on Saturday morning the Norfolk and Suffolk market gardens were covered with frost. Much damage has been done to Strawberries, Potatoes, Peas, and Beans. The fruit trees in the Lowestoft district have been infested with blight, and there were frosts on Saturday and Sunday. The destruction is widespread, and in many cases the trees themselves are irretrievably damaged.

Photographing at the shows of the Royal Horticultural Society.—We have received the subjoined communication relating to this subject: "Royal Horticultural Society. Dear Dr. Masters,—At the recent meeting of the council, the president mentioned that you had remonstrated with him as to the minute of council of April 21, relating to photography at the society's meetings and shows. After discussion, I was directed to write to you and explain that the council had no intention whatever to lay any stress, much less an offensive one, on the word "must" in paragraph iii. of the minute. All they intended by the whole minute was to indicate the conditions under which permission to photograph was given. The council consider that—if the society brings the plants, &c., together, and it there and then suits the purposes of anyone to photograph them at the show, and the society grants permission to do so—it is not too much to ask for a duplicate block (if block be made from the photograph so taken) to be presented for use in the society's publications (with acknowledgment) in return for the facilities thus created and afforded. The reason for the matter being considered on April 21 was that new applications for permission to photograph came before the council, and they felt that the number of applicants for photographic facilities was becoming so numerous that well defined rules should now be laid down, instead of the haphazard course pursued hitherto as to granting permissions. As a personal matter, I regret that in transcribing the minute of April 21 from notes taken at the council meeting, I omitted to insert after the word "undertake," in paragraph iii., the words ["if requested"] in brackets, which should have been there.—I am, faithfully yours, W. WILKS, Secretary. By Order of Council."

The gardeners' reception and dinner.—(Questions as to the progress being made by the committee promoting this function, which is fixed for Michaelmas Day, are constantly being asked, thus showing how great is the interest aroused by it. We learn that the result of the issue of several hundreds of circulars inviting co-operation has been most encouraging, the great majority of the replies being highly favourable. Already over 100 tickets have been disposed of, and it is anticipated that by September 29 fully 400 if not more will have been issued. With every ticket is sent a card on which the holder is desired to write name and address, that it may be handed in for announcement at the reception. It is most important that in this way everyone attending should secure full recognition. There is also issued a slip giving full information how to reach the Chiswick show, and later to find the place of the dinner. With respect to the original intention of the committee to admit ladies to the dinner, after full rediscussion it has been unanimously

resolved to adhere to this. It is thought that gardeners from the country may in some cases be accompanied by their wives, who may wish to attend. So far as relates to the toast list, which is arranged, various gentlemen have been invited to speak, and in almost every case have readily agreed. There seems to be a general desire to assist in making the dinner a great success. The well-known nursery firm of Messrs. James Veitch and Sons, Chelsea, have kindly offered to decorate the tables at the dinner, an offer which the committee have thankfully accepted. Meetings of the committee are frequent, thanks to the Horticultural Club. All who desire tickets or need information should communicate with the secretary, Mr. A. Dean, 62, Richmond Road, Kingston-on-Thames.

Peach and Nectarine trees ruined by frost.—Fruit growers' troubles are so many that it may appear as if they were the most unfortunate people on the face of the earth, and this year will certainly be a record one as regards disaster, as not only are the crops ruined, but in many cases the trees also. I have never seen such havoc as the severe cold in May caused among tender trees, such as the Peach and Nectarine. I am aware Cherries, Plums, Pears, and Apples suffered badly, but not to the extent of those noted above, as in the last-named cases the crop only was lost; the trees are at the present time recovering, and will make a fair growth for another season. I regret to say several of our trees were so severely crippled that at the present time they are almost leafless and will never recover. Of course the loss of a tree here and there is not so serious, but in many cases a portion of the tree is destroyed. I was much pleased to note early in the spring how well these fruits looked and what a quantity had set, and this is now a thing of the past, as trees without foliage are useless. Such sorts as Early Alexander, Waterloo, Amsden June, and Hale's Early Feaches have most severely suffered. Of course, these are American varieties, and they are valuable for their earliness, giving a supply in advance of the older sorts, but they are certainly more tender than others. In all cases the worst trees are those on the warmest walls, and this is readily explained by their more advanced growth. Trees that have not suffered so much have been badly infested with aphid; indeed, that pest and curled leaves or blister have been so bad that much labour has been required to get rid of the evil. With genial weather we may hope to get good wood on trees that have their branches intact, but the injury has been widespread and severe.—G. WYTHES.

A note on Tufted Pansies (Violas). Autumn-planted tufted Pansies have been flowering profusely for some time past, and where there has been neglect in properly caring for them they are now giving evidence of this fact. To maintain their free-flowering display remove the spent blossoms, otherwise the vigour of the plants will be impaired. The plants need a little occasional rest, and by periodically removing the flowers and buds from the growths, and giving the beds and borders in which the plants are located a thorough soaking, first with clear water and following this with an application of manure water, new vigour is imparted and fresh flowers are produced. Plants infested with red spider or green fly should also be treated in the way described, and at the same time an insecticide should be applied to get rid of these pests. A simple and cheap remedy is that of making a solution of soft soap and water, dissolving two ounces of the former in a gallon of the latter, and when the soft soap has been thoroughly dissolved, and also well mixed, apply the insecticide with a syringe. If the collection of plants be small apply the solution with a sponge, squeezing the latter over the points of the shoots, which will answer the purpose quite as well. Before the sun attains much power on the following morning syringe the plants with clear water, in this way removing accumulations of soapy matter, otherwise the foliage will burn as the day progresses. By treating the plants in the way indicated two or three times in the course of their flowering period a display may be maintained over a very long season.—D. B. CRANE.

A new Richardia.—Mr. W. B. Latham, Botanic Gardens, Birmingham, sends us a flower and leaf of a hybrid *Richardia*, raised by himself between *R. albo-maculata* fertilised with pollen from *R. elliptica*. The large spathe is a rich sulphur-yellow with a dark crimson blotch at the base inside. The leaves are marked with numerous white spots. Mr. Latham writes: "If it has not been raised before I propose to call this new *Richardia R. lathamianum*." We hope shortly to illustrate it.

Acer platanoides Schwedleri at Shipley Hall.—One of the most handsome of coloured leaved trees at Shipley at the present time is a well shaped specimen of the above, some 30 feet or more in height, and well clothed with its bright bronzy leaves. In its present stage it is more effective than the copper-leaved Beeches, as the colour in any light is glowing rather than dull, which is the fault of Copper Beeches generally. The individual leaves are almost as large as those of the common Sycamore, and the tree being of such robust habit one would imagine that it would be much planted for effect among other deciduous trees or as a lawn specimen.—J. C. TALLACK.

American blight in the summer.—I have just been examining some Apple trees that were severely treated for woolly aphis, but, as I half expected, the enemy is again making its appearance. To leave it would be undoing all that has been done before, and instructions are given for dabbing the affected parts with an insecticide applied with a stiff brush. The hint may be useful to others who dressed trees for American blight last winter and think they have got rid of it. Let me advise them to do as I have done, and make a careful examination of the trees. If any of the tell-tale woolly matter is observed let prompt measures be adopted to eradicate it, for it is useless to spend time in the winter in getting rid of the dreaded aphis unless the operations are followed up in the summer in the way I have suggested.—H.

Crown Imperials.—Enquiry was made recently in THE GARDEN as to the policy of lifting these bulbous-rooted plants each year. I think the nurseryman who suggested the annual lifting and drying had little more than a shop and counter experience of the plants in question. In a strong soil, savouring more of clay than of sand, this section of *Fritillaria* may, if well planted, remain four or five years and improve each year. These fine plants easily tower up 4 feet high in such soils, and are, indeed, giants in their way. The soil cannot be too deep, it cannot well be too rich, and the bulbs and corms should be quite 6 inches below the surface. Here in the Hampton district, with light soil over a deep bed of gravel and sand, the roots are planted even lower than this, and cow manure very heavily laid on a few inches lower down. It requires quite a large root to flower at all in this section, and only by letting the bulbs remain can a more certain flowering be relied upon. No plant is more hardy or better able to take care of itself, and given room with the best of soils, as also the deepest, no early plant is more showy. In any case where replanting is necessary it should be done in June or July as above. Amateurs would do well to remember that five minutes out of the soil is about four minutes too long, and that the commercial annual lifting is a necessary evil.—E. J., *Hampton Hill*.

The legacy of a veteran horticulturist.—Under this heading I direct attention to a pamphlet of some fifty-four pages just issued by the veteran James Dobbie, the founder of the firm of Dobbie and Co., the well-known seedsmen of Rothesay, who is now close upon his eighty-eighth year, and wonderfully hale and hearty for his age. He is living in retirement in a pleasant spot overlooking Rothesay Bay. It is not the first pamphlet of the kind Mr. Dobbie has issued; but it may be taken as his final one. In its pages he gathers up the experience as a cultivator he has gained during a period of over sixty years, and as one who has done much in the way of selecting pedigree stocks of flowers and vegetables, the latter work especially being continued by his successors. He deals with the advantages of

shelter to growing crops, which is a matter of considerable importance; the gain secured by the careful selection of stocks of seeds; on the preparation of the soil, glass structures, &c.; and he also deals with the methods of preserving plants from the ravages of insects, &c. Some of the information may be deemed old-fashioned, some of it crude and disproved by later experience; but there are many valuable hints and much interesting information to be found in its contents, and it will be of use to cultivators for exhibition. It is a legacy of personal experience from a veteran who is a firm believer in himself and in the efficacy of the processes he has adopted in the past, and still recommends as justified by his practice.—R. DEAN.

Protecting early Strawberries.—At this season the plants, whether early or late, require attention, and more so than ever this year in some parts of the country. In West Middlesex the severe thunderstorm on the 30th ult. literally buried the embryo fruits in the soil, and more care than usual will be needful to gather presentable fruits for the table. Royal Sovereign suffered badly from the severe May frosts. Such a season as this shows the value of growing midseason and late Strawberries. Opinions differ greatly as to the best ways of protecting the fruit. I think we have not yet found a really perfect protection, I mean the best mode of preserving the fruit from injury from slugs and snails, and to keep it free from soil. Various methods are adopted, the most common one being litter from stables, but this must be laid down early to get thoroughly exposed, bleached, and sweetened. Good Wheat straw is preferable, but this is difficult to get well under the trusses if the plants are close together, and this straw needs great care in placing it in position. Years ago wire supports were introduced in the shape of a framework under the leaves and blossom, but these are not much used as the leaves are best when under the flower trusses and where a free circulation of air can reach all portions of the plant. I have found long grass 12 inches to 18 inches long, I mean grass that has been laid up some time for hay, a most efficient protector when cut carefully and laid straight. It is cleanly and economical, as the grass dries quickly and makes a clean bed, but it must be placed in position before the flower seeds are placed to prevent seeding. The grass after the crop is gathered is soon cleared up, but this is not the case with straw or litter. Short lawn grass is most objectionable. It harbours slugs in wet weather and adheres to the fruit, litter also causes weeds. Dried hay is as bad and should be avoided. As regards a protection from birds the best protection is to use stakes and rods so that the nets are suspended and gathering is done with ease. Of course this only applies to private gardens.—G. WYTHES.

ROUND ABOUT A GARDEN.

YOUNG BIRDS EVERYWHERE.

My garden hardly seems to belong to me in early June. I cannot take a few steps in any direction without disturbing a family party of newly-fledged young birds and agitating their parents exceedingly. If I stay too near the house the starlings that live in the gables "shish" at me for loitering about to catch their innocent children if these should chance to tumble out of the nest—no improbable event to judge by the way that they jostle each other in the narrow entrance, shouting excitedly for the worms which their parents seem to have forgotten that they are carrying while they scold at me. So, not wishing to be responsible for a broken neck of one of the young starlings, I retire discreetly round the corner and come plump upon a couple of young thrushes on the gravel path. There they sit side by side, with beaks tilted at an angle of 45° to the sky, looking like a pair of pious frogs, while their frenzied parents shout warnings to them from the depths of an evergreen. "Sit still if you

value your lives," is the English translation of the monosyllabic "cherk," "cherk," which he—for while his spouse is sitting upon her second clutch of eggs the charge of the nursery devolves upon the male thrush—flings at them out of the bush.

DISTURBED FAMILIES.

If you like to test the obedience of young thrushes to their parents' commands, you have only to advance quietly and pick up one of them, when the other will probably flutter off like some unsteady beetle and tumble into the middle of a prickly Rose bush. If, on the other hand, you do not wish to make the old thrush frantic, you will make a detour round the next flower-bed and send a family of young blackbirds chattering wildly into the kitchen garden. If you take a seat in full view of the shrubbery, a suspicious greenfinch, who is mounting guard over his nest in a Cypress, "cheees" at you monotonously, and is presently joined by his mate, who takes up various positions in the shrubs around and calls "tee-wee," "tee-wee," in plaintively insistent tones, until at last you are obliged to go away and leave them in peace. In your next retreat under the big tree you are reminded of the mistake which was made in hanging up a tit box close to the rustic seat by the agitation of a pair of great tits, each with green caterpillars in its beak, which hop complainingly about the branches and peer at you between the twigs, not quite daring to make a dash for their nest-hole within a few inches of your hat.

WORRYING THE WRENS.

So you move on again, and if your next refuge is the summer-house you are soon aware of a little brown bird that pops quickly in and out again, still more quickly on discovering your presence. It is one of the wrens that have a nest, full of nearly fledged young ones, in the cork bark on the door pillar. In half a minute the other bird pops in and out as its mate had done; and then they set up a chorus of jarring notes, intended, no doubt, to frighten you from the place. This failing, the male bird gets on the roof of the summer-house and sings his loudest, and you can hear the pattering of their little feet as they hop about the wooden roof. Presently you are aware that one of the little imps is clinging head downwards to the top of the doorway and peeping at you under the edge. Then the head is withdrawn and reappears, still holding a caterpillar in its beak, a little lower down. With jerky strategy, and in various cock-tailed attitudes, the wren manœuvres its way round one chunk of cork bark after another, and arrives within a few inches of the nest, when a fancied movement on your part sends it off like a stone from a catapult. This little acrobatic performance will not have been repeated many times before you begin to think that the young wrens must be getting very hungry; so you move off again, a wanderer in search of peace in your own garden.

WELCOME ALLIES NOW.

Animosity against the birds, however, must be the last sentiment to enter the mind of a garden lover in early June. Presently, perhaps, there may be strained relations between you on account of the green Peas, Strawberries, and Currants; but just now even the sparrows are busy all day long removing "undesirables" by the beak-load from the garden. Each young sparrow that sits chirping patly, with the foolish confidence of youth, within easy reach of your walking-stick, is a sort of animated funnel, down which its parents never tire of dropping grubs and caterpillars and

many other unwelcome and uninvited residents of your garden. If the young thrushes, which squat about the paths and lawns, point their beaks upwards because they are so full of wireworms and cockchafer grubs and snails that they cannot bend their necks, it would seem to be the natural result of their parents ceaseless energy, but more probably the attitude is adopted merely because it is a good one for swallowing. Anyway every fledged thrushling in a garden means many hundreds fewer of "undesirables," and where the tit boxes and wrens' nests fire their annual volleys of young birds into the shrubberies you will have further enlightenment as to the pace at which caterpillars must have been disappearing for some weeks.

UNSEEN ASSISTANTS.

It would be a mistake, too, to suppose that because one sees little of the robin in summer he is not as active as any in our behalf. Like the equally useful hedge-sparrow he finds insect food so plentiful among the bushes that he needs not to thrust himself upon our notice as in winter, but whenever you come across either the red-waistcoated parents or their speckled brown youngsters—whom you would hardly know to be robins, save for the perky confidence with which they curtsy to you on the shrubby path or among the Cabbages—you know that you have met a tireless friend. Then there is the whole host of summer visitors who have come a thousand miles to do your garden good. You never know, save by their snatches of song, how many warblers your garden may contain; for—with the exception of the white-throat, which seems to toss itself aloft for the after-pleasure of singing as it comes down again, or else takes up the top-most position on a bush in order that you may see its puffed-up crest against the sky as it waggles its head in the ecstasy of producing its very third-rate music—they are all what naturalists call "skulking" birds, and prefer to do their share of good unseen and by stealth. The swallows and the fly-catchers are too manifestly engaged all day in catching insects to leave any doubt of their utility; but few know what a benefactor in feathers even the vagrom idle cuckoo may prove when he chances to make a garden his headquarters for the season. For not the least of the cuckoo's many peculiarities appears to be a queerly hardened stomach and inverted taste, since he devours with greedy gusto those very hairy caterpillars and conspicuously-coloured grubs which other birds leave untouched. It is no use for them to flaunt their spots of yellow and stripes of gaudy orange as "danger signals" to him. He just swallows them one after the other, wipes his bill on the twig they sat upon, and says "Cuckoo, cuckoo," for grace after meat. And in the heyday of early June even the hard-billed, seed-eating birds adopt an insect diet, so that the greenfinch and the chaffinch, the yellowhammer, and the linnet may all be made welcome to your garden without fear of loss. And, apart from the good that they do, the garden where "the birds" make themselves at home is happier in many ways for their presence.

E. K. R.

THE CAPE FOR PROFITABLE FRUIT GROWING AND FRUIT EXPORT.

(Continued from page 389.)

APRIL, May, and June present few novelties. The Guava of many seedling kinds fill up a place which is hardly warranted by the intrinsic value of the fruit as at present grown. We have them from the insignificant bulk of a Gooseberry to that

of middle-sized Apples. But very little attention has been given to the culture, and still less to improvement of sorts. It may be said that the Guava, as grown here, is often practically a wildling, and it would be well if nineteen out of twenty of them were destroyed and selected grafted plants put in to take their place. Some day we shall get rid of the mass of bony seeds which fill up the centre of the market Guava, and shall aim at making it a more presentable fruit. Walnuts and Chestnuts now make their appearance. The former have not received fair play. They, too, have been propagated in our careless Cape way by seedlings, and it is only within the last twenty months or so that the fine imported sorts, in which the French growers have had such success, have been brought into the country. The remainder of the supply of these months is from Natal, whence our market is flooded with small Pine-apples and Bananas. The former are remarkable for being nearly all outside. Of late a slight improvement has been observed in the quality of these fruits, and when the matter comes to be enquired into it is found that nearly all the finest fruit, classed roughly in the popular idea as Natalian, turns out to be the product of a few recently-established plantations along our own eastern coast. There can be little doubt that this industry will increase year by year to very considerable dimensions. The growers have begun the proper way, namely, by discarding the small, hard-skinned, and half-grown wildling Pine, that has so long been foisted upon us, and going to Ceylon and the West Indies for the very best sorts procurable. From this source, too, will be obtained large supplies of the Cape Gooseberry (*Physalis*), which is perhaps the most delicious fruit for canning and preserves that the whole world has to show. We have been accustomed to despise it simply because it grows wild without care or culture. The jam factories are, however, already increasing their output of it, and making it worth while for people to undertake its production as a *petite culture*.

With the last days of June and the first of July come in the whole tribe of Citrus fruits, Orange, Lemon, Naartje, or Tangerine, and Pamplemousse. From the variations of climate and altitude which have been signalised at the beginning of this chapter, it follows that these fruits hold their place on the market continuously till December, their peculiar external character and power of ripening up after gathering rendering them comparatively easy of transport from long distances. The locally grown fruit is perhaps at its best in October—that is to say, it can then be picked and marketed perfectly ripe, instead of gathering it green and trusting it to slow ripening in the store-room. Perhaps in the case of no fruit more than these has the public mind been so thoroughly awakened to the necessity of improvement, and discarding the wretched seedling rubbish, full of pips and cased in the thickest of skins, which has for many years encumbered our markets. The importations of good grafted trees of the best sorts have been very numerous, and if the cultural conscience can only be roused to the necessity of a vigorous crusade against the scale insects, which up till now have had it all their own way, and also the necessity of giving orchard trees something like fair play and reasonable care, there will be amongst us quite a new era of Citrus fruit growing. The great desideratum is that the spirited proprietor shall himself grow the Oranges instead of leaving them to grow themselves. At present our largest supply in Cape Town at least comes from Natal, and it is not particularly good. The best Cape-grown Oranges are from the district of Clanwilliam and Lower Albany.

October brings with it the Japanese Loquat, another fruit which calls for select improvement. There is as yet far too much pip and too little flesh upon the ordinary Loquat. Yet there have arisen in several private gardens seminal varieties showing a commencement of better things. These should certainly be increased by grafting as far as possible, instead of reverting to the chance seedling mode of getting new trees.

With November come in the earlier Figs and the Strawberry. There is a future for the Fig, and its selected Cape home and centre of drying for

commercial purposes will probably be somewhere in the Karoo. It is true that we have not any native insects similar to the blastophaga, which assists in the perfecting of the celebrated Smyrna Fig. But in these days of quick steam communication it is not impossible to introduce this useful insect, just as we have successfully acclimatised the *Vedalia*. As to Strawberries, the selection of sorts, grown chiefly at Stellenbosch, is very limited, and modes of culture anything but modern. As a rule the beds are allowed to continue productive for far too many seasons, and the fruit consequently deteriorates, losing both size and succulence. New blood and new ideas, with the habit of modern practice in the Strawberry-growing, as it is done in Kent and Surrey for the great London markets, is very much wanted at the Cape. The demand for the fruit is practically unlimited. The month closes with the early Apricots, and the delicious fruit queens it right through December. If our growers would only learn the first principles of pruning this far too generously-growing fruit tree, keep its bountiful nature well under control, and thin its bearing to something like one-half, then truly would the Cape have such Apricots as no other place in the world could show.

EUSTACE PILLANS.

Assistant, Agricultural Department of Cape Colony.
(To be continued.)

THE ROCK GARDEN.

ROCK GARDEN - MAKING.

XI.—ROCK BUILDING ON ABRUPTLY SLOPING GROUND.

THE greater portion of the examples of rock building given in the previous chapters dealt with work on more or less level sites. In several cases the necessary undulation of the ground had to be produced by excavating soil in one portion of the rock garden and filling it up in another. I will now give an illustration of rocks built on abruptly sloping ground and my method of dealing with them.

When a house is built on the side of a hill deep excavations are always necessary to gain a level spot large enough to build the house upon. This, of course, necessitates a steep slope on one side of the house. If the slope of the hill was fairly steep before, it must be much more so after the level space on which the house is to stand has been provided. Sometimes it might be so arranged that only the less important windows face the part which has been deeply excavated, and in that case the building of a plain wall is generally the most practical way of dealing with the question. But when an abrupt slope or a very steep bank is rather close to and in full sight of the most important windows of the house, it becomes absolutely necessary to devise a form of treatment which would be ornamental as well as useful. Without a substantial support of some kind such a steep bank would be continually crumbling away. If the immediate surroundings of a house so placed are in the geometrical style, a wall garden might be a good way out of the difficulty, but when the surroundings are wild and undulating a rock garden would be about the only means of supplying the necessary support to the bank and forming an ornamental feature in the landscape as well.

As a general rule, a rock garden too near a house would not be a great success, from the fact that its irregular lines cannot well be made to harmonise with the geometrical outlines of the building, &c., but a case such as described above would be an exception to that rule. In order to give a practical example



SMALL CAVE IN MR. T. B. BOLITHO'S ROCK GARDEN AT GREENWAY, NEAR DARTMOUTH, DEVON.

I would refer to the accompanying illustration, prepared from a photograph taken only a few weeks ago in Mr. T. B. Bolitho's beautiful grounds on the banks of the river Dart.

In this charming residence the drawing-room windows command a picturesque view of exquisite woodland and river scenery, but the dining-room windows look out upon a very steep slope scarcely 50 feet away. As the ground is naturally rocky in the immediate neighbourhood, it was quite in keeping to treat this steep slope as a rock garden. At first the experiment was tried of having merely grassy banks, relieved here and there by planting; but the grass on so steep a place was most difficult to cut, and was, moreover, liable to be burnt up by a scorching sun. The rock garden, however, proved a complete success; it supports the bank which formerly used to crumble away, and it has almost entirely done away with the necessity of cutting the grass. Finally, it looks bright and cheerful almost all the year.

When building rocks against a slope varying from 45° to 65° in steepness, there is a danger of making the work too straight—too much like a wall, in fact. For producing irregularity on such a site there is no better way than that of cutting deeply into the hill in various places and producing small caves or deep recesses of varying depths, shapes, and sizes. The irregularity thus produced will be greatly emphasised by letting such recesses be adjacent to projecting rocks. A portion of

the Greenway rock garden showing this particular effect is noticeable in the illustration. The rocky projection on the left has the effect of making the little cave in the background appear much deeper than it really is. It will be noticed that in the background the rocks are piled up in almost horizontal strata, while the projecting rock in the foreground shows almost vertical stratification. The idea sought to convey is that these rocks formed a solid mass at some remote period, but were separated and became pierced with the cave referred to during violent convulsions caused by earthquake.

The low portions in the foreground of the picture are devoted almost entirely to the smallest and choicest alpine plants, while in the background, where the rocks are bolder, the plants also are of a bolder character. They include specimens of *Yuccas*, *Dracena indivisa*, *Polygonum vacciniifolium*, *Veronica buxifolia*, *Saxifraga cordifolia*, *Ramondia pyrenaica*, *Hornium pyrenaicum*, *Haberlea rhodopensis*, *Mesembryanthemum edule*, *Helianthemum*, &c., and in the foreground *Gentiana verna*, several *Androsaces*, *Geranium argenteum*, *Saxifraga Grisebachii*, *S. longifolia*, and many other good things.

I would call attention to the fact that, although these rocks were built on very steep ground, they are, nevertheless, well broken up and interspersed with grass paths and rocky steps, affording an easy means of access to all parts of the rock garden.

Elmside, Exeter.

F. W. MEYER.

(To be continued.)

THE ROSE GARDEN.

ROSE POMPON DE BOURGOGNE.

AMONG the smaller garden Roses this charming little bush is one of the best. It is like a little flat Cabbage Rose, full of branch and bloom, 18 inches high—a true dense bush. The flowers are of a delightful tender pink, deep rose in the centre, and very sweet. One just stands over it repeating: "How charming—how charming!" Surely a plant can have no better praise. A fitting accompaniment is the edging of common white Pink which borders the bed it is in. The white variety is just as good in its way—a creamy white, with salmon rosy centre. G. J.

ROSE ELISE FUGIER (TEA-SCENTED).

So much is this Rose like *Niphetos* that one wonders whether it can be a sport. There is a perceptible difference in colour, the flowers of *Elise Fugier* having a decided lemon tinge. The growth, too, appears more vigorous. It is undoubtedly a fine Rose, especially for pot culture, and a variety that should not be allowed to drop out of cultivation. I do not suppose this is likely to happen, for exhibitors of pot Roses find it excellent either as a bush or standard. Personally I prefer the latter, as its beautiful big, globular flowers are then seen to perfection. PHLOMEL.

ROSE MME. GERMAINE RAND.

This useful Tea Rose is not so much known as it should be. I do not say that the variety would be considered a show Rose, but for pot culture or for garden decoration it can be well recommended. It has the splendid vigour and bushy growth of Hon. Edith Gifford, with the colour almost of *Mme. Hoste*, save a distinct tawny yellow that is most attractive. The Rose has now been in commerce some eight years, but I believe it is comparatively unknown. As a standard in a pot it is a great success, the fine spreading head and beautiful flowers, which are fully 5 inches across, being most effective. The raiser was Dr. Rand, who obtained it by crossing the variety *Chamois* with *Lamarque*. P.

NOTES FROM SCOTLAND.

We have experienced a short period of gloriously hot weather, so hot following a long cessation of rainfall that herbaceous plants in borders have had to be profusely watered. The weather has just suited the summer bedding plants, which at once took a grip of the warm soil, contrasting happily with the cold time last year, when many plants, such as French Marigolds, literally died, and much replanting was the result. The hot sun, too, brought out the belated foliage of deciduous trees with a rush, broad, clean, and a lively green. Unfortunately, flowering shrubs are generally deficient in bloom, the less satisfactory in this respect being *Crabs*, *Lilacs*, and *Laburnums*.

However, there are compensations. Tree *Pæonies*, especially the semi-double forms, are finer than I think I have ever seen them; the petals are so large and the colouring so tender and pure, though none of the aorts can be called intense. One of the successes of the season is *Choisya ternata*. I hear from various quarters that it is proving hardy in even cold districts of Scotland. At the time of writing *Olearia gunniana* is entitled to first place among its shrubby compeers. The finest specimen I have seen grows in the new herbaceous border in Smeaton Gardens, Prestonkirk, where among many really fine things it is excelled by none. It is quite clear that the species of *Olearia* have been left too severely alone. *O. Haastii* is, of course, everywhere; but how few cultivate the sort just mentioned, or *O. macrodonta*, specimens of which promise to be magnificent in the course of a few weeks. Then as a low shrub *O. nummularifolia* can be safely commended, both on account of its beauty and its hardiness.

GROWING THE DOUBLE CRIMSON SWEET WILLIAM.

The request for information as to the best method of growing the dwarf crimson double Sweet William seems to have appealed to none of your correspondents. I have been acquainted with the plant many years, and there is no doubt as to its being difficult to keep, though in cool, damp soils, at least in Scotland, it becomes perennial in habit. It would appear to be different in constitution from the ordinary tall Sweet William, which lives here during many years. In conversation with Mr. Cuthbertson and Mr. Arnott lately the former remarked that the older class of Sweet Williams were low-growing plants, but on looking up authorities I do not find this to be the case. How old exactly this particular form is I have not discovered, but there is no doubt that the late Mr. T. Ware distributed it as new towards the end of the sixties under the name of *Dianthus*

barbatus magnificus. I have never known it to bear seed, but it is so easy to propagate by means of side shoots, which produce air roots spontaneously during autumn, that a large stock may be quickly worked up by dividing old plants and inserting the pieces in ordinary garden soil. This may be either an annual or a biennial operation, according to the nature of the soil: but it is certainly not safe to depend on plants living longer than three years. They frequently dry up during the summer months.

A NURSERY OF GLADIOLUS GANDAVENSIS.

It is not generally known that we have in Scotland at least one nursery where the propagation and culture of the Gandavensis section of Gladiolus is carried on most successfully. Mr. Mair is the proprietor of this nursery, which is located at Prestwick, better known for its golf links than its flowers, though it has given one name to the Sea Holly—Prestwick Thistle—that proves its atmosphere and its sandy soil to be not inimical to the health of beautiful plants. On June 2 Mr. Mair delighted the members of the Scottish Horticultural Association with details of the methods he pursues in the cultivation of the Gladiolus, which he produces from the tiny bulblet to the full-sized flowering corm. Among other flowers shown at the meeting were some fine examples of Streptocarpus, exhibited by Mr. Smale, gardener to Mrs. Nelson, St. Leonards. Messrs. Grieve and Sons showed examples of bedding Violas, a type of flower which they specialise with much success. R. P.

NOTES ON HARDY PLANTS

AUBRIETIAS.

PERHAPS the most generally useful and decorative of all the flowers of the later spring are the Aubrietias, and I have been interested in the notes that have appeared on them in the last few numbers of THE GARDEN.

Several years ago I purchased A. Leichtlini, which I have now in masses in many parts of my garden. I do not know whether this was the first of the high-coloured crimson or red-purple varieties, but I can only say that I have never seen anything brighter or better in this direction.

I have never, I believe, had A. Fire King, but when a week or two ago I was in a friend's garden where a clump of it was growing we purposely compared the blooms with those of A. Leichtlini, and three or four of us, all interested in hardy gardening, agreed that we could see absolutely no difference either in the richness of colour of individual blooms or in the general effect. A. Leichtlini at any rate has an excellent constitution. With regard to A. Dr. Mules, I saw this also for the first time in the garden of another friend a short time ago, and was struck with the richness of the colour. We picked off, however, a few of the blooms, and compared them with the darkest of the elder varieties and could see no difference in shade. The dark violet of Dr. Mules, however, is no doubt more persistent and consistent, and the general effect is certainly an improvement in the direction of the dark shade on all previous varieties. It is well worth getting. As to the general direction to which modern hybridisers should direct their efforts, who shall decide where doctors disagree, as they apparently do? Unless I am mistaken, one of your correspondents at any rate has very high claims to consideration in matters of taste, and this is about the very last thing I can say of myself. I feel certain, however, that I shall never buy or otherwise add to my collection any more pale Aubrietias, be the pips never so big. While



THE NEW ARABIS BILLARDIERI IN THE ALPINE HOUSE AT KEW.

if any one should really go one better in the fiery-red direction I shall get it at once. I may say the same of "E. H.'s" pure brilliant blue, only I rather wonder what he means by the first and third of these adjectives, and what he expects to get. Are we to have Aubrietias of the colour of Lithospermum prostratum or even of Myosotis dissitiflora? There is, of course, a blue ally in mauve, as there is also in violet or blue-purple, but no Aubrietia (except in the catalogues of nurserymen whose colour blindness in this particular matter is proverbial) has ever yet approached blue, not even of an impure shade. J. C. L.

I have been much interested in the notes which have appeared in THE GARDEN upon Aubrietias. I consider Dr. Mules, raised by Messrs. Cliban, the finest of its colour, while it covers itself with bloom considerably better than many of the poorer varieties. My experience of A. Fire King, which I bought from Messrs. Barr, the raisers, the first year in which they offered it, is that it is perfectly hardy, but that its growth is not so compact as I should like. The colour is not so fire-like as the name would indicate, but is really what "E. H." (Hale) says, magenta-crimson. The finest lavender one I have is Max Leichtlin's lavender, and the new Bridesmaid is the most delightful of all in its soft colouring.

Carsethorn, by Dumfries, N.B. S. ARNOTT.

COWSLIPS.

A BOX filled with the golden-coloured flowers of Cowslips gathered in a Dorsetshire meadow was sent to me recently. I regard the consistent golden-yellow of the Cowslip as a treasure which none of our garden Polyanthus strain gives us, and wish it might be possible for me to raise for our gardens a race of literally giant Cowslips, every one of a rich golden hue, as the species now is and seems to have been through many ages. It is true we have some rich yellows in our garden Polyanthuses, and Miss Jekyll has in the past shown some glorious forms, but from some cause or other there seems to be a tendency on the part of the progeny of these rich yellows to become pale. What is wanted to give persistent yellows is pure Cowslips, intercrossed and selected and cultivated, so that in the course of years, whilst retaining all the hardiness and consistent colouring characteristic of these wild flowers, yet the individual blooms shall be four times as large

as they now are and more erect. Very few growers for seed production of garden Polyanthuses take the trouble to isolate colours so as to secure their perpetuation. Whites of the purest, yellows of the richest, and reds of the brightest are what are needed for massing or for borders. To get these colours fixed and persistent it is best to start with but one plant, the very best for the purpose that can be obtained. The yellow should be more orange than a pale shade, and of the progeny not a plant should be retained that did not furnish the desired hue and fine quality of flowers allied to good habit. It may be needful to persist in selecting from seedlings for some twelve or fifteen years, but a reward would be assured at last. It is all a question of patience and perseverance. A. DEAN.

ARABIS BILLARDIERI.

AMONG new plants that have recently flowered in the alpine house at Kew is this Arabis, a native of Syria. It is found growing on stony and shady hills near Damascus. A small plant flowered at Kew last year, but its real value has only been demonstrated recently. Arabis Billardieri is quite hardy, although it much appreciates the shelter of a cold house in spring. As a pot plant it grows remarkably well, but if given a half-shaded position outside and planted in stony soil it will probably thrive equally well. The flowers are large, and vary in colour from purplish rose to white. They are very freely produced. In habit this new Arabis reminds one a good deal of Arabis alba, and will doubtless prove an excellent companion to it. W. IRVING.

CYPRIPEDIUM MACRANTHUM.

In general character, rhizome, and foliage this Lady Slipper resembles our native C. Calceolus, except that the foliage is less pointed and broader. The beautiful flowers are of a uniform dark crimson-purple colour, veined deep crimson. The plant is now exceedingly rare, at least the Siberian form, which is undoubtedly the most superior. Those imported from Japan, and of which flowers were shown, are hardly worth growing by the side of the true C. macranthum. The Japanese form has no decided colour, but is rather a pale washed-out red and grey. C.

macranthum and its companion, *C. guttatum*, the latter difficult to grow, are apparently two of the rarest hardy plants.

EREMURUS NIMROB (E. ROBUSTUS × E. HIMALAICUS).

This noble plant bids fair to become, next to the true *E. Warei* and *E. elwesiana*, the most popular of this genus. Its real value is, however, not as much in the colour and form of flower as in its greater vigour. I acquired several plants, and they were planted side by side with others, but while the late April frost played havoc with both *E. himalaicus* and *E. robustus*, *E. nimrob*, although much more advanced at the time, has quite escaped the frost, and I have stems here measuring 9 feet in height, showing its great hardiness. In leafage it is similar to *E. elwesianus* and also *E. himalaicus*. The large individual flowers are of the same size as those of *E. elwesianus*, but lighter; in fact, it is of a very light pink colour. The flowers are deliciously scented. It is the first to flower of the *Eremuri*.

LILIUM PULCHELLUM.

This gem among early-flowering and really hardy Lilies is once more in bloom. The whole plant is very slender, the wiry stem being from 1 foot to 2 feet in height, the stem and long linear leaves glabrous, and surmounted by an umbel of bright scarlet, rather small flowers. It is growing in company with the allied *L. concolor*, which was, by the way, entirely annihilated by the Arctic frosts in April as far as the flowers were concerned, but the frosts in no way interfered with *L. pulchellum*. I was much interested with an importation by Messrs. Veitch, and flowering plants were shown at a meeting at the Royal Horticultural Society last year. *L. pulchellum* has evidently a wide distribution. My plants came originally from Siberia, while those of Messrs. Veitch came from China.

Keston, Kent.

G. RUTHE.

SANVITALIA PROCUMBENS FL.-PL.

The merits of this half-hardy annual are, I fancy, in a great measure overlooked. It is one of those things that may be most useful to those who have but little accommodation for wintering tender plants. Raised in gentle heat in March, properly hardened and set out at the latter end of May, the plants will come into bloom towards the end of June, and will continue effective up to October or even later should the autumn be fine. The dwarf stature of this plant renders it suitable for edging beds or for the front row of mixed borders, in association with *Lobelias* and similar dwarf habited things. The perfectly double finely formed bright yellow blooms are produced in great profusion. In light, dry soil this *Sanvitalia* does remarkably well, rejoicing in the heat that seriously affects many things.

J. CORNHILL.

TREES AND SHRUBS.

HOLLIES AT SHIPLEY HALL, DERBY.

AT Shipley Hollies do well and are much valued as being the best of all evergreen trees. As commonly seen in groups, either of Hollies alone or in the usual shrubbery mixture, much of their individuality is lost, and the plants give but a poor idea of what they will develop into when grown as single specimens in a soil and position that suit them. Here much attention is paid to such single specimens, and the illustrations which accompany this will show better than words what may be done in this way simply by affording each plant room and by keeping a clean soil surface well round each plant. The feathering of the branches is quite characteristic of the Holly

and of other evergreens, Yews, conifers, &c., grown under these conditions here, and gives an effect of completeness to the specimens such as is wanting in plants that from some cause or other have lost some of their lower branches. In some cases this regularity of growth would appear to imply a frequent use of the knife, but this is by no means the case, as very rarely indeed is the knife or any other pruning tool used on them; in fact, I may say that they get no pruning whatever, but care is taken when selecting the plants to choose none that are not well-balanced to begin with. Every effort is made when replanting to retain as many roots as possible, together with a fair-sized ball of soil, so that the plants may get the least possible check. Planting takes place in spring, May being the ideal month in which to carry out this operation. If possible a mild, showery time is chosen, just when new growths are pushing off the enclosing scales, as at this time the roots are resuming activity and are ready to penetrate the new soil right away. This choice of period for planting is important, for if one does not wait late enough, and a cold spell of weather should supervene, it acts badly on the newly-moved plants, which then cast far too many of their leaves and are stubborn in the matter of again starting growth. The loss of a few old leaves, however, is a very good sign and should cause no alarm. It is an axiom among planters that a Holly which begins to shed leaves—in what looks like a natural manner—soon after planting is sure to grow, while the plant whose leaves toughen on and look somewhat shrivelled is as good as dead. At the same time I do not like to see an excessive loss of leaf.

After planting water should be freely given for several weeks, and during very dry weather syringing or spraying the plants daily in the afternoon will do much good.

The soil in which Hollies do best at Shipley is a somewhat poor, but fairly deep, light yellow loam overlying "ratchil," the latter being of the nature of a soft sandstone. Having a variety of soils here, ranging from clay to black garden soil, there have been opportunities to experiment, but I find that the soil indicated above, pure and simple, gives by far the best results, and any addition of garden soil that has the least indication of being "sad" or "manure sick," or of manure in any form, when planting is harmful.

What is wanted is a sweet, well-drained soil and plenty of it, though old specimens which show signs of exhaustion may be invigorated by taking out a spit or two of soil round the feeding roots and

mixing in some well-decayed manure when refilling the trench.

There is a great variety among Hollies, and anything in the shape of a good collection is rarely met with; in fact, it would require such a large space in which to grow and show the various characteristics that it would be impossible to find room even for all the really good ones in many places.

Perhaps the least effective of all, though mostly quick growers, are those which show the *maderiensis* blood. These I should never intentionally plant, as there are so many hardier and better. Of the four which are to be illustrated *Ilex crenata* is perhaps the least common, for it does not succeed everywhere, and the plant which was photographed—a perfect specimen—is the largest of its kind that I have met anywhere, and I look upon it as a very valuable and distinct shrub. It is 8 feet in height and 12 feet in diameter.

Of the "coming" Hollies one is named *I. laurifolia nova*. In the "Kew Hand List" this is called, I believe, *I. laurifolia longifolia*, but whatever its correct name may be—and it is known by others—it is really a charming thing, dense in growth, large in leaf, and with a fine berry. It looks like developing into a tree, for it is vigorous in growth, with a bold upstanding habit. The specimen illustrated is over 10 feet in height.

I. argentea marginata (the common Silver Holly) grows well when allowed to develop into a specimen. The one here is 30 feet high, well feathered, and robust. Just at present the new leaves are mostly pink margined. This colour will go as the season passes, and



ILEX NOBILIS IN THE GARDENS AT SHIPLEY HALL, DERBY. (The tree is 30 feet high, and spread of branches nearly 50 feet.)

by autumn the white margin will be perfectly developed. Confined to one variety of Silver Holly, this is the one I should choose.

I. nobilis is a grand Holly in every way, except that being a male kind it bears no berries. Probably this may influence its growth, which is nearly always very vigorous when the plant gets established. I find, however, that if planted in moist soil in shade the leaders often suffer during a severe winter, as it makes late growth, which does not ripen sufficiently to withstand frost. Heavy falls of snow, too, are especially hard on this variety, about the correct name of which there is some confusion. The noble plant illustrated is about 30 feet high, and spreads nearly 50 feet. J. C. TALLACK.

NEW VARIETIES OF THE LAST TEN YEARS.

(Continued from page 408.)

PRUNUS PENDULA.—A very graceful early-flowering Cherry, which, owing to its pendent habit, is usually grafted standard high. The flowers, which are of a pleasing shade of soft rose, are sometimes injured by keen cutting winds.

P. PERSICA MAGNIFICA.—This variety of the Peach was imported by Messrs. Veitch from Japan, and is probably the finest form in cultivation. The flowers are semi-double and brilliant carmine-crimson in colour. It was awarded a first-class certificate by the Royal Horticultural Society on February 13, 1894, and is now being distributed by the firm named.

P. PSEUDO-CERASUS (the Japanese Cherry).—This tree has been universally planted by the Japanese for centuries; indeed, it is regarded almost with reverence, and its season of blooming marks an epoch of the year. The individual flowers are large, double, and in colour some shade of rosy white. Under the names of *Cerasus Sieboldi* and *Cerasus Watereri*, some forms of this Cherry have been long grown in England, but one of the finest of all is of comparatively recent introduction. This is the variety *James H. Veitch*, which was awarded a first-class certificate by the Royal Horticultural Society in the spring of 1899. The flowers are large, double, and of a deep rose-pink colour, while the partially expanded foliage is of a pretty bronzy tint, which contrasts pleasingly with the blossoms.

P. SUB-HIRTELLA.—Another Japanese member of the Cherry family, suggesting, to a certain extent, *Prunus pendula*, but it is of upright growth. The flowers are about half an inch in diameter and soft rose in colour.

P. TRILOBA (syn. *Amygdalopsis Lindleyi*).—The plant so long grown in gardens under the above names, with large semi-double flowers, is now represented by the single form, but it is at present rare, and not as showy as the older one.

PTEROCARYA.—By many, *Pterocarya caucasica* is regarded as the only member of the genus, but there is a Chinese species (*P. stenoptera*) which, though rare, has been known for many years, and lastly *P. rhoifolia*, a recent introduction from Japan. On the slopes of Mount Hakkoda, at an elevation of 2,500 feet to 4,000 feet, it is said to reach a height of 80 feet, with a trunk 30 inches in diameter. It has long pinnate leaves, both the leaflets and rachis being more or less pubescent. It is quite hardy, and decidedly a very promising tree.

RHODODENDRON.—In addition to those already in this country, we are promised several more new Rhododendrons from Western China, but even without these we have had some good novelties within the last ten years, both among the true species and the varieties of hybrid origin. Of the species especial mention must be made of

R. RACEMOSUM.—A charming little plant from Yunnan, where it occurs at an elevation of

It is rather a loose-growing bush, flowering late in May or early in June. The flowers, which are borne four to six together, each on a long stalk, are shallow, and 2 inches across. The ground colour is a delicate shade of mauve, nearly white, with clusters of crimson spots on the upper segments. In general appearance the flowers almost suggest those of a *Pelargonium*.

R. KEISKEI.—This species, with rose-purple flowers, is allied to *R. dauricum*, but is of dwarfier growth.

ROSA WICHURIANA.—This quickly became so well known, and was made so much use of by the hybridist, that one can scarcely believe the first time it flowered at Kew was in 1893.

SPIRÆA ATCHISONI.—A native of Afghanistan and a near relative of *S. lindleyana*, with which it has been often confounded. It differs from the last-named species in the bark being reddish, the leaves smooth, and of a much deeper green, with smaller leaflets. The flowers also are whiter and individually larger. It has been long grown at Kew, but has only been recognised as distinct within the last few years.

STEPHANANDRA TANAKÆ.—The older *S. flexuosa* is a very graceful, compact, sub-evergreen shrub from Japan, with Fern-like foliage and small white flowers. It is nearly related to the *Spiræas*. From this *S. Tanakæ* differs in its coarser and more succulent growth and its larger, much less divided leaves. It is not so graceful in habit as *S. flexuosa*. Both are natives of Japan.

TAMARIX KASHIGARICA (syn. *T. hispida*).—A very pretty form of the Tamarisk, with glaucous leaves and particularly bright-coloured flowers. As flowering shrubs all the Tamarisks, but especially this one, merit more general attention.

TROCHODENDRON ARALIODES.—A Japanese member of the Magnolia family, which in its native country forms an evergreen tree from 15 feet to 25 feet in height, clothed with roundish leaves 4 inches or 5 inches long, and clustered towards the points of the branches. The greenish stary flowers are curious, but not showy.

VIBURNUM CARLESII.—This very pretty species, which was illustrated in *THE GARDEN*, September 6 of last year, bears rounded clusters of *Bouvardia*-like flowers, pinkish white at first, afterwards changing to pure white. It flowers in spring.

VIBURNUM TOMENTOSUM.—This is the typical form of the shrub long known in gardens as *Viburnum plicatum*, the correct designation of which is *Viburnum tomentosum plicatum*.



ILEX LAURIFOLIA NOVA (CAMELLIÆFOLIA) AT SHIPLEY HALL, DERBY.
(Height about 10 feet.)

6,000 feet to 10,000 feet. It is of dwarf compact growth, and has ovate leaves, about an inch long, while the flowers which are produced in dense clusters towards the points of the branches are about an inch in diameter, white, with a flush of rose-pink, and the tips of the segments are of a deeper hue. It is essentially a plant for the alpine garden.

R. RUBIGINOSUM.—A freely branched bush, not likely to exceed the height of 6 feet in gardens. The flowers are borne in May in small terminal trusses. The funnel-shaped corolla is rosy lilac, spotted with maroon on the upper part. It is not a particularly promising plant.

R. SCHLIPPENBACHII.—This belongs to the *Azalea* section of *Rhododendron*, and was sent from Japan by Mr. J. H. Veitch; it first flowered in 1893. In general appearance it suggests a hybrid between *Rhododendron* (*Azalea*) *sinensis* and *indica*. At all events it is a pretty shrub, clothed with obovate dark tinted leaves and clusters of flowers, each bloom being about 3 inches across, and of a rosy lilac tint, spotted with maroon. It is in every way a very distinct form.

R. YUNNANENSE.—An extremely beautiful *Rhododendron*, perhaps the best of all from that region.

THE FLOWER GARDEN.

THE TULIPAS.

(Continued from page 407.)

TULIPA BATALINI (Regel).—A pretty dwarf species from Asia Minor; it has been much valued in late years as a rock garden plant. It has long tapering lax leaves and chrome yellow flowers of a pleasing soft shade, the petals of which are pointed, flat externally, the inner petals being much broader and boat-shaped; the flowers average $2\frac{1}{2}$ inches long and are sweetly fragrant. It is a choice and rare species, and one of the

daintiest Tulips grown. A position on the rock garden where it could get a good baking in late summer would suit it well. It flowers in April and May.

T. biftora (L.).—A miniature species from the Caucasus, but, unfortunately, short-lived under cultivation. It has slender, tapering leaves, lax, branching flower-stems bearing two or more cream-coloured flowers furnished with a clear yellow base. The flowers are deliciously fragrant and very small. Its chief value as a garden plant is for rock garden planting, and one could grow the plant in pots for the alpine house, but it is too small for general use. It flowers in March, and though absolutely hardy, it requires protection from severe frosts and cold winds when the buds develop, or they will wither without expanding.

T. billietiana (Jord.).—A pretty species from Savoy and one of the most useful May-flowering Tulips; its garden varieties are numerous. It grows 2 feet high, has undulating channelled leaves, and bears pointed flowers 3 inches long, coloured a soft shade of yellow, flushed with orange at the margins, and heavily blotched with orange-scarlet near the base. As the flower ages the orange-scarlet colouring suffuses the whole flower from the base upwards, the keel of the petal alone remaining yellow. The inner basal disc is well defined, small, and coloured a light brown. Well known as a capital border Tulip. Its pretty pointed flowers, with long, slender stems, are valued in a cut state for the decoration of apartments, and it is grown in quantity for market.

Var. Aurora is a pretty plant, with a well defined basal ring and rich orange-scarlet flushes, resembling in many respects Tulip Gala Beauty. The petals are much pointed, and the flower is egg-shaped when closed. The colour is a bright tone of yellow, and the orange-scarlet markings are very vivid.

Var. Sunset is another pretty form of larger growth, coloured rich yellowedged with carmine. As the flower ages the carmine colouring suffuses it, inasmuch that the plant might be mistaken for Tulip Golden Crown at its best. It is an exceedingly pretty plant, and the best of all the billietiana group for garden use.

T. carinata.—A dull-coloured Tulip of garden origin, and grown more as a curiosity than for its beauty. The petals are very stout, coloured dull crimson in the upper half and a yellowish tint of green in the basal half; there are two forms of it, *rubra* the one described, and *violacea*, the apical half of the petals of which are tinted rosy violet. Very late flowering.

T. celsiana (D.C.) is a form of *T. persica* from Southern France.

T. clusiana.—This is generally known as the Lady Tulip, the reason for which is not obvious. It is a slender-growing species, with narrow, tapering leaves and prettily-shaped white flowers, the petals of which are pointed, contracted near the middle, flushed externally with carmine, and the inner basal colouring is a rich violet. Its general appearance suggests a miniature *T. kaufmanniana*. It is best cultivated on a warm rockery slope with rock chippings as a rooting medium, this and all other slender Tulips being very susceptible to basal decay during autumn in damp situations. A very interesting species for pot culture for the alpine house. It flowers in April.

T. concinna (Baker) is a charmingly neat little species from the Cilician Taurus, the flowers of which are Filbert-shaped, reddish crimson, with a large black central disc. It is suitable only for rockery planting, and may be treated similarly to *T. clusiana*.

T. Didieri (Jord.).—A South European species widely known in cultivation, which with its pretty varieties represents a good type of garden Tulip with slender stems and refined habit. It grows 2 feet high, and has deeply channelled, undulating, ascending leaves, and flowers which span 4 inches to 5 inches across, the petals of which are pointed, coloured crimson, and half reflexing. The base of the flower is coloured greyish-black, a bright zone of yellow dividing the two colours; the filaments are also black. As a garden Tulip it has many admirers; its colour is telling, and the bulbs, even if of quite small size, flower very freely.

Var. alba.—One of the most interesting of the white Tulips; has pretty buds tipped with a delicate olive green tracery. It is one of the very few white Tulips that do not have a tint of pink with age. The filaments are pure white, and the basal colouring is a very slight greenish-yellow stain. Its garden value cannot be over-estimated, and such a choice little plant cannot fail to please the most fastidious.

Var. lutescens is a variable variety generally tinted a sulphur yellow, with minute crimson flecks on the outer petals, occasionally (and these are the forms to select for greater variety) entirely covered with a feathering of pale crimson on a yellow ground colouring. The dark blotches of these richly-coloured forms have a dividing zone of sulphur yellow. Both *lutescens* and *alba* flower early in May, much later than the type plant, and in shady situations, where their petals are screened

them to an unsightly mass, and the stems bend and heel over as if ashamed to support such garbage.

G. B. MALLETT.

(To be continued.)

WALL GARDENING.

WALL GARDEN-MAKING.

IX.—EXAMPLE OF DRY WALL PROPERLY PLANTED.

IN previous chapters on wall gardening I have urged the necessity of grouping the plants on the wall as irregularly as possible, and I have also given sketches illustrating the distribution. By the kindness of Mr. L. C. Foster, of Trevillis, Liskeard, I am now able to give a still better illustration by means of a photograph, showing wall plants well grouped and in a most flourishing condition.

The wall here illustrated is a boundary one. One side of it is therefore perfectly plain, but the side facing the garden has been made bright and cheerful by all kinds of wall plants, which were put in simultaneously with the stones. I have already stated that this method of putting in stones and plants at the same time is by far the best, and the flourishing condition of the plants shown in the picture is a further striking proof. When the wall is being built it is much easier to provide proper soil for the roots and to spread out the latter in a better manner than can be done afterwards.



DRY WALL IN THE GROUNDS OF MR. L. C. FOSTER, TREVILLIS, LISKEARD, CORNWALL.

from strong sunshine, they last till the end of May in good order. There is a great future before *T. Didieri lutescens*; many go so far as to regard it as the best Tulip. Its colour is a refined shade, and it is even more beautiful in the subdued light of apartments than in the open border.

Var. flore-pleno, a double form of the type, does not commend itself to one's notice. The flowers are perfectly double and of good form, but the first heavy rainfall reduces

Great benefit, too, is derived from the fact that the stones press closely against the soil in the joints, which are thus kept cool and moist. The wall here depicted was built of Cornish granite, which is an excellent material for the purpose. Now and then small stones judiciously introduced prevent the larger ones from pressing too heavily upon the roots of the plants, which, nevertheless, can have plenty of space to run in in the interior of the wall, where soil instead of mortar was used.

The picture shows, of course, only a very small portion of this wall. The most conspicuous plants visible are Aubrietias, Ferns, and mossy Saxifrages in splendid condition. A great variety of Sedums, Sempervivums, Alyssum, Pinks, &c., have also been introduced, and will materially help in prolonging the season of flowers on the wall.

Elmside, Exeter.

F. W. MEYER.

(To be continued.)

CORRESPONDENCE.

(The Editor is not responsible for the opinions expressed by correspondents.)

THE DODDER AS PARASITE.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I send you an illustration of a parasitic plant which has been causing a good deal of discussion in the scientific and botanic world. It is that of the Dodder, parasitic on Furze. Originally the Dodder was supposed, like the Mistletoe, to germinate on the plant it attacked. Now botanists recognise that the Dodder begins life in the common soil (though if kept there quickly disappearing) in the neighbourhood of an appropriate foothold, such as the stiff branches of the Furze offer, throwing out tendrils and climbing rapidly from left to right, inserting subsidiary rootlets in the tissues of the plant seized upon. The Dodder severs connexion with Mother Earth, the juices of the foster-parent being thenceforth its sole nutriment. In September the dazzling white minute rosettes of bloom are studded all over the prickly Furze branches; thin red thread-like tendrils, bearing blooms, make a veritable network over the plant attacked. This plant with the Mistletoe constituting our two prominent native parasitic plants, I hope you may consider this curious life-history worthy of notice. On the moorlands the plant must be well known to the sportsman.

E. K. P.

[In the interesting account of the Dodder given by our correspondent no mention is made of there being more than one kind, whereas there are three species indigenous to this country—the greater Dodder (*Cuscuta europæa* of Linnæus), the Flax Dodder (*C. epilinum* of Weihe), and the lesser Dodder (*C. epithimum* of Linnæus, or *C. trifolii* of Babington's manual). The species alluded to is evidently the greater Dodder, a common parasite on Furze and many other shrubby plants. It is very widely distributed, being found over Central Europe, Asia, and as far as Japan, and southwards to Algiers. It is not so common, however, in this country as the lesser Dodder, which is also the most destructive species of the three as regards cultivated plants, as it commonly infests various species of Clover, in fields of which dead patches may often be found, sometimes two or three yards in diameter, which have been killed by this pest. Persons having a field of seed Clover should be very careful when cutting it, if it is infested with Dodder, not to allow any of this plant to be harvested with the Clover, or the seeds of the two plants may get mixed together, and it will then be very difficult to separate them. The Dodder seeds are frequently imported into this country with Clover seed from the Continent which has not been carefully selected. Some persons may be surprised to learn that the Didders are members of the same family as the Convolvulus (the Convolvulaceæ), though to the ordinary observer there is not much similarity; yet on a close examination it will be found that there is, and their twining habits are the same. Though our native Didders only live on comparatively small plants, in America, that land of big things, some species make their way to the tops of the tallest trees. The seeds of the Didders germinate in damp earth or decaying leaves, but the young plant is unable to obtain any nourishment from either, and it would perish as soon as the supply of food-matter contained in the seed is exhausted unless it found a suitable host within

reach; and, no doubt, as in the case of most plants, by far the larger number of seeds which ripen never germinate, owing to unfavourable circumstances. Another family of parasitic plants, the Broomrapes (*Orobanchæ*), have a very similar early life-history, except that they are parasitic on the roots of their hosts. When the seed germinates, unless it can find a suitable root, it soon perishes, as it is unable to obtain food from the soil or air. The Mistletoe germinates at once on its host, and it is enabled to do so by reason of the very sticky nature of the substance by which the seeds are surrounded, as it can adhere to the branch of its host until the seed germinates, when its radicle spreads out over the branch in a soft mass, from the centre of which a kind of root is developed, which penetrates through the bark into the wood beneath. The seeds are generally deposited on the branches by birds. Some authorities state that the seeds pass through the bodies of the birds without injury, and that the slimy excrement of the bird assists in preventing the seeds from falling off the branches on which they have been deposited. Others say that the sticky substance with which the seeds are coated prevents their being swallowed by the birds, who rub their bills against the branches in order to get rid of them, and that they adhere there simply by the stickiness of their own coating. It is very strange that some plants should, entirely as it were, leave their natural mode of life and become absolutely dependent on others for nourishment. It is also curious that the plant which bears the largest known flowers is a parasite—we allude, of course, to the *Rafflesia Arnoldii*; the plant itself consists merely of a network of fine threads which permeate the tissues of the roots of its host, but its flowers measure a yard or more across, weigh 15lb., and have a most putrid smell, which attracts flies that help to fertilise them.—Ep.]

EVERGREEN TREES FOR SHELTER.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I have about eight acres here which will have to be planted with some evergreen tree for the purpose of shelter. The land is about 120 feet above sea level, on the estuary of the Welsh Dee, facing west, and fully exposed to the north and north-west gales. The soil is inclined to be stiff, and is in most places 1½ feet to 2 feet above sandstone rock, and here and there the rock almost comes to the surface. There is good drainage. The evergreen tree which does really well here is *Quercus Ilex*. Unfortunately, it is rather a slow grower. I am not much in love with *Pinus austriaca*, and *P. Laricio* is too bare stemmed for

my purpose. Have you any experience of *Cedrus atlantica* in such a position? I have heard that though little tried it does well by the sea and against wind, and that it grows fast. I should much value corroboration on both points, as I cannot afford to fail.

A. K. B., *Cheshire*.

[As an effectual shelter evergreen tree there is undoubtedly no more reliable tree, being quick in growth, thoroughly hardy, and planted in a mass will break the force of the strongest gales from whatever quarter they may come. But as your correspondent remarks, it is not a beautiful tree, and I should not advise the planting of this Pine excepting as an outer barrier against wind, so that evergreen trees of a more ornamental character can be reared on the sheltered side of the Austrian Pines, and whatever is planted in such shelter will grow quicker than would be the case without the Pines. I therefore advise the planting of the Austrian Pine on the most exposed margins of the proposed shelter mass, and the trees should be not less than four or five deep, planted at distances of about 3 yards or 4 yards apart. The rest of the shelter group, if the object is to have an ornamental plantation, should consist of some of the few kinds of evergreen shelter trees. Among the conifers I have the highest opinion of *Cedrus atlantica* as a shelter tree if the soil is free so that the trees can spread their roots widely and anchor the trees against the wind. But in order to be successful the Atlas Cedar for such a purpose must be planted small, not more than a yard high, and have a mass of fibrous roots. If the object is to have an ornamental plantation and not merely a mass of trees the Cedars should be planted from 5 yards to 7 yards apart and 4 yards or 5 yards from the outer barrier of Austrian Pines.

Another Pine suitable for shelter is *Pinus excelsa*, which when it becomes established grows rapidly into fine trees if care is taken to suppress rival leaders. It is, moreover, a very effective tree in the mass on account of its glaucous green colour. A third reliable tree is, of course, the common Scotch Pine if planted widely so as to allow the tree to develop on all sides. For planting near the sea there is no finer tree than the maritime Pine *Pinus Pinaster*; but it is slow in growth, and one of the worst trees I know to transplant successfully excepting in a very small state. Among others of the commoner kinds of conifers suitable for shelter planting is *Thuja Lobbi* (the giant Arbor vite). It grows quickly, withstands the fullest exposure, and as it is a common tree in nurseries it can be planted in a numerous mass. There are other excellent conifers for exposed places, such, for instance, as *Abies concolor*, but their price is prohibitive to plant on a large scale.



THE GREATER DODDER ON FURZE.

Beyond conifers there are very few evergreen trees suitable for planting as shelter, the finest of all being undoubtedly the evergreen Oak (*Quercus Ilex*), a tree that is not nearly so frequently planted in this country as it should be. This is perhaps owing to the difficulty of transplanting it successfully if planted at any other season but early summer, and then it should be planted in quite a small state. When well established it grows quickly.

If your correspondent wishes to plant the whole of the eight acres with evergreen shelter trees I advise him to plant Austrian Pines as a first or outer barrier, then large irregular masses of evergreen Oak, Atlas Cedar, *Pinus excelsa*, *P. sylvestris*, *Thuja Lobbi*, and if he so wishes he might plant a few of *Abies concolor*, *A. lasiocarpa*, *A. grandis*, *A. nordmanniana*, and Lebanon Cedar. If he desires undergrowth between the trees he could plant Tamarisk, Sea Buckthorn (*Hippophæ*), *Alaternus* (*Rhamnus Alaternus*), *Cotoneaster Simonsii*, *Berberis Aquifolium*, *B. stenophylla*, white Spanish Broom, common Broom, and double Gorse.

Your correspondent is doubtless aware that in order to obtain successful results from a plantation planted primarily for shelter the greatest care should be taken to plant well in trenched or double dug soil or in large holes, and that every tree or shrub should be thoroughly well rooted, more roots, in fact, in proportion to the top than in ordinary cases, otherwise the result will be failure —W. GOLDRING, *Kew.*]

REFRESHMENTS IN THE ROYAL GARDENS, KEW, &c.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I have just come across in THE GARDEN of the 6th inst. a letter under the above heading from "Another Fellow" (Ipswich), who complains very much of the catering at the refreshment pavilion at Kew Gardens. As one who has very frequently patronised that establishment during the last nine years, will you allow me to protest against this libel. If there is a model establishment supplying refreshments at a public resort it is surely at Kew. The charges are moderate, and I have always found the provisions of the best. The meat luncheon, that should be banished according to "Another Fellow," is most useful; we cannot all exist on a "cup of tea." No useful purpose is served in practically libelling what is a well-conducted establishment, and in common justice I hope you will give this protest the same prominence as the paragraph which calls it forth received. I ought, perhaps, to add that I write quite disinterestedly, as the proprietors are quite unknown to me by name or otherwise. I also am "Another Fellow," but have no objection to subscribe myself

HERBERT E. MOLYNEUX.

Brantwood, Culverden Road, Batham.

[We have enjoyed many "open air" teas at Kew, and have always found the catering excellent, but the slops offered at high prices in the Temple Gardens are abominable.—Ed.]

AUTUMN-SOWN SWEET PEAS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I do not notice that in the discussion on this subject in THE GARDEN there has been any consideration of the sorts best suited for early sowing. Perhaps my experience may be useful, though it was gained in an Algerian garden. *Blanche Ferry*, which used when sown in September to flower in the following March, now after three generations of early sowing begins to flower in January. During the last three years I have succeeded in obtaining from this *Pea* (*Blanche Ferry*) eight new and distinct varieties, ranging from white to deep purple, including blue and red, each variety retaining the small-pointed

leaf, compact habit, and freedom in flowering peculiar to the original. Side by side with these I have each September sown some of the best English and American varieties, always with the same result, that my Algerian Peas, as I may call them, have flowered with their parent, *Blanche Ferry*, from January 1 till the end of April, and the old-established sorts during April and May only, three months later. The eight English and American Sweet Peas that I have in this way tried against the Algerian are *Sadie Burpee*, Hon. Mrs. G. Kenyon, Miss Willmott, *Lovely*, Prince Edward of York, *Salopian*, *Countess Cadogan*, and *Black Knight*. EDWYN ARKWRIGHT.

Télemly, Mustapha, Algiers.



BROWN TURKEY FIG. (Two-thirds natural size.)

THE FRUIT GARDEN.

THE FIG UNDER GLASS.

OF late years the impetus given to the growth of exotic fruits under glass in England, such as Grapes, Peaches, Nectarines, and Melons, has not been quite so marked in the case of the Fig, although its cultivation is now more general than it used to be. It possesses a sweet and rich flavour, distinct from any other fruit, which is a reason for its ever-increasing popularity. We have no choice fruit, except the Grape, which can be had ripe over a longer period than the Fig. It may be had any time between February and the end of November, a period of eight months.

There are two distinct methods of growing the Fig in this country, namely, the planting-out in borders and culture in pots. Under the planting-out system the trees are trained to the roof fan-shaped like the Peach, or under each rafter like a Vine. I think the latter is the better way of the two, as a greater diffusion of light among the branches and fruit is obtained. A successful illustration of this way of training the planted-out Fig is to be seen at Penrhyn Castle Gardens, where Mr. Walter Speed succeeds so well in the culture of the Fig, both under glass and on walls out of doors. If the primary object of the grower is size of fruit and weight of crop, say from the middle

of May to the end of September, then I should advocate planting out. When a supply of moderate-sized fruit for a long time is required, then I would recommend pot culture (or both combined), as by introducing a certain number of trees into heat at intervals (retarding the latest batch under a north wall), a continuous supply of ripe fruit can be had from February to November. If the planting-out system be adopted, narrow borders should be formed to plant the trees in, not wider than 3 feet, and the same in depth, with 9 inches of drainage. The soil must be made firm, as nothing is more inimical to the successful culture of this fruit than planting in loose soil. The planted-out Fig is inclined to form strong, coarse, and unfruitful growths, and this is the reason that narrow borders at first are advocated. By this means moderate and fruitful growths are produced. The borders must be enlarged in the course of three or four years as the trees grow. For soil, to a barrow-load of loam (cut, if possible, from a pasture resting on chalk or lime), add a peck of old mortar rubble, a gallon of quarter-inch bones, and the same of well-dried cow manure.

SUMMER TREATMENT.

If the planting-out system is followed the summer routine of culture is very simple and easily understood. It is necessary to disbud rather freely in spring when the trees are breaking into leaf, so that all the shoots remaining may receive the benefit of abundance of light during summer—in a word, overcrowding of the foliage must be avoided. It is the common practice to stop the shoots at the sixth or seventh leaf, and subsequent lateral growth at the third leaf. I have found it better to allow them to grow their full length. The following spring fruits form the whole length of the shoots, and splendid crops are secured. The second crop is obtained on the wood of the current year's growth, but as a rule is not of the weight or quality of the first crop. A small third crop may be had in some seasons, but the size of the fruit is small and the quality poor, and is not worth burdening the tree with. All fruit which may show after the second crop should be picked off as it appears. Until the Fig has developed a considerable



IN AN AMATEUR'S GARDEN (CENTRAL HACKNEY, LONDON).

amount of foliage, water at the roots should be given in moderate quantities only, but as soon as leaves are well developed and a good crop of fruit is secured, copious waterings may be given with advantage every week or ten days, and on each occasion with well diluted manure water. The Fig, whilst growing, delights in abundance of moisture in the atmosphere, but the foliage should not be syringed after the syringing which takes place on closing the house in the afternoon, as the surface of the leaves being rough they take a long time to dry. As soon as the fruit approaches ripeness, moisture in the atmosphere and at the roots must be considerably reduced, and more air admitted. After the first crop has been gathered the weak shoots should be cut away, making room for the better development and ripening of those left. There are no better varieties to grow under the planting-out system than the White Marseilles and Brown Turkey.

FIGS IN POTS.

This system of growing the Fig is more general than the other, and is the best suited for amateurs. To obtain ripe fruit at the end of February the first trees should be introduced into heat at the end of October. A bottom heat of 60° should be given at starting, and this is best provided by plunging the pots in Oak or Beech leaves (in the absence of those by hot-water pipes). The air of the house should be of the same temperature, gradually increasing both as growth advances until a maximum of 75° is reached without sun-heat; the temperature of the house at closing time may be permitted to rise to 80° or 85° from sun-heat with advantage. The next trees should be introduced into heat at intervals of a month, by which means a regular and unbroken supply of Figs may be had throughout the spring, summer, and autumn.

The same soil should be used in potting the Fig as that advised for the border, and the best time for potting in the case of the early trees is the first week in September, and the others a month later. Top-dressing with rich soil when growth is active is important. I am a firm believer in annually potting the trees, and am convinced that better results are obtained in this way than by repotting once in two or three years. In most cases the mass of earth and roots may, with advantage, be reduced, so that the plant may be potted in

the same pot for a number of years. Lessen the ball of soil so that from half an inch to an inch of fresh material may be added. In pot culture growth will be less luxurious, and each shoot should be stopped at the fifth or sixth leaf.

VARIETIES.

These have been added to considerably of late years. The best for early forcing no doubt is St. John's, and Brown Turkey and White Marseilles are indispensable. The following are also desirable varieties: Bourjassotte Grise, Negro Largo, Nebian, and d'Agen (the latter

being one of the latest), White and Brown Ischia, although small are of delicious flavour.

The largest collection of Figs in pots that I know of is in the Royal Horticultural Society's garden at Chiswick, and anyone intending to commence Fig culture in pots would do well to visit this garden. He could not fail to be interested and instructed by a chat on Figs with Mr. S. T. Wright. OWEN THOMAS.

AN AMATEUR'S GARDEN.

THE accompanying illustration shows a conservatory in which I interest myself in the few spare hours my business will allow me. I may here mention that it is a hobby of mine, and, of course, my knowledge of gardening is quite that of an amateur, as without the valuable assistance given me by THE GARDEN I should not have been able to turn my labours to such good account. As the illustration suggests, the photograph was taken when I had a very fine collection of Lilies in bloom, *Lilium lancifolium* and *L. auratum*, and in addition I have Ferns in variety, such as *Davallia bullata*, *Aspidistras*, *Plumbago capensis*, and *Rose Cheshunt Hybrid*. The walls are covered with creepers, the one depicted being a *Cobæa scandens*. I have also a very fine garden (adjoining), in which I have a collection of herbaceous plants, &c., of which I feel very proud. Much of the credit is due to the valuable hints I have gathered from the constant perusal of your paper, and I am pleased to take this opportunity of thanking you heartily. W. R. ARKELL, G.E.R.

GARDENING OF THE WEEK.

FRUIT GARDEN.

WALL FRUITS.

WALL culture of fruits of any kind for market is by no means well done, the expense of walls and the uncertainty of tenure rendering it impossible for the tenant to carry it out properly. Walls, however, would well repay the expenditure bestowed on them; not only could choicer Pears, Cherries, Peaches, Plums, &c., be produced, but they would also shelter other crops. In addition to the greater certainty of crops that shelter-walls would give, there is a still greater one of getting

the produce from their immediate vicinity into market a few days before that from open quarters, and everyone in the market trade knows that a few days even frequently make all the difference between profit and loss. Walls of the massive character one finds in private gardens are not needed; wooden framework covered with stout felt would not cost much—a great point in fruit culture for market.

PYRAMID, BUSH, AND STANDARD TREES.

The long-continued spell of severe all-night frosts, accompanied by a north-east wind, following a couple of months of spring-like weather, just came at the worst and most critical time, as these trees were in full flower; consequently the blossoms were frozen through; indeed, it is only on high elevations and sheltered places that any fruit trees at all have escaped. We have many trees of Pear, Plum, Apple, and Cherry, that flowered profusely with healthy, perfectly developed blooms, that have not a single fruit remaining, and one is led to wonder whether this serious loss may be a blessing in disguise, for the Pear midge will have found a difficulty to propagate to the same extent as in former seasons.

ORCHARD HOUSE.

Remove the early Peach trees to a cool part of the house or to a separate house as they are cleared of ripe fruit. Thin out the wood from which the fruit has just been gathered, stop exuberant growth, and syringe well to free the foliage from spider. Vigorous young trees which require a shift into larger pots may either be potted as they are cleared of fruit, or they may be kept well supplied with water of a stimulating nature until the whole of the first batch is ready for overhauling. Keep them under glass, and maintain a moist atmosphere until the roots have taken to the new soil; then plunge in ashes in the open air, mulch to economise watering, and syringe overhead on fine evenings. Make a final thinning, and shorten back the shoots where a sufficient number of promising fruits are swelling, and the shape of the trees will be improved thereby. Let the trees be well syringed soon after six o'clock on fine mornings, and not later than four o'clock in the afternoon. Open the ventilators when the temperature begins to rise, and let the time when the fruit is wanted be the guide in closing for the day. Late or unheated houses, which now in places give a more certain supply of fruit than can be obtained from the open air, may from this time forward have the ventilators left constantly open until the fruit is ripe.

Madresfield Court Gardens.

W. CRUMP.

THE KITCHEN GARDEN.

SALADING.

This is always in request, but especially so during the hot days of summer. The wholesomeness of salading is now well known, and the more variety one can obtain for the salad bowl the more tasty will it be, and therefore it will be well to exercise forethought to ensure a sufficiency and a variety at all times.

LETTUCE.

By sowing a pinch of seed of either the Cos or the Cabbage varieties once a fortnight, and pricking out the plants when large enough in suitable positions and in sufficient numbers for the needs of the establishment, a constant supply is maintained throughout the summer and autumn. It is well to bear in mind that Lettuces revel in rich, cool soil, and that by according quick growth the produce will be crisp and tender. On very light soils a plot of ground should be chosen that is not too exposed to the influence of the sun and drying winds, or growth will not be free.

ENDIVE.

This requires precisely the same treatment as Lettuce, with the exception of blanching the hearts when large enough, whereas good types of Paris Cos or any of the Cabbage Lettuce require neither tying nor blanching artificially. Both the curled and the Batavian are good for present sowing, though the former is most attractive in appearance for the salad bowl.

WATERCRESS.

A constant supply of this wholesome salad is readily maintained by sowing seed or striking cuttings in pots or pans and keeping the plants in a cool shaded position and well supplied with water. Of course, where it grows in beds or streamlets in close proximity to the gardens this mode is not necessary. A position under a north wall where but little sun reaches it answers well throughout the summer, and the pots may be plunged to their rims with advantage.

RADISHES.

A cool, moist medium is absolutely essential for this crop from now onwards or the produce will be hot and tough. Water the seed-bed thoroughly before sowing and apply water daily afterwards. Two good and attractive varieties for present sowing are Long Red and Carter's Triumph.

CUCUMBERS

may still be planted on mild hot-beds for furnishing supplies for ordinary use late in the season, and the ridge variety may also now be planted in the open. The latter variety does better when planted on ridges or compost heaps in the frame ground than upon the level. Seed of the frame sorts may still be sown for the production of plants for successional houses if required.

BEETROOTS.

Well-grown, medium-sized roots of these are a welcome addition to a salad when well cooked and thinly sliced. Carter's Crimson Ball is one of the best for summer use. Other ingredients sometimes used in the making of summer salads are Chervil, Clives, and the green seeds of Nasturtiums.

Stoudeleigh Abbey Gardens. H. T. MARTIN.

FLOWER GARDEN.

WATERING.

IN the whole round of garden work nothing is of more importance at this time than watering, and now that the bulk of the work of bedding out has been completed, no time should be lost in seeing that each plant has had its full share of water or the effects later on will be most disastrous. Every plant should have had a good soaking immediately the bed was planted, and if the whole bed was thoroughly soaked all the better, water being the chief vehicle through which food is conveyed to plants from the soil. In order to be beneficial it must be administered in such quantity as shall penetrate sufficiently deep into the ground to reach the roots. A mere sprinkling of the surface of the soil is productive of more harm than good.

After watering, and as soon as the surface becomes moderately dry, let the Dutch hoe be freely used so as to leave the surface loose. This will prevent evaporation, and if raked at all avoid making the surface of the beds too smooth.

WALLFLOWERS.

Where these are used largely for spring bedding and fine bushy plants are expected for planting out by the middle or end of October, no time should be lost in getting the seedlings transplanted before they become crowded or drawn, and although this plant will grow on the top of an old wall it does far better in a rich, rather dry, loamy soil. Give them an open spot in the garden. Plant in rows about 10 inches or 12 inches apart each way, and after they have begun to grow go over them and top them. This will have the effect of causing them to be more compact and dwarf.

DOUBLE WALLFLOWERS.

The propagation of the double varieties must be effected by cuttings. The error into which many fall who try to cultivate these old-fashioned yet most interesting border flowers is that they delay the putting in of the cuttings, and as they take a long time in rooting the season is over before the young plants can be established, and a good deal depends on selecting the plants. The young shoots should be selected and then should be taken as early as possible if good plants are to be had the first season. A firm, short cutting, not wiry and hard, but moderately firm, should be pulled from the plant, not cut. The heel should then be cut

smooth with a knife and a few of the leaves removed and it is ready for insertion. The cuttings should be dibbled in firmly about 2 inches apart. Leaf-mould and sand sifted finely and made firm by the pressure of the hand suits them well.

T. B. FIELD.

Ashwellthorpe Hall Gardens, Norwich.

INDOOR GARDEN.

CHRYSANTHEMUMS.

If not already done, these should have the final potting without delay. A mixture largely composed of good fibrous loam, with one-fourth part of old Mushroom bed manure, and a 6 inch-potful of bone-meal or Clay's to each barrow load of soil and sufficient coarse sand to make it porous; 8-inch or 10-inch pots are the most suitable size for the strong, growing varieties. Let the pots be quite clean or new; if the latter, soak them well, and allow them to become quite dry again before using. Drain the pots thoroughly and place a little rough potting material over the drainage, into which sprinkle a handful of fresh soot; pot the plants firmly. Put one or more stakes as may be required to each plant and tie up the leading shoots. Select a sheltered position on the ash border for them, and syringe frequently during dry weather. Keep a sharp look out for the various insect pests that attack them, and also for mildew, on the first sign of which dust the plants with flowers of sulphur. Water carefully until the roots reach the sides of the pots.

BEGONIAS

of the fibrous or semi-fibrous rooted section for winter blooming must be examined occasionally, and if allowed to become too dry must have a light watering given them. Cut away any decaying stems or foliage and place them in a light airy position. B. Gloire de Sceaux should also be looked over with a view to working up a young stock.

Young plants of other winter-flowering subjects such as *Eranthemum pulchellum*, *Thyracanthus rutilans*, *Jacobinia sericographis*, and *J. aurantiaca* must be kept growing freely. A warm, moist pit is the best position for these.

SOLANUMS

of the *Capsicastrum* section, old plants trimmed back some time ago and that have broken away freely should be potted into one size larger pots and placed in cold frames, keeping them well syringed to encourage growth. Keep them free from aphid

by an application of quassia extract once a fortnight, and turn the plants round occasionally to induce a uniform habit of growth. Young plants in 4-inch or 5-inch pots should have the point of the strongest shoots pinched out. Keep them near the glass and ventilate from the back of the frames.

ZONAL PELARGONIUMS.

Pinch the points out of all strong shoots and tie them out to keep the plants in better form; give the old plants a light top-dressing of bone-meal, which should be worked into the surface with a pointed stick.

Wendover.

J. JACQUES.

NURSERY GARDENS.

MESSRS. DICKSONS, LIMITED,
CHESTER.

CHESTER and Dicksons are so linked in the minds of garden lovers that a mention of the one recalls the other. One ceases to wonder at this after having visited the nurseries, for they are of enormous extent, partly encircling the ancient city, and one may walk from the entrance, which is practically within Chester, for two miles, and still be within Dicksons' nurseries.

We were quite prepared to see something out of the common, but even then were surprised, and have no hesitation in saying that these are the largest fully equipped nurseries in this country. With the branch nurseries at Newtown and Pwllheli in North Wales, the area under cultivation of legitimate nursery stock reaches the large total of 530 acres, which is roughly apportioned as follows: Forest trees occupy 200 acres, ornamental trees and shrubs 200 acres, fruit trees 75 acres, Roses 25 acres, herbaceous and bulbous plants 20 acres, glass houses and buildings 10 acres. Only those who have visited them can form any idea of their extent and the well grown stock which they contain.

The main roads in what is termed the "home" nursery are bordered with specimen conifers and evergreens in endless variety of all habits of growth, and the enormous stock of fine healthy specimens in the various sizes makes one wonder how they are all disposed of. The plants are in good health and condition, and the regular system



SWEET BAYS IN THE PWLLHELI NURSERIES OF MESSRS. DICKSONS, CHESTER.

of transplantation carried out ensures perfect safety of removal to any distance.

No less than 800 workmen are engaged during the busy season, and we are told that these men with their families represent a total of not less than 3,000 persons who are dependent upon Dicksons. The twenty-five acres of land devoted to

ROSE CULTURE

is, like the greater portion of that under forest trees, situated on a high table land which overlooks the Valley of the Dee, where a magnificent view of the Welsh hills is to be seen, while close below lies the ancient city of Chester, the top of its Cathedral tower being on about a level with spot on which we stood. There is no doubt about trees grown in such a bleak position being hardy, as it is fully exposed to the gales from the Atlantic. Some 250,000 dwarf and 50,000 standard Roses were worked last year, and yet we were informed at the end of the season only a few dozen plants were left, and those of varieties not in general demand. The plants for next season's sale, which we saw growing, were healthy and vigorous, and we

are largely cultivated, the annual sale of plants running into very large numbers.

Trained trees of all descriptions, fan-trained, espalier-trained, gridiron-trained, cordons, &c., are grown in countless numbers. Peaches, Nectarines, Apricots, Apples, Pears, Plums, Cherries, &c., in pots, are largely grown, several large orchard houses being filled with them. We were particularly struck with the Apricot trees in pots which were in much better condition than usually seen. We next visited the

FOREST TREES.

Over 200 acres are covered with these, while the seedling forest trees occupy 10 acres. When one considers that each acre produces literally millions of seedlings this interesting part of the grounds may truthfully be described as vast forests in embryo. The beds are laid out symmetrically, and are kept perfectly clean by a large number of women; they are found to be better for the purpose, as their fingers are more deft for weeding among the tiny seedlings. It would be impossible to convey any idea of the numbers of forest trees we saw,

ornamental-foliaged trees, grown specially for park, avenue, and boulevard planting, are to be seen in thousands, while evergreen and deciduous shrubs, such as Hollies, Yews, Rhododendrons, Aucubas, Laurels, Lilacs, flowering Thorns, Laburnums, Acers, &c., are grown by the acre. Nearly every variety and species known in this country are grown, and Messrs. Dicksons make a speciality of rare and out-of-the-way plants which are not generally procurable. Among the new plants in this department sent out by the firm we may mention *Cupressus macrocarpa lutea*, a beautiful golden variety of *C. macrocarpa*, which, in localities suited to its growth, makes a lovely specimen of the most intense golden colour. *Humulus lupulus aureus*, a new Golden Hop, was also sent out recently, and as a proof of its popularity we were told that 6,000 were sold the first season.

HERBACEOUS AND ALPINE PLANTS

are here another important feature, and the collection is one of the largest and most complete in the kingdom. Whole fields of perennials are grown and make a fine display. The wide drive from the front entrance gate to the offices is planted with such showy species as Gaillardias, Pentstemons, Helianthus, &c. On the right was a large stretch of Pæonies, of which Messrs. Dicksons make a speciality, the whole making a fine display of bloom. Large numbers of

CARNATIONS

are grown, and the collection includes all varieties worthy of cultivation. Several of the best sorts have been sent out by Messrs. Dicksons, including that fine border variety Mrs. Reynolds Hole, and they are now distributing two border varieties which are said to be very fine. That beautiful perpetual-flowering yellow variety, Duchess Consuelo, was sent out by them and met with a ready sale. There were fields of Narcissi, which when in full bloom must make a fine display. That

PRINCE OF DAFFODILS,

Sir Watkin, which was sent out by Messrs. Dicksons, deservedly maintains its popularity, no less than 500,000 bulbs being sold from these nurseries alone each year. Tulips, Scillas, Crocuses, Lilies, &c., are also largely grown, and we hope to call and see the bulbs in bloom at some future time. The firm will shortly distribute a charming variety of Narcissi Leedsii named Elaine, raised by the Rev. G. H. Engleheart, which gained a first-class certificate from the Royal Horticultural Society in May last when exhibited by him.

To describe adequately the many features of interest which arrest attention at every turn would occupy more space than can be afforded, so we will devote the remaining space to a brief mention of the town offices and

SEED WAREHOUSES,

situated in Eastgate Street. They consist of a handsome and roomy block of four storeys, rebuilt some ten years ago on the site of the old premises, designed after the old Cheshire half-timbered style of architecture with balconies, and resting upon pillars of polished Aberdeen granite, which gives it an exceedingly pleasing appearance. The ground floor is devoted to the garden seed department, and every convenience for the prompt despatch of orders has been provided. At the back of the premises is situated the spacious packing and forwarding department. Cellars which extend from the front to the back of the building provide ample store-room for seed Potatoes, Mushroom spawn, flower-stakes, labels, mats, and other kindred articles. On the several floors are situated the extensive offices, throughout which the greatest order, method, and regularity prevail. At the rear are the horticultural implement rooms, containing a most varied stock of goods. We find here implements and machines of every conceivable kind used by the gardener, forester, &c. New and improved labour-saving implements of proved practical utility are being constantly added to their collection. We cordially recommend all horticulturists visiting Chester to see these show rooms; we are sure it will prove not the least noteworthy and instructive of the many interesting



PART OF PELARGONIUM HOUSE AT CHESTER (THE NURSERY OF MESSRS. DICKSONS).

were struck with their cleanliness and freedom from insect pests.

THE QUARTERS OF FRUIT TREES

do credit to the reputation this firm has enjoyed for nearly a century. In the whole of the enormous stock it would be difficult to find many weak or ill-grown trees. Such popular varieties as Blenheim Orange, King of the Pippins, Lane's Prince Albert, Cox's Orange, Ecklinville Seedling, Warner's King, and Worcester Pearmain are grown by the thousand, also the leading market varieties of Pears, such as Beurré d'Amanlis, Doyenné du Comice, Marie Louise, Williams' Bon Chrétien, Beurré Deil, Louise Bonne of Jersey, and Marie Louise d'Uccle.

Plums such as Green Gage, Jefferson, Reine Claude de Bavay, Early Prolific, Victoria, The Czar, Coe's Golden Drop, Kirkes, Denbigh Seedling, Monarch, and White Magnum Bonum.

Cherries such as Bigarreau, Black Eagle, Bigarreau Napoleon, Black Heart, Governor Wood, Morello, and May Duke.

BUSH FRUITS,

such as Gooseberries and Currants, are grown by the thousand, and we passed quarter after quarter of strong, healthy-looking plants. Strawberries

hundreds of quarters, each containing many thousands of trees, were passed as we drove over the grounds. Trees of all sizes, from small transplanted ones for hill planting, to large trees grown thinly on the ground are literally to be seen in millions, and again one finds one's self wondering where they can all go to. Thorns for hedges cover many acres, and we were informed that the average annual sale of these amounted to many millions. Plants for game coverts, such as Hazel, Blackthorns, Privet, Rhododendron ponticum, &c., are grown in large breadths. All looked healthy and vigorous, and growing in such a bleak position they are very hardy, and we were not surprised to hear that the firm receives large orders from even the north of Scotland, so well do their trees thrive in the coldest climates. Planting forest trees by contract is a special feature of the business, and many competent foresters are employed in superintending operations of this nature. Between five and six hundred acres were planted by Messrs. Dicksons last planting season in various parts of the kingdom. Our next visit was to the

ORNAMENTAL TREES.

We were shown trees of all sizes and descriptions. Specimen forest trees, such as Limes, Elms, Chestnuts, evergreen and deciduous flowering and

sights of which this city is so full. The well-arranged

SEED ROOMS

are on the same floor, and during the seed season present a scene of great activity, orders being executed, owing to the systematic arrangements, both quickly and correctly. In this building are situated the sample and seed-testing rooms. Messrs. Dicksons were amongst the pioneers in this country of the system of selling seeds, not only of the very best selection, but also subject to a guarantee of purity, genuineness, and germination, and they still maintain this as a leading feature in their business. No seeds leave their establishment until they have been carefully tested and proved of reliable growth. The

FARM SEED WAREHOUSES

are situated in St. John Street. The large cellars are fitted up for sorting and storing seed Potatoes, in which a large trade is done, hundreds of tons passing through in the course of a season, all the tubers being carefully selected and hand-picked.

The first floor is devoted to the storage of heavy seeds, such as Clovers, the stock of which at the commencement of the season is represented by many hundreds of tons. Root crop seeds, such as Swede, Mangel Wurzel, Turnips, &c., occupy the second floor. To learn that each sack of Swede seed contains enough to sow fifty acres of land makes one astonished at the enormous acreage represented in the huge piles of sacks of these seeds. Floor number three contains grass seeds of all kinds used in the formation of permanent pastures and for rotation cropping. These are represented by thousands of sacks, piled from floor to ceiling. The fourth floor is filled with cereals for seed, Oats, Barley, Wheat, Vetches, and field Peas of the highest quality and in very large quantities.

We must not omit a passing notice of the agricultural implements. This department is situated beneath the Corn Exchange in Eastgate Street. Messrs. Dicksons do an extensive trade in agricultural implements of all kinds, their warehouse being stocked with a large and varied assortment of machines and implements of the most approved patterns, while their large implement yard, adjoining the Cathedral in St. Werburgh Street, affords excellent accommodation for the storage of goods for this department.

We cannot conclude these notes without expressing the pleasure and profit we have derived from our inspection of this comprehensive and in some ways unique business, and we take leave of it with the conviction that here ample provision is made for supplying all the varied wants of the horticulturist, arboriculturist, and agriculturist.

FLOWER SHOWS IN JUNE AND JULY.

June 24.—Grand Yorkshire Gala (three days).

June 25.—Royal Horticultural Society's Show at Holland House (two days). Isle of Wight Rose Show (or following day). Jersey Rose Show.

June 27.—Windsor Rose Show.

July 1.—Portsmouth Flower Show. King's Lynn Rose Show. Hanley Park Horticultural Fête (two days). Herefordshire and West of England Rose Show. Richmond Flower Show. National Rose Society's Midland Exhibition in Temple Gardens.

July 2.—Colchester, Norfolk (Norwich), Canterbury and Reading Rose Shows.

July 3.—Maidstone Rose Show.

July 4.—French Horticultural Society of London meet. Sutton and Walton-on-Thames Rose Shows.

July 7.—Royal Horticultural Society's Committee. Wolverhampton Floral Fête (three days). Gloucester and Harrow Rose Shows.

July 8.—Croydon Summer Show. Southampton Rose Show (two days). Lee, Blackheath, Lewisham, and West Kent Summer Show (two days).

July 9.—Bath and Woodbridge Rose Shows.

July 10.—Ulverston Rose Exhibition.

July 11.—Manchester Rose Exhibition.

July 15.—National Rose Society's Northern Show at Glasgow. Ancient Society of York Florists.

Ipswich and East of England Summer Exhibition-National Sweet Pea Society's Grand Exhibition at Earl's Court (two days). Formby and Thornton Heath Rose Shows.

July 16.—Weybridge Summer Exhibition. Highgate.

July 21.—Royal Horticultural Society's Committee. National Carnation and Picotee Exhibition. Tibshelf Rose Show.

July 22.—Northumberland, Durham, and Newcastle Exhibition (three days). Cardiff Rose Show (two days). Newcastle Summer Show (three days).

July 23.—St. Ives, Hunts, Horticultural Society's Show. Selby (Bradford) Flower Show. Gwenap (Plymouth) Flower Show. Salterhebble Rose Show.

July 28.—Warsop Flower Show.

July 29.—Copdock and Washbrook Flower Show. Midland Carnation Show (two days subject to alteration). Chesterfield Floral Horticultural Show.

GARDENS OF JAMAICA.

(Continued from page 147.)

THE THATCH PALM

is one of the most beautiful. In the East Indies it is called "The Palmyra"; in these there is great variety. But with all of them the leaves are produced one by one from the middle, and as one is thrown out it is succeeded by another. The Silver Thatch is the smallest and most valued; the young hearts of these are cut before they are thrown off into the leaf, and are used for the manufacture of hats, baskets, and many pretty ornaments. With the leaves of the larger Thatch the houses of the peasantry are roofed and the outhouses of the more important dwellings. It is very much valued for these purposes. In certain districts where it abounds it becomes a plague from the space which the numerous trees occupy and the impossibility of thoroughly eradicating it.

In the parish of Manchester another kind of Palm is found in great abundance. It is called

THE MOUNTAIN CABBAGE.

This nearly equals the Coconut in height, and at a distance might be mistaken for it. But the leaves with which the top is surmounted are neither so large nor so long as those of the Coconut. They are also of a more tender and delicate fibre. These beautiful and elegant trees are of little use. The wood may be used for rafters, but the only part which is much prized is the young heart, which, like that of the Thatch, is taken from the midst of the leaves. In order to get at this the tree must be cut down, and, even if it could be taken without the necessity for this, the tree would die from the effects. The heart may be dressed and eaten as a vegetable, but its chief use is for pickling. For so considerable an object few people care to destroy a Mountain Cabbage.

The Plantain and Banana may be both considered to belong to the Palm tribe. Their trunks grow in the same way, with the large and elegant leaves thrown out from the top. But these are very valuable as articles of food. From the centre of each plant when they are not more than two years old a large bunch of blossom is seen to project. The Plantains or Bananas are rapidly formed therefrom, and since, after producing a bunch of fruit the tree dies, it is always cut down when the fruit is removed. But young plants are constantly thrown out to take the place of those that die, so that the supply of food is very great.

The Plantain differs from the Banana in being much larger and being used as a vegetable, while the other is eaten more as a fruit. The quantity of nutritious matter in the Plantain is very great, and it is believed that few vegetable productions afford such sustenance. The most beautiful of all the Palm tribe in the island is the

ABBEENUT.

It is not so lofty as the others, but is more symmetrical in form. The drooping leaves are more thickly studded together and the top finely rounded. The trunk is covered with long and sharp prickles which render any ascent of it impossible. Bunches of fruit grow from it resembling

diminutive Cocoanuts. These are too hard to be eaten, but the shell is capable of taking a most beautiful polish, and they are often cut into ornaments. There are but few places where the Abbeenuit is found.

A curious plant may be observed in the hedges which is called

THE PENGUIN.

It is one of the Pine tribe, and is planted on the top of earthen banks, forming therewith an excellent and impassable hedge. The long jagged leaves being armed with strong prickles, it is not easy to pass over such a barrier. Like all the Pine tribe a sprout is thrown up from which the fruit is produced. This is of a sharp but pleasant acid flavour; it is, however, seldom eaten. Another thick and lofty shrub grows very luxuriantly on the sands. This is

THE ANTIDOTE.

It produces large pods. The seeds which these pods contain are about 2 inches in diameter. They are considered an antidote against poison, but although this is a prevailing opinion it does not appear that they are so used.

We also recognise in the flat country a tree, the wood of which is very well known in England. It is

THE LOGWOOD.

The name may have been originally given to it on account of its being cut up into short logs for the purpose of being sent to other countries. The greatest supply of Logwood now comes from a part of the American coast called Campeachy, but a large quantity is also sent from Jamaica. The trees when they are sufficiently old and ripe are cut down with axes. The outer skin and bark are then chipped off, and the trunks being cut up into logs it is shipped in merchant vessels. The Logwood is used for dyeing. A red or crimson dye of the best kind is produced from it, and large quantities are used in our great Cotton manufactories of Manchester and other manufacturing towns. It is an extremely tough and durable wood, but is so irregular and crooked that there are few other useful purposes to which it can be applied. The branches are covered with short prickles, the foliage is light and pretty, but it is too thinly dispersed over the tree to give it an effective appearance. But the bunches of yellow blossom with their brown stamens look very pretty and smell very sweetly. A large and somewhat straggling tree with a scanty supply of leaves attracts our attention. That is

THE SAND BOX,

so called from the character and appearance of the seed which it bears. This seed is about the size of a small flattened Apple; it is ribbed, and each of these ribs forms a distinct compartment. When gathered the part which connects it with the tree is found to be perforated with small holes. Through these sand may be introduced into the inner part. They were not infrequently used in former times, when sand was employed instead of blotting paper in drying the ink after writing. It is from this manner of using them that the Sand Box derives its name. One peculiarity of this seed is that when it becomes ripe the action of the heat upon it causes it to burst with a noise like the report of a pistol. A gentleman on one occasion brought a couple as a present to a friend in England. They were placed on the mantel-piece of the dining-room and the family retired to rest. About midnight they were aroused by a noise like the discharge of a pistol, and, supposing that thieves had entered the house, they went downstairs armed with sticks and other weapons. A most careful search for the supposed thieves proved unsuccessful, and in much doubt and perplexity they again retired to their rooms. They were hardly in bed when a similar report brought them once more downstairs. The search was again renewed with the same want of success. Happily all their fears and anxieties were dispelled by the discovery by their friend of the fragments of the Sand Boxes. The heat of the fire had caused them to burst, and was the occasion of all this alarm.

(To be continued.)

NOTES FROM SWANSWICK.

I wish some of the people who vapour rapturously about blackbirds in the garden could take over my superabundance, and with them certain trials, which would, I fancy, reduce this enthusiasm. At the end of ten days of beautiful, hot, sunny weather we mulched some fine single Pyrethrum roseum growing down one side of a newly-made and charmingly neat gravel path inside a stone edging. The situation is in full sun, so that to obtain perfection in flowering a mulch is absolutely necessary. Next day nearly the whole of the manure had been raked away from the roots, and a considerable part scattered over the path, and no sooner is precious time spent in replacing it than the same stupid trick is played all over again, although any possible insects harbouring there must all have been done for long ago. It is useless to cover the manure with soil, as it is only scraped off, and spoils the paths worse than the stable stuff does.

All mulches, whether over Roses or what not, are served the same. If the birds would turn them over once, or even twice, and then leave them alone it would be bearable, and one might endure with some fortitude the lecturing of writers who order us to believe that wings are not the only things birds and angels have in common, and that mischief and evil-doing are absent from bird nature, also that, unlike the rest of creation, their balance is entirely for useful good in the scale. But so long as a single scrap of manure remains they will have it on the paths and nowhere else if they can get their way.

I intend to circumvent them in future by laying down wire netting and pegging it over important mulches. It will look hideous and give a great deal of trouble, but in my present frame of mind anything but scoring off the persistent annoyance of these wretches is immaterial.

Last autumn I put in a large number of the double-flowered Gardenia Narcissus, some in grass and some in a border under fruit trees, and every one has blossomed, which seems to be a record in favour of these rather tiresome bulbs. May they repeat the favour next year! *Viola pedata* is absolutely charming on the shady rockery, and the deep pink *Daphne Caeorum* with variegated leaves is blooming profusely, and smells most deliciously, as do the Azaleas, mollis and the type, that make an exquisite picture on a bank, behind which are some Firs in the bit of paddock, now full of long grass and hemlock, where the Daffodils did so well. Auratum planted among the Azaleas are coming up well and strongly, and the only drawback is the weeds, which spring up brimming over from the bit of wildcroft as fast as they are cleared away.

I planted *Meconopsis Wallichii* by the pseudo pond, a weedy bit of swamp, in a good pit made for it, and filled with rough peat mixed with light, rich, sandy loam. The weather behaved kindly, and the plant got on well for a few weeks, but has now collapsed and seems quite dead—a bitter disappointment. The place was perhaps too shady. But if some of THE GARDEN readers will give me their experience of this plant, and also of *Ranunculus glacialis*, which I much wish to grow on one of my rockeries, I shall be very grateful and eager to make another attempt. M. L. W.

SOCIETIES.

HORTICULTURAL CLUB.

"HYBRIDISATION AND SELECTION."

At the usual monthly dinner of the Horticultural Club, held at the Windsor Hotel on Tuesday, the 9th inst., with Mr. Harry J. Veitch in the chair, Mr. Chas. T. Drury, F.L.S., V.M.H., read a paper on the above subject, written avowedly with the intention of confuting, as far as possible, the idea that hybridisation was an essential to variation, a view which was promulgated somewhat extensively at the recent American Conference on Hybridisation. His fear was that such an idea might wean selective cultivators on natural lines from their allegiance to Nature, which he contended would be a pity, as in his opinion continued careful selection of points, aided by natural variation, obtained far better results as a rule than those acquired by the mingling of diverse species. He fully recognised that

hybridisation was a most valuable factor in floral and other evolutions if judiciously used, as was evidenced by our splendid Begonias, Clematis, Roses, &c., which undoubtedly were due to alliances between species which possessed different attractions worthy of combination. On the other hand, he cited as examples of mere selection within the limits of true species, the grand results attained in the animal world in the shape of cattle, sheep, dogs, and pigeons, and in the vegetable kingdom by selective improvement of the common Cabbage (*Brassica oleracea*), a wild seaside weed, into the innumerable types of Cabbages, Cauliflowers, Brussels Sprouts, Kohl Rabi, and Kales. As a convincing proof that Nature produces variations in pure species, he cited the example of several British Fern species, which are absolutely solitary members of their genera in this country, and yet under wild conditions have yielded hundreds of very distinct varieties, the bulk of which are types which do not appear at all as specific ones in any genus. Clearly this fact alone demolishes the theory that all variation is due to disturbance in the formative cells induced by the intrusion of alien potencies from other species. Mr. Drury then pointed out the essential difference of the creative processes in the cases of sportive variation and that induced by crossing; in the one case Nature, seemingly spontaneously, inspires a cell with a new idea, which it proceeds to carry out by multiplying itself and building up a structure on novel lines; in the other case man contrives to introduce two old ideas into one and the same cell by means of foreign pollen, and thus induces a conflict of diverse potencies, which finds expression in various combinations, by which the selector acquires a new field of operations. As a rule, however, these combinations fall at the reproductive point. This seems too delicate a matter to be compromised thoroughly, and hence, as Mendel has shown us, a split in the camp usually occurs, the forces divide, and in another generation, if it be obtained, diverse fresh alliances occur, which again mean the selector's opportunities. An interesting discussion followed, in which Messrs. Veitch, Cook, May, Bunyard, Monro, Waterer, and others took part, the value of Mendel's principles being fully recognised as a guide for future hybridising operations, which, until their publication on a wider scale, were made almost entirely in the dark. A vote of thanks to Mr. Drury for his paper concluded a pleasant and instructive meeting.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.

THE monthly committee meeting of this society was held at the Caledonian Hotel, Adelphi Terrace, Strand, on Monday evening, June 8; Mr. Charles H. Curtis presided. Six new members were elected and one other nominated. The death certificate of the late Mr. E. Berry, of Koehampton, was produced. A vote of condolence to Mrs. Berry and family was passed, and a cheque was drawn in favour of Mrs. Berry for the amount standing to the credit of the late member in the ledger. Six members were reported on the sick fund. The application of two members to pay the higher scale of contribution was granted.

BATTERSEA, CLAPHAM, AND WANDSWORTH CHRY-SANTHEMUM AND HORTICULTURAL SOCIETY.

ON Wednesday, 10th inst., Mr. D. B. Crane, of Highgate, lectured before the members of this society, the subject on this occasion being "Violas" (Tufted Pansies). The chair was taken by Mr. Weatherston, the able superintendent of Battersea Park. The lecturer briefly referred to the history of the Viola, mentioning those men who had done so much in the past to improve the flower and also to popularise it. In this connexion Mr. J. Fleming, of Cliveden Gardens; Mr. J. Grieve, Edinburgh; Mr. John Baxter, Dalowrie, N.B.; and the late Dr. Charles Stuart, of Chirside, Berwick, besides others who had rendered somewhat less signal service were mentioned. Special mention was made of Dr. Stuart's work in the improvement of the Viola, and the means by which those of a rayless kind and the *Violetta* type were brought into existence.

Much useful information was given about propagation by cuttings and by seed also, both from the point of view of spring and autumn planting. Mr. Crane said cuttings could be inserted any time during the growing season, choosing a cool position for summer propagation and the warmest aspect of the garden for autumn and early winter propagation. As regards the use of cold frames for propagation the lecturer said at all seasons he preferred making up cutting beds in the open, the results from this treatment being infinitely superior to that obtained in the former. Autumn propagation was carried out in raised beds and with considerable success. The cuttings should be inserted 2 inches apart in rows, and the rows should be about 3 inches from one another. Mr. Crane said autumn planting should be carried out as near to the first week in October as possible, this period of planting usually resulting in the plants becoming nicely established before the hard weather sets in. Spring planting is better when carried out in early March, although when the weather permitted planting may safely begin in February and continue for two or three months. With plants raised in the hardy way previously described, both early and late planting may be done with very little inconvenience to the plants themselves. They are so hard and sturdy that they quickly become established. Plant in groups or masses of one variety or colour for the best effects, and if possible fill the different beds with one variety and arrange the series of beds to produce a pleasing association of colours or an equally pleasing contrast. In the hardy border or terrace garden a few dozen plants in each group make a most effective display, while in the small borders which are familiar to most suburban residences the quantity in each mass should be reduced accordingly. The Viola, contrary to the opinions held by most gardeners, is a deep rooting subject, and for this reason the ground intended for their reception should be deeply dug and well manured, using cow manure for light soils and ordinary stable manure for that of heavier texture. Summer treatment and insect pests and their

eradication were each dealt with in turn, and the method of making sprays for exhibition was also explained in detail.

The chairman, who said he had followed the lecture with a great amount of interest, was able to support Mr. Crane in many respects. He said the Viola was a much neglected hardy flower, and might well be cultivated instead of many subjects which at present find more favour, and which require more care and give far less satisfactory results. He also described the display of Violas at Eglinton Castle Gardens, N.B., which impressed him so much when he saw the display some years ago. Numerous questions were asked, and the meeting terminated with a vote of thanks to the lecturer.

ROYAL HORTICULTURAL SOCIETY.

SCIENTIFIC COMMITTEE.

PRESENT: Dr. M. T. Masters, F.R.S. (in the chair), Messrs. Worsdell, Drury, Saunders, Masee, Dr. M. C. Cooke, Rev. W. Wilks, and Rev. G. Henslow, hon. sec.

Larch diseased.—Mr. Masee gave the following report on branches sent by Mr. Elwes to the last meeting: "The ample material sent showed that the diseased condition was due to two distinct causes—1, the yellow and bent leaves were caused by the aphid known as *Chermes laricus*; 2, the exudation of resin on the branches was due to the presence of the fungus called *Dasycephala calycina* (formerly *Peziza Willkommii*). The relative immunity and susceptibility of trees growing on varying kinds of soil and occupying different positions in a plantation, as pointed out in the letter accompanying the specimens, can only be solved after an exhaustive examination of a number of plantations, situated in different parts of the country, has been carried out. This implies field work, and cannot possibly be solved in the laboratory."

Diseased Plum trees.—Dr. M. C. Cooke reported as follows upon some specimens sent to the last meeting: "The fungus will be found described in the Royal Horticultural Society's Journal, Vol. xxvi., Part I, April, 1902, at page 742, fig. 313, where its ravages are depicted as a wound parasite affecting the wood. The nature of the condition is *Entypella Prunastri*, but the portions sent me only exhibit the condition of conidia known as a species of *Cytospora*. These appear on the bark of living trees. Later on, and after the wood is quite dead, the mature pustules of the *Entypella* are developed. I have never seen the perfect fruit exhibited upon any but dead wood. It is quite akin and closely allied to the *Valsa ambiensis* of Apple trees. I doubt whether any successful method can be adopted when trees are attacked, but preventive measures may be used by spraying with Bordeaux mixture healthy trees so as to kill external germs which may be lurking to find admission. When branches are seen to be attacked it is better to prune off the branch below the infection and burn the diseased wood, at the same time taking care to protect the wound caused by the amputation. The disease is liable to spread from tree to tree throughout an entire orchard unless some such heroic measures are adopted."

Mangold diseased.—Mr. Masee showed pieces of roots cut up for manure, as they were badly attacked by the fungus *Phoma rabiifera*, which infects the Sugar Beets on the Continent. On enquiry he found that one-half of the stored roots of the Yellow Globe were diseased. It was the second year of the appearance of the fungus.

Larch killed by salt spray.—Mr. Masee alluded to trees some twenty-five miles inland, which were killed in the gale last March, and alluded to other instances when salt was detected on the leaves of trees from thirty to fifty miles distant from the sea. Dr. Masters mentioned the remarkable case of a Japanese Maple on Messrs. Waterer's grounds. The leaves on one half of a tree were killed by salt spray. In the next year that half flowered, and from the fruits most of the specimens in cultivation of that kind were obtained.

Plants attacked by millipedes.—Mrs. Baxter, of Doncaster, sent plants of German Asters, Stocks, &c., attacked by millipedes, upon which Mr. Saunders reported as follows: "They are the spotted snake millipede (*Blanjulus guttulatus*). It is a most destructive pest in gardens, and one that is very difficult to get rid of, partly on account of the hardness of their skins, which prevents most insecticides from having any effect on them, and partly that, as they live generally below the surface of the ground, their whereabouts are not known until some plant is found to be injured by them. A strong solution of nitrate of soda or common salt is said to kill them if it can be made to reach them of a proper strength. This is not easy, however, to effect, as the insecticide becomes weakened by passing through the soil. They may be trapped by burying small slices of Turnips, Mangolds, Carrots, or Potatoes, or pieces of oilcake just below the surface. It is useful to stick a small wooden skewer into each, so that it may be known where they are buried; it also renders them more easy to handle. These pests attack a large number of different kinds of plants, and are exceedingly fond of ripe Strawberries."

Box with insects.—Mr. Saunders reported on specimens received from Rev. H. C. Brewster, South Kelsey, Lincoln, as follows: "The insect on the Box edging is *Psylla buxi*, nearly allied to the Aphide, but is one of the Psyllidae. Spraying the edging and the large bush with paraffin emulsion or some similar insecticide would be the best plan of destroying it."

CHIPPENHAM HORTICULTURAL SOCIETY.

THE annual exhibition of this society, which has now been in operation for many years, is fixed to take place on August 12 in the grounds of Hardenhuish Park. A schedule of prizes of 228 classes has been issued, which includes special prizes by Messrs. Sutton and Sons, Carter and Co., and others. In addition various prizes are also offered for the best kept cottage gardens in certain parishes. Financially the society is in a highly favourable position, as it has a deposit account at the bank of just over £229.

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ROSE SHOW PROSPECTS.

WERE it only a question of a good rain to make this a noteworthy Rose season the amount that has fallen recently would surely suffice; but, unfortunately, at the time of writing the weather is still cold and damp. What is now required we may or we may not get, and that is warm nights and sunny days. Then surely the Rose displays will be magnificent.

The cut-back plants are very promising, and should be well out by July 1, that is if the weather is warm. We want a few days of such heat as we experienced a few days before the recent Temple show. One could almost see the outdoor Roses grow just then; and how healthy they soon looked!

Roses glory in sunshine and moisture, and this is undoubtedly the reason why English Roses in a good season are unsurpassed by those of any other country. Although we have had such a cold spell recently, so much so that on the 13th inst. 3° of frost were registered, we do not think the plants will be checked to such a degree as in 1901, for then we had three weeks of glorious Rose weather, followed by quite a sudden drop in the temperature for several days.

Roses in East Anglia and other home counties are rather late this year, but we quite expect to find that the maiden plants will be in bloom when the National Rose Society holds its London exhibition on July 1; if so, we imagine it will be a record show, and the quality should be above the average. Maiden standards and Teas are excellent this year, and the buds are swelling rapidly. All who have a good supply should be able to exhibit well. Very fine flowers are likely to be seen at such shows as Gloucester, Harrow, Croydon, Bath, &c.; in fact, all exhibitions of Roses that take place from July 1 to July 11 should be exceptionally good this year.

This season has proved the wisdom of pruning late. Plants pruned early are not so fine as those pruned late. We also think that those who were obliged to prune back their Teas and Hybrid Teas rather severely owing to damaged wood will not regret doing so, as one escapes a lot of trouble through insect pests, which rarely deposit their eggs on the lower part of the branches. The maggot is much in evidence just now, and requires all possible diligence to keep it in subjection.

We hope that the classes for exhibition Roses in vases will be well filled. Objection has been taken to this method owing to the difficulty of transport, but the ardent exhibitor will overcome all obstacles. The Chrysanthemum growers have invented indiarubber tubes that close up tight and hold the water, so that the long-stemmed flowers may be laid down. A similar plan is possible with Roses.

We also hope that the "arches" class will be worthily represented, but if the day is very hot the long sprays will show the effects of the heat; it will, however, be quite possible for competitors in the future to cultivate pot plants for this purpose if the schedule be so worded.

FORTHCOMING ROSE SHOW IN THE TEMPLE GARDENS.

A SPLENDID DISPLAY PROBABLE.

We hope all well-wishers of the National Rose Society will support the great annual display in the Temple Gardens on Wednesday next. A letter from Mr. Molyneux on another page indicates how anxious the excellent honorary secretary is that the exhibition may prove a decided success, to atone for the financial loss incurred last year. The subscribers have increased greatly; it only needs Rose lovers who do not belong to the society to either enrol their names or attend the display, and in this way support the president, secretary, and the committee. Whether the show is below the average or not there is always plenty to see, and the society has not been slow to wake up to the present needs of Rose growers, whose desires go beyond mere lines of green boxes. Last year new hybrids or varieties were plentiful, and in a few classes the flowers were shown in vases, a feature that has been wisely extended in the present schedule. We hope, therefore, the supporters of this famous society will not be disappointed this year. If the weather is kind the Roses should be superb, for only real summer warmth is necessary to expand the buds, which promise so well.

EDITOR'S TABLE.

We invite our readers to send us anything of special beauty and interest for our table, as by this means many rare and interesting plants become more widely known. We hope, too, that a short cultural note will accompany the flower so as to make a notice of it more instructive to those who may wish to grow it. We welcome

anything from the garden, whether fruit, tree, shrub, Orchid, or hardy flower, and they should be addressed to The Editor, 20, Tavistock Street, Covent Garden, London.

CYPRIPEDIUM SPECTABILE.

I AM sending for your table two spikes of *Cypripedium spectabilis*. This plant grows freely here in the open border. The plant from which these blooms were cut had twenty-seven flowering spikes, most of them being equal to those sent. If this plant were better known I feel sure it would be more generally grown by all lovers of these interesting North American Orchids.—T. B. FIELD, *Ashwellthorpe Gardens, Norwich*.

The flowers were of exceptionally rich colouring, the lip of an intense rose. An interesting and beautiful hardy Orchid for bog or rock garden.

MR. GREENWOOD PIM kindly sends from Easton Lodge, Monkstown, Dublin, a charming collection of flowers.

GLADIOLUS TRISTIS.—This was one of the most interesting. Mr. Pim writes: "This has been very fine, but is now nearly past." The clump had about three dozen spikes.

LOTUS PELIORRHYNCHUS.—The flowers of this remind one of those of a *Clianthus*. It is very showy, and an excellent basket plant. Mr. Pim says: "This curious imitation of the Lobster plant grows fairly well in almost an unheated house, its grey Asparagus-like foliage greatly setting off its deep scarlet flowers."

DIMORPHOTHECA ECKLONI.—A flower of pretty shape and colour. "A cool greenhouse sub-shrub and very lovely. It is easy to grow and to propagate."

CEROPEGIAS.—These form a very interesting set, with prettily-variegated leaves and curious flowers. Mr. Pim sent three, *C. elegans*, *Woodii*, and *debilis*, with the following remarks: "Most interesting twinders and trailers, which luxuriate with us in a house devoted to *Adiantums*, cool Orchids, *Gloxinias*, and other 'half-warm' things. My plant of *C. debilis* is a new acquisition, and note the curious stem tubers of *C. Woodii*, which a little later will be in profuse bloom for months."

PHILADELPHUS BOULE DE NEIGE.—We were pleased to see the perfectly double pure white flowers of this hybrid of *Lemoine*. It is well named, and a most valuable garden shrub.

HELIOTROPE.—Mr. Pim also sends a spray of *Heliotrope* cut from a plant which has been twenty years in the open air, sheltered by a window-sill both from frost and what is no less important—rain. It is killed to the ground every year, and shoots up afresh in spring.

FLOWERS FROM CHARD.

ANOTHER set of flowers comes from that capital garden under the charge of Mr. Crook, Chard Abbey, Somerset. Among them were the following:

STREPTOSOLEN JAMESONI.—Sprays of this were very bright. They were gathered from a plant "growing up a rafter in a cold greenhouse, and thus placed the glorious colour shows to advantage." This is an excellent plant for the amateur.

DOUBLE ROCKETS.—The flowers sent were from "plants 3 feet to 4 feet high, and were taken from the side shoots. Few things are equal to the

various Sweet Rockets in the open border when well grown."

ECREMOCARPUS SCABER.—The flowers sent were from "a plant growing 3 feet from the ground out of our stove wall. It has been in this position for four years [and blooms freely every season. The

SWEET PEAS are "from an early sowing in pots, planting out being done later. They began to bloom at the end of May."

NOTES OF THE WEEK.

FORTHCOMING EVENTS.

July 1.—National Rose Society's Show in the Temple Gardens.

July 2.—Hereford and Reading Rose Shows.

July 7.—Royal Horticultural Society's meeting; Southampton Horticultural Show.

July 8.—East Anglian Horticultural Club meeting; Farningham and Croydon Shows.

July 9.—Woodbridge Show.

"The Garden" for July 4 will be mainly devoted to Roses, and will contain a full report of the National Rose Society's exhibition in the Temple Gardens.

Great Rose show at Belfast—Visit of His Majesty.—The date of this show, originally fixed for Thursday and Friday July 23 and 24 next, has been altered to July 24, 25, and 27, to suit the convenience of His Majesty the King, who intends to visit the exhibition.

Raiser of Eastern Poppy Mrs. Marsh.—Mr. Amos Perry, Hardy Plant Farm, Winchmore Hill, N., writes: "My attention has been called to your notice of Mrs. Marsh, stating that it was raised here, which is an error. It was raised by Mr. Marsh, from whom I secured the entire stock."

May-flowering Cottage Tulips.—What twelve charming varieties among the many beautiful sorts seen at the Drill Hall on May 19 are the following: In yellows, Ixiodes, Leghorn Bonnet, Mrs. Moon, Sunset, Gesneriana lutea, and Gesneriana lutea pallida. In other colours, The Fawn (a dove shade), Fairy Queen, and Firefly-Scarlets, &c., Mooriana, Maculata aurantiaca (orange), Maculata grandiflora, Emerald Gem, and The Nigger. I was particularly struck with this lot, and I understand some of them have been given awards of merit. There is a great future before this class of Tulip.—LEX.

A poor Cherry crop.—Few fruits promised better than the dessert Cherries in April and the first week in May, but I fear this will be the worst crop for many years past. The fruits were set and promised so well that it was hoped they were safe, but the severe weather in the middle of May resulted in wholesale dropping. The Morellos are better; these are later, and being in many cases on north walls were much less injured, though in our own case I note the fruits are falling badly just as the stoning begins. Fortunately the Morellos in most cases bear heavily, so that a little thinning is best for the trees, as there is a great tax upon them in poor thin soils, and thinning is well repaid. In many parts of the country, especially in the south, the crop on standard trees of the eating or dessert Cherries is very poor this year. This will be a great loss, both to the grower and the consumer, as the Cherry is a most popular fruit, and being so early and in advance of other fruits it is much appreciated. Of the Duke class the Late Duke and the Nouvelle Royale varieties are not unlike the Morello in shape and colour, but sweeter. These I find most valuable after the earlier varieties are over.—G. W. S.

Scarcity of Gooseberries.—The lamentable scarcity of this fruit in consequence of the recent frost has been testified to by many of your correspondents of late. It is now made manifest to the consumer by the much enhanced price he has to pay for it. Let us hope the grower is receiving an adequate share of the profit. Instead of 2d. and 3d. per quart, which in ordinary

seasons is the retail price, 6d. and upwards is now charged, and with regard to Rhubarb for the usual 2d. bunch 6d. is now charged. These two items, and especially the latter, enter largely into the food supply of the people during summer, and a great rise in price like this is a serious item for the town workman with a large family, and emphasises the importance of the subject so much in the public mind of late of giving facilities for town workmen to live in the country, and to provide them with adequate gardens, which they could cultivate in their leisure, and supply themselves with useful foods for which a heavy inroad has now to be made on their often slender and precarious wages.—OWEN THOMAS.

Flower sketches at the Leicester Galleries.—Mr. and Mrs. Albert Stevens have an exhibition of flower studies and gardens at the above galleries in Leicester Square. It will remain open until July 11.

French Horticultural Society of London.—Mr. Peter E. Kay, the eminent Grape grower, has kindly invited the members of this society to visit his renowned Vineries on Saturday, July 11. It has been arranged to meet at this railway station, Finchley (Church End), at 4.15 p.m. on that day, when Mr. T. Bevan will conduct the visitors to the Claignair Vineyard.

Recently planted early-flowering Chrysanthemums.—Plants which were put out in their flowering quarters during the second and third week in May are now making somewhat rapid growth. Very soon it will be necessary to insert a stake for the support of each one. Bamboo canes are neat and durable, but, unfortunately, somewhat conspicuous. There is nothing so pleasing—and, at the same time, more reliable—than strong Hazel stakes. Too often growers insert the stakes far too near the stem of the plants, and in this way irreparable injury is done. They should be 2 inches or 3 inches from the plant, and when tying with raffia at the base see that the tie is made secure. The hoe should be kept busy between the plants, thereby keeping the weeds under, and also sweetening the soil. It is astonishing what splendid results follow a weekly hoeing between the plants, and one only needs to put this advice into practice to be impressed with the value of the work. Except in very dry situations it is a mistake to water the plants for a time at least. Always aim at getting a sturdy growth and avoid watering. On the other hand, plants which are watered from time to time invariably make rapid and ill-seasoned growth, and such plants never develop into the robust specimens that one is apt to associate with plants grown under more natural conditions.—D. B. C.

Notes from my garden.—To begin with, I like variety, so I have a flower garden, a cold greenhouse, a kitchen garden, and a frame. In the first a border of German Irises, Gracelus, with Pallida dalmatica in the centre, and surrounded with pink, white, and blue Forget-me-nots, is looking quite pretty. I have also a clump of Siberian Irises which four or five years ago I transplanted from an old garden. They did not flower till last year, when they sent up numerous spikes of their pretty deep blue veined flowers. This year, again, they are blooming as well, while the clump continues to increase in size. The Pansies, too, are in full bloom, and there are some good colours amongst Daniel's Prize Blotched. I had a very untidy piece by a Privet hedge, where nothing would grow, so I had a small dry wall put across one corner, in which are now growing Creeping Jenny, House Leeks, Stonecrop, &c. Of my cold greenhouse there is not much to say at present, as it is a new acquisition. There is a Lithospermum, which is a beautiful deep blue, and a Ramondia, also some Echeverias about to flower, and one Cyripedium Calceolus out. I have also two or three tiny Polyantha Roses showing buds, which I raised from seed last year. In my kitchen garden I am now cutting Daniel's Defiance Cabbage. I have noticed that in several letters to THE GARDEN about Spring Cabbages this variety has not been mentioned. I have been cutting it for some time. It is tender and has not so much

stalk as other varieties. I have a few canes of white Antwerp Raspberries, which are big, juicy, and of good flavour. In my frame I have been growing Mint, which has given a good supply since Easter. I lifted the roots from a bed in the open last autumn, did not give much water till growth began, and did not give much air either till just lately, and the result is a strong, fast-growing crop. In concluding these notes I must mention my Rat-tailed Cactus (*Cereus flagelliformis*), which has just flowered. It had eight flowers coming, but only five developed. It is in a mixture of ordinary potting earth and coarse silver sand, with a layer of the sand on the surface.—THE DAUGHTER OF THE HOUSE.

Flowers for butterflies.—Some years ago I had a row of Dahlias on a sunny border, and it was a pretty sight to see the Red Admirals fluttering about them in September. As far as I remember they were single Dahlias, and these I think would attract them much more than the Cactus sorts. I shall be glad to know of some other plants which are noted for attracting butterflies (not white ones) in late summer.—E. FISON, Ipswich.

Classifying the old garden Tulips. From what I notice through the Press I fear we shall have the same trouble in classifying the old-fashioned cottage great grandfather garden Tulips as with Daffodils of seventeen or eighteen years ago. A coloured plate is given in THE GARDEN, December 3, 1887, illustrating viridiflora, elegans, and retroflexa. Then another coloured plate appears in THE GARDEN, October 6, 1888, drawn by Mr. Moon, one of which I recognise as a Darwin called Glow, but what of the sorts that are now being offered in Dutch trade catalogues. I can remember all the following lovely forms, some of them having already passed the scrutinising judges' gaze of what is form or grace in a Lancashire florist flower only, but who know little or nothing of the lovely varieties that have wasted their sweetness in the desert air of the cottage gardens of the United Kingdom, particularly that Green Isle of Erin, that western gem of the Eastern world. Who would have thought eighteen years since that such varieties ever existed, viz., Ixiodes, The Fawn, Fulgens lutea (Mr. Moon?), Elegans lutea, Maculata aurantiaca, Gesneriana lutea, Gesneriana lutea pallida, Sunset, &c., then Firefly, Cloth of Gold, Emerald Gem, Eyebright, Fireblast, &c.? Nearly all the above, with Shandon Bells, York and Lancaster, Silver Queen, and Fairy Queen now appear in Dutch lists for 1903, and all from Ireland. Who would, I say, have thought it even six years since? —TULIPIMANIA.

Ochna multiflora.—Although this plant, alluded to on page 403, was grown at Kew about 1820 it apparently dropped out of cultivation, and my first acquaintance with it dates from the year 1879 or 1880, at which time Mr. B. S. Williams, of Holloway, exhibited a specimen at the great summer show at South Kensington, where from its beauty and distinct appearance it attracted much attention. For some time after this it was in fair demand, and is, as a rule, kept in those nurseries (now, alas! very few in number) where a general collection of plants is still grown. The genus Ochna, which gives its name to the order Ochnaceae, numbers about twenty-five species, but most of these are known only to botanists. That at the head of this note is a native of tropical Africa, hence stove heat is necessary for its successful culture. Given this, its requirements are not at all exacting. A coloured plate of it was given in THE GARDEN, December 30, 1882, where it was stated on the authority of Mr. Hemsley, of Kew, to be identical with Ochna atropurpurea, though in the "Dictionary of Gardening" the two are kept quite distinct. In the "Kew Hand List" the name of O. multiflora occurs, but not that of O. atropurpurea.—H. P.

The Journal of the Royal Horticultural Society.—We have received several letters recently praising this excellent publication of the society and hoping that the pages may be cut in the future. We sent the letters to the secretary, and the following is the reply: "Dear



HEUCHERA × ROSAMUNDE. (Received an Award of Merit, R.H.S., on June 9 last.)

Mr. Cook.—Oddly enough, I brought the matter of cutting the pages before the council at their last meeting. I had obtained an estimate of cost of using larger paper so as to be able to cut the edges and yet leave as much margin as at present. For you remember we used to cut the edges. Then we received an almost unanimous complaint from all libraries and book-lovers who are in the habit of binding their books that the edges were so small that when they had been further cut down as necessary in process of binding there was practically no margin left. And, as you also know, all real lovers of books love a good margin. Acting in response to these numerous requests, the council decided a few years ago to leave the edges uncut. After all, at most it does not take five minutes to cut our biggest number, and it can be easily done, whereas once cut the edges and you cannot widen them. Well, the cost of using such larger paper and cutting the edges as referred to in my first sentence would be over £100 a year, and the council refused to sanction it.—W. W."

Cyperus alternifolius.—At one time this was extensively grown for market, but it now seems to have also vanished; it is, nevertheless, a useful plant. Being an aquatic plant it cannot be over-watered, and it makes a good plant for house decoration. I recently saw it growing well in a fish globe: it had been turned out of its pot and put into the globe of water, where the roots were spreading freely, and the plant was in perfect health. There is little difficulty in getting stock, as it may be raised from seeds or increased by division. The tops also root freely if cut off and put in water; this is, perhaps, the quickest way of establishing plants, for the older or well-matured tops will soon throw up young growths. After the first roots appear they may be potted in a light porous soil. Plants from 6 inches to 9 inches high

are very pretty, or they may be grown on, and with liberal treatment will become fully 6 feet high.—A. H.

Tufted Pansy Florizel.—This excellent variety was raised by the late Dr. Charles Stuart. For some years now I have grown this variety, and during the whole of this period there has not been the slightest trace of coarseness in the growth. The plant flowers fairly early, and in late spring the blooms are of a pale blush lilac. As the season advances, however, the colour becomes a pleasing shade of lilac, and quite distinct from all others. There are veins of a deeper shade throughout the flowers, which are most profusely developed on stout, erect foot-stalks. However limited the collection, no grower should be without this variety. Plants grown for two seasons develop into grand tufts. — D. B. CRANE.

Chrysanthemums at "Tamworth."—A demonstration of the utility of early-flowering Chrysanthemums for both garden and table decoration will take place at Bolehall House, Tamworth, on September 26 next. Mr. Sydenham writes:—"I hope to

have about 4,000 plants in bloom, which will include every variety in cultivation, as far as I have been able to secure them. It is my wish that visitors should give a shilling each towards exhibitors' travelling expenses, and any balance over will be handed to the Society for the Prevention of Cruelty to Children. The following classes will be open for competition:—Handsome solid sterling silver bowl for an exhibit of early-flowering Chrysanthemums. Space allowed not to exceed 24 feet by 4 feet. Only their own foliage or Fern allowed, with or without Gypsophila. Can be shown anyhow, at the exhibitor's discretion; but blooms must not be dressed, nor must the plants have been disbudded. Raisers and the trade are particularly invited to compete in this class. Medals will also be given for the following:—18 bunches of Japanese, distinct; 12 bunches of Japanese, distinct; 6 bunches of Pompon, distinct; 3 bunches of Pompon, distinct; vase of Japanese, distinct, arranged for effect, with suitable foliage or Gypsophila; basket of Japanese, distinct, arranged for effect, with suitable foliage or Gypsophila; vase of Pompon, distinct, arranged for effect, with suitable foliage or Gypsophila. Basket of Pompon, distinct, arranged for effect, with suitable foliage, or Gypsophila. An exhibitor cannot take more than two prizes. In any class disbudded blooms or dressed blooms will be disqualified. Entries must be made by September 20 (no fees). Judging at 12 noon prompt. Luncheon, free to exhibitors, 1 p.m. Show open, by ticket only, 2 till 7 p.m. My patrons will have tickets sent them on application. Mr. D. B. Crane has kindly consented to read a paper on 'The Early Chrysanthemum,' at 3 p.m. Any further particulars can be had on application."

Malformation of the early Strawberries.—This season, I fear, in many parts of

the country, notably the southern portions, the fruits of the earlier Strawberries are of bad shape and much injured by the severe weather in May. Some sorts have suffered very much indeed, especially those that push their flower-spikes up strongly at the start, the latter being a great gain in favourable seasons, but the reverse in severe weather. It is interesting that upon close examination after the frost if the embryo fruits were only covered with a leaf they escaped injury, whereas those freely exposed are now badly shaped and very poor. Of course protection would have saved the fruit, but I did not think the plants had made enough growth for that. I have pointed out the importance of having quarters of these plants in different parts of the garden, as those in the open are later, so that it shows in our erratic climate the advantage of growing early mid-season and late sorts and in different spots.—S. H. B.

A new early Pea, Veitch's Acme. This new Pea has now been grown long enough to test its merits, and in this respect it may be classed as first-rate and a valuable addition to the first earlies, and, what is so important, its quality is excellent, and when season and crop are considered it will certainly become a standard variety. The small, early, round varieties are not always good in flavour, as this sort of Pea ages so quickly, and though early they are not continuous croppers, but the Acme cannot be thus classed. It continues to crop for some time, and is more valuable on that account. The plant is more than double the height of Chelsea Gem, and the pods are produced in pairs, containing seven to nine or more Peas in a pod, these being of a deep green colour. This was one of the best early varieties grown at the Royal Horticultural Society's gardens at Chiswick two or three years ago, and received an award of merit. The flavour is excellent, and this is not to be wondered at when one of its parents was the excellent Stratagem, one of the best-flavoured Peas ever introduced, the other being Veitch's Early, thus securing earliness with first-class quality. It is a little later than the well-known Chelsea Gem, but a splendid variety for mid and late June supplies. Seed may be sown in heavy soil earlier than the Marrow type, and it came through the severe weather early in May uninjured, thus showing its hardiness. It should make a valuable Pea for exposed positions and heavy soil.—G. WYTHES.

NEW AND RARE PLANTS.

HEUCHERA × ROSAMUNDE.

THE advent of a really good hybrid Heuchera and the announcement of still better things to come are healthy signs that this genus is well on the road to improvement from the cultivator's point of view. Last year I had an opportunity of describing *H. brizoides gracillima*, a pretty neat-growing plant, which on further experiment proves to be derived from *H. micrantha* crossed with *H. sanguinea*. The reverse cross has produced *H. Rosamunde*, a plant of greater vigour growing from 2 feet to 4 feet in height and from 2 feet to 3 feet through, with light, elegant inflorescences, the flowers of which are exactly midway between the two parents. The colour is rose-pink, with coral buds, shading with age to true pink. The 3-foot inflorescences of this Heuchera will prove very useful in all kinds of floral decorations, and as a border plant is remarkable for its light, feathery sprays of rich pink colouring, as elegant and graceful as one could wish. It was raised by Messrs. Wallace and Co. of Colchester, and received the Royal Horticultural Society's award of merit on June 9, and the accompanying illustration represents the plant that received the award. I hope later to furnish a review of the genus, together with a record of some peculiarities noticeable among hybrid seedlings. The colouring of Heucheras, as many may know, pertains to the calyx, the

petals are small and mostly white, and the calyx colouring in hybrid seedlings ranges from green through all shades of pink, scarlet, and white, whilst many are parti-coloured sometimes like their parents, often quite unlike them, insomuch that judgment seems wasted in fertilising them, a haphazard method serving quite as well.

GEO. B. MALLETT.

THE ROSE GARDEN.

PINK FLOWERED ROSES FOR PILLARS, WALLS, AND ARCHES.

WHEN describing certain Roses as pink I am open to the charge that some are blush, others rose, and others salmon. I do not desire to raise this question for discussion, but merely to produce for the use of readers of THE GARDEN a list of varieties that may, I think, come under the designation pink.

England's Glory.—This is a seedling of Gloire de Dijon crossed with Mrs. W. J. Grant. I believe this fine novelty will take a foremost place among our very vigorous climbers. It is a worthy companion to the old favourite, and apparently as free and hardy.

Climbing Caroline Testout.—A very rampant grower, and if only it proves as good as the type it must very soon be in every one's garden. What a glorious arch such a Rose would make, garlanded with the beautiful flowers.

Climbing Mme. de Watterville is a very vigorous sport of a charming Rose, but I fear it will be too tender for outdoors, save perhaps a very warm wall. However, it will be welcome for the rafters of a greenhouse.

Climbing Belle Siebrecht is now so well known that I only include it here because it cannot be omitted. It is not a rampant climber, though I have seen one year old plants make shoots 8 feet to 10 feet in one season. I have frequently alluded to this Rose as being one of the best for forming a hedge or series of pillars, say about 6 feet high. The plants if they do not run up a great height become quite bushy, and it is not at all difficult to cut forty to fifty flowers from one plant that has stood some three or four years. The colour is the rich pink of the type.

Climbing Captain Christy is a vigorous variety, with flowers somewhat smaller than the type, and, of course, it is more a blush than a true pink.

Climbing La France is rather inclined to revert to the type, but sometimes it will make quite vigorous growths. It may not be generally known that the type can be used to much advantage as a moderate climber on a wall. In this case it should receive very little pruning.

Pink Rover is one of those hardy, useful, fragrant Roses of which we have too few. The smooth, lovely bud makes a charming coat flower, and the fragrance is delicious. I do not admire the expanded flowers, but they have a fine effect in the mass.

Lady Waterlow is one of the novelties of 1903, and should be looked after. It comes from a good raiser, M. Nabonnand, and is reputedly a cross between La France de '89 and Mme. Marie Lavalley. The former makes an excellent climber; its flowers are rosy red.

Mme. Marie Lavalley is a pretty semi-double Rose, and very effective on a pillar.

Conrad F. Meyer, if only for its hardiness, should become popular. It is a hybrid Rugosa, producing flowers equal in size to the Hybrid Perpetuals. Altogether a grand novelty. So also is M. Guillot.

Mercedes.—Lovely in colour, vigorous in growth, and handsome in bud.

Climbing forms of *Pride of Waltham*, *Mlle. Engenie Verdier*, and *Princess Louise Victoria* are three useful Hybrid Perpetuals for moderate pillars. All the Roses named above will give flowers more or less in the autumn, and would be very profitably employed if planted in conjunction

with the summer-flowering pink Roses, of which the following are the best: Dorothy Perkins, The Dawson, Euphrosyne, Flora, Waltham Rambler, Blush Rambler, Leuchstern, Fair Rosamond, Blairii No. 2, and Queen Alexandra. All these, excepting The Dawson and Leuchstern, are very vigorous. This makes them useful for pergolas or arches, but I should not recommend any of them for walls, as I believe their highest beauty is seen when they can be viewed all round. PHILOMEL.

SHOWING FORCED ROSES.

I do not in the least grudge the praise given, and justly given, by "A. D." on page 240 of THE GARDEN, for the excellent Roses brought to the Drill Hall in the early months of the year by Mr. Mount. In reply, however, to the enquiry "whether other Rose growers cannot do the same," your correspondent would appear to be unaware that not a few market growers could show as fine, indeed finer, than any seen at the Drill Hall this season so far. Indeed, at the last meeting one noted Rose grower for market was present who could that very day have staged some two or three hundred blooms of Mrs. J. Laing, for example, with nearly 3 feet of stem, and fine vigorous and well-matured leafage, that alone speak volumes for the cultural side of the question. The happy hunting-ground of these famed growers is Covent Garden flower market, and it is not possible, I think, to get such men to show their splendid flowers at the Drill Hall. I have endeavoured to bring this about myself, and even suggested it again at the meeting of April 7 to one grower whom I met there. These men have to live by growing and selling these blooms, and to exhibit them would mean to place them on the market in a stale state. From the middle of February, however, until good Roses are to be had in the open, some of these market men maintain a splendid daily supply, and I have yet to see at the Drill Hall or elsewhere any Mrs. J. Laing or La France to equal—I do not say surpass—the quality such as the best of these now produce. Could such material be exhibited it would be most valuable from the cultural standpoint, as well as interesting.

Perhaps one of the most common errors among gardeners who grow Roses is that young trees are required to produce the finest blooms. No greater error could possibly exist. Indeed, the finest blooms are frequently cut from the oldest plants, and as a matter of fact—I speak generally of forced Roses now—I have some 200 or 300 plants that have been pot grown and forced into bloom each year (sometimes as early as the third week in January) for the last twenty years. Yet it is these very plants that yield the finest formed and most brilliantly coloured flowers each year, in spite of a ragged, somewhat stunted look. Younger plants that have been from six to ten years in pots are gradually doing the same, but in the first three years of their pot growth, although gradually inured to the earlier house and given identical soil and treatment, they could not compare with these old scrubs in intense colouring and brilliant finish, or for remarkable texture of petal. When these facts are more fully realised and the gardener is prepared to grow his plants for forcing for ten or fifteen years, he will be able, if all else be equal, to produce flowers also of the finest quality. It is clear, however, that the best form, the finest colouring, and fullest texture are only possible from the older plants. In these, by the slow process of time, the once large and too pithy wood of the maiden is, so to speak, so reduced and concentrated as to contain only the finest possible material for leaf and flower production. E. J.

NOTES FROM SCOTLAND.

ON Saturday, the 13th inst., some sixty members of the Scottish Horticultural Association paid a visit to Dundas Castle, the seat of Mr. Stewart Clark, in order to inspect the gardens and grounds. The latter are very extensive, well wooded, with approaches to the house of much beauty, particularly at present when Rhododendrons, which are extensively planted, are in bloom. During the

past few years the gardens have been much improved, the glass department in particular being well arranged and managed by Mr. McLennan, the head gardener. A notable number of Orchids are cultivated, exotic as well as cool house, and quantities of decorative plants for the house, while the fruit houses are well furnished with Grapes, Figs, Peaches, Cape Gooseberries, Tomatoes, Melons, and Strawberries. Roses and Carnations are prominent out of doors. The old castle, as well as the newer house, dominates the Firth of Forth and the huge railway viaduct, St. Margaret's Hope, with the adjacent Fife Coast, the proposed site of the new Naval base, also being in view. Mr. and Mrs. Stewart Clark have lately erected a new young gardener's house, a most comfortable dwelling, and in every way endeavour to make their employees comfortable.

AN HORTICULTURAL FREAK.

One of the quaintest of horticultural freaks is the floral clock lately introduced into one of the Edinburgh gardens. Last year the bit of carpet bedding near the Allan Ramsay statue elicited much favourable comment. Mr. McHattie, while retaining most of the scheme and plants of last year, has altered the centre, for the crown substituting a dial figured in Golden Feather Pyrethrum with the twelve hours. A zinc receptacle in the shape of a clock-hand, planted with dwarf vegetation, is moved by clockwork introduced near the base of the statue and marks the time, so far with great correctness. The crush of sight-seers is so great that it is difficult to get near this novel time-keeper. The other beds in these gardens are arranged in much the same style as in 1902. R. P.

CHRYSANTHEMUMS.

DEVELOPMENT OF BUSHY DECORATIVE PLANTS.

IT is difficult to account for many growers failing to produce bushy freely-flowered decorative plants when they may be developed with so little extra attention. As late in the growing season as the present time it is not easy to effect a change, yet, even at this protracted period, something may be done to produce better results. The whole question is one of stopping or pinching, and, if this be taken in hand early in the season, it is astonishing what a large number of shoots may ultimately be developed on plants treated in this way. The first pinching should be done when the plants are about 6 inches high, and if they are kept rather dry at the roots for a few days subsequent to this manipulation new shoots are more likely to develop in the axils of the leaves, and thus the foundation of a good bushy plant is made. When these new growths are 6 inches long, more or less, they too should be pinched, and each succeeding 6 inches of growth treated in like manner. It is easy, therefore, to appreciate the value of this manipulation of the growths, as by so doing numerous shoots, in the end, are developed. As there are many on each plant, one bud on each shoot is all that need be retained. In this way, for decorative uses, the plants are invaluable, as every floral decorator knows full well that to have medium-sized individual blooms, and each one on a stout, erect footstalk, gives the flowers great value. Plants intended for decorative uses should be pinched or stopped without delay, and those for early November displays should not be pinched again after the end of June. For later flowering the stopping or pinching of the growths may be continued well into July, giving the final manipulation, and this for Christmas displays, at the end of the third week in that month. This treatment, period of stopping, &c., is intended to make plants flower on terminal buds, and these are by far the best buds to select for flowers intended for decorative uses. Terminal buds invariably open well and develop flowers of pure colour, and most important of all, free from any tendency to damp. D. B. CRANE.

TREES AND SHRUBS.

HYDRANGEA HORTENSIA.

I BELIEVE the specific name of this shrub is really an old generic name given to some of the Hydrangeas by Jussieu in honour of Queen Hortense. The species has never been found in an undoubtedly wild state, but is one of the plants the Chinese and Japanese have cultivated from time immemorial, and it was from China that it was originally introduced to the King's garden at Kew towards the end of the last century by Sir Joseph Banks (according to Loudon). The accompanying illustration shows admirably how beautiful and striking a plant it is. The flowers are usually of a pale pink colour, but under certain conditions and in certain soils they are blue. The exact cause of the change has not been clearly ascertained, and has been variously ascribed to the presence of iron, potash, or alum in the soil. Although usually killed to the ground each winter near London, it is never destroyed outright. After unusually mild winters it will sometimes flower. The following are the more noteworthy of its numerous varieties: Otaksa has sterile flowers at the margin of the corymb only; it probably approaches the true wild type of the species more nearly than any. Var. nigra has very handsome purplish brown stems. Var. Thomas Hogg is a very valuable plant for indoor cultivation, having pure white flowers. Var. Lindleyi (figured in THE GARDEN for December 1, 1894) has only the marginal flowers of the corymb sterile; they are pale rose. Var. japonica rosea (coloured plate, THE GARDEN, August 15, 1896) has also pale rose flowers, but the whole of them are sterile. Var. stellata has the segments of its sterile flowers frequently toothed. B.

CYTISUS SCOPARIUS ANDREANUS FAILING.

It is always a good plan to chronicle failures, as information of an interesting and instructive

character is often the result, and for this reason Mr. Coomber's note on page 329 on the above Broom is very welcome. I must also confess to inability to do anything with it, and that upon totally different soil, in a shallow, sandy loam. About four years ago when clothing a gentle slope with flowering shrubs I put a fair-sized group of this Broom around and in front of a clump of Prunus Pissardi, thinking to get from such a combination a bit of brilliant colour, but the result did not fulfil the expectation, for the simple reason that five out of six of the Brooms collapsed, some refusing to grow at all, and others going off after the second or third season. If the above experience is at all general there are probably many who, like Mr. Coomber and myself, would be glad of a hint that would lead to successful culture. E. BURRELL.

THE CAPE FOR PROFITABLE FRUIT GROWING AND FRUIT EXPORT.

(Continued from page 420.)

WHOEVER reads this little *resumé* and begins to turn over in his mind the idea of coming out to the Cape to utilise there his practical knowledge of European fruit growing, will naturally ask what conveniences already exist in the way of supply of orchard stock. Every practical man would hesitate to bring out with him a lot of grafted trees, selected as best he could for a country he had not even seen, and of whose climate and soil he had no experience. But very recently there have been introduced into the colony large numbers of the very best modern fruits of all kinds by men who have themselves practically learned the capacity and conditions of the Cape as a fruit-growing country, and it is not too much to say that by their industrious multiplication of these picked kinds the market for first-class orchard produce is now amply supplied. There is no reason now for continuing the old system of seedlings unless out of pure wrong-headedness and refusal to take up with improved methods. So friendly is the climate here to the skilled manipulations of the nurseryman that first-class grafted yearlings can be obtained at prices not greater than those ruling in England, and thoroughly reliable to name and graft-stock. To import for one's self on coming out to the Cape would certainly involve loss of a season, to say nothing of difficulties in the way of

immediately finding ground wherein to set out the consignment. Immigrants of the kind one would so gladly see spreading themselves over the best districts of the Colony, each with his market orchard grown and tended in the way that means business and sound profits, would be wise not to start at once, but to spy out the country first for themselves, and for themselves see what our Grapes of Eshcol are like, take stock of us and our little old-fashioned ways and conservative habits of working, and then only, when the land was no longer strange, and the altered climatic conditions had become familiar, to exploit their capital on some selected fertile piece of land and add to the wealth of their adopted country by successfully adding to their own.

A brief memorandum like the present cannot by any means give all the information that an English fruit-grower would find useful when he is thinking of looking out for fresh fields and pastures new. But perhaps the best idea of the way cultural matters go on here, and the peculiar conditions of Cape rural life, would be obtained by consulting the issues of the *Cape Agricultural Journal*, now in its eighteenth volume.

At the basis of all calculations lies the fact that the Government, unlike those of Australia and New Zealand, have no available acreage out of which they can make free grants to new comers, and this is simply because the Colony dates back some two centuries before the time when the sister colonies began to be exploited by the intrusive European. All available land, at least within Colonial boundaries, has long been taken up, and is in private possession. Purchase or tenancy at a moderate rent is therefore a prime factor in all forecasts of new cultural ventures. Suitable land, even such as has never felt the plough, but is simply sat upon by the proprietor and goes with his pasture area, would sell at about £10 per morgen of two acres, provided it were within easy reach of a market by railway. The rent would be 10s. to 12s. per morgen.

Mere Wheatlands would fetch very much less, and if distant from the railway might perhaps be valued at 12s. to 20s. per morgen. Mashonaland certainly offers unlimited scope, but its market is yet to be made. Also it is only near the larger centres of population in the south-west that labourers can be found who have even a small degree of skill in the ruder operations of cultural work. Coloured men, the descendants of the old slave population, with a considerable amount of supervision, can be relied upon to trench, to dig, and hoe orchard and vineyard, to plough and harrow, and to give the Vines their annual prunings, and some of them have even recently learnt to graft with fair success. Of course all this is subject to a vigilant supervision, and subject also to the fact that the labourer's wants are so few as to make him somewhat independent. He therefore favours his employer by working when he has the mind at half-a-crown per day. The better men readily get another shilling, and are a good deal sought after. Mere farm labourers receive 25s. per month, with rations for self and family. As a rule these last are perfectly unreliable, and are unacquainted with the use of other than the simplest hand tools.

In conclusion, it is highly advisable for anyone intending to try fruit culture at the Cape to bank his capital on arrival, and arrange to receive the Colonial rate of interest,



HYDRANGEAS IN THE SOUTH-WEST. (From a photograph sent by Mr. S. W. Fitzherbert.)

meanwhile seeking out a situation with someone who is already owner of the land upon which he lives. This would be the best course, even if no salary and nothing but board were offered in the way of remuneration for service rendered. In a short time experience in Cape ways and Cape seasons would thus be gained, and the land spied out. It is much after this fashion that the best and wealthiest farmers among us have worked their way in and up. The European coming from an English farm and making a beginning without local knowledge has much to learn and unlearn, or he will inevitably come to grief in a few years. And what is true of the larger venture of farming is even more certain with the somewhat more refined economy of the orchard.

There are at this present moment good farmers in this Colony offering to take young men as apprentices, such men giving their services in return for board and lodging until such time as they shall have mastered the local conditions.

ORCHIDS.

ODONTOGLOSSUM CRISPUM VAR. XANTHOTES.

PERHAPS the most lovely *Odontoglossum* in the Drill Hall on June 9, when the Royal Horticultural Society held its usual fortnightly meeting, was the one above named. The plant was shown by Baron Schröder, The Dell, Egham (gardener, Mr. Ballantine), and although the flowers were past their best, they were still very beautiful. The petals are pure white and the sepals are white with a few small blotches of rich yellow, which, as the flower ages, almost entirely disappear. The lip is broad and spotted with deep yellow upon a ground colour of lighter yellow, and has a margin of white. The plant shown by Mr. Ballantine bore flowers of excellent form, and as they had been open almost a month the spots had faded, and the rich yellow lip against white sepals and petals made an attractive combination.

LÆLIO-CATTLEYA CANHAMIANA.

The typical form of this hybrid (the result of crossing *Lælia purpurata* with *Cattleya Mossiæ*) more resembles *L. purpurata* in growth, while the flowers have rose-coloured sepals and petals, rich, deep purple lip, and throat veined with gold and brown. In the collection of Orchids shown by Captain Holford, C.I.E., Westonbirt, Tetbury, on June 9 before the Royal Horticultural Society were some splendid plants of *L.-C. canhamiana*, and also of several varieties of this hybrid. Among the latter were *L.-C. c. var. wallertiana*, with soft pink sepals and petals, and a large well-formed lip purple with perhaps a tinge of crimson; the throat is rich yellow. *L.-C. c. Lady Wigan* has pale-coloured sepals and petals; the lip is striped with purple upon a pale ground, while the throat is veined with light purple. *L.-C. c. var. Rex* has drooping petals; both they and the sepals are white, the lip is long, fringed, and rich glowing purple with a white edge. *Lælia purpurata fastuosa var. princeps* was another remarkably fine plant in Captain Holford's group. It is without doubt one of the best varieties of *Lælia purpurata*. It is a large and striking flower, the sepals and petals being shaded and lined with purple; the lip is a rich velvety purple, and the throat is lined with the same colour upon a cream white base.

AN UNIQUE ODONTOGLOSSUM.

So far as the cultural excellence it denotes is concerned the plant of *O. luteo-purpureum* shown by Mr. Alexander, Orchid grower to Captain Holford, on June 9 at the Drill Hall was generally admitted to be unique. It has been in the Westonbirt collection only for three years, but during that time has made astonishing progress. The last bulb made (which is some 3 inches long and almost the same width) has produced two racemes carrying eighteen and twenty-one flowers respectively. Individually these are large and of good

form. Mr. Alexander uses some leaf-soil in his potting compost, which, however, consists largely of peat and sphagnum. It is probable, however, that leaf-soil has had less to do with the remarkable growth of this *Odontoglossum* than the careful ventilation and moistening and heating of the house in which it was grown. Mr. Alexander believes that more Orchids prove unsatisfactory through faulty atmospheric conditions than from any other cause. If these are unsuitable it matters little what compost an Orchid may be growing in, for the best results cannot then be had. P.

THE SWING OF LIFE.

GAILY we swing to the clear, blue skies—
Then down to the ground below!
We float through a summer Paradise,
Where scented breezes blow.
The world is gay
And bright to-day,
We talk and laugh, and idly play.
Then comes a time when all seems sad;
Cold shadows round us lie.
We swing with hearts no longer glad,
No more we heavenwards fly;
But soft and low,
In cadence slow,
Sit swaying gently to and fro.
Once more—'tis spring! All shadows flown!
The trees with bloom are sweet,
And spread beneath our roving throne,
White carpets for our feet.
The warm sunbeams
Wake happy dreams,
And in the grass the Daisy gleams.
Life is a swing. From high to low
Our changing spirits veer.
One moment wreathed in smiles we go,
The next we weep from fear.
First joy, then pain—
And back again—
Through Life's long day of sun and rain.
Remember this—that those who swing
Too high must often fall.
'Tis sweet to hear glad laughter ring,
But smiles are best of all.
So do not try
To swing too high—
The earth is nearer than the sky.

SYDNEY HESSELRIGGE.

NOTES FROM SWANSWICK.

A CORRESPONDENT asks for experiences with the old-fashioned

DOUBLE CRIMSON SWEET WILLIAM.—This grows well here, planted close to the stone edging (formally set blocks, not rockery edging) by a gravel path in the kitchen garden. It was planted in autumn, the roots coming from Ireland originally, and the soil, which is very heavy, rich loam over clay, bakes hard in sun where it is. The plants are now very dwarf, not over 6 inches high, but full of bud, and they are spreading. They are in full sun. In winter they looked wretched in time of frost, but took no ultimate harm, and began to grow away in March. Although I am fortunate with this, there are two quite common things with which I always fail, and advice about them would be thankfully received.

LITHOSPERMUM PROSTRATUM AND DELPHINIUM BELLADONNA.—Of the latter I had fourteen sturdy plants, some which had flowered, and some strong seedlings, last November, and now I have not one. They vanish during the winter in spite of being planted in specially made light soil, and of being given the warmest positions, both shady and sunny, in spite, in short, of every device I can imagine for their propitiation! As for *Lithospermum prostratum*, its nearest approach to well-doing is in heavy loam close to the low stone edging and not in full sun, shaded somewhat by taller plants. On a sunny rockery, planted in rich, light soil (loam, leaf-mould, sand, and hot-bed manure) it only dwindles, pettishly putting forth some bright yellow fresh growth, which goes on for a short time, then dying away. On, and in a dry wall that is well backed up with a wide bank of soil, but is in full sun, it does the same. The varieties

ANTHERICUMS are mostly out now and are interesting. *A. Liliastrum maximum* is smaller in all parts than *A. L. majus*, but exactly like it. Both

are inferior to a very fine anonymous plant which, I think, originally came from Winchmore Hill, and which has large white flowers of great substance and much more fleshy in texture than the somewhat tissue-papery blooms of the two already mentioned. *A. L. ramosum* has smaller flowers again, but makes more show as it branches about. *Chrysobactron Hookeri* is striking for its intense butter-yellow, and its spike of small starry, closely-set flowers, stiffly erect, is pleasing, though not conspicuous save for colour. *Anthericum Liliago* and *A. Liliago majus*, its smaller double, are later in flowering than the *Anthericums* already mentioned, with *A. Renardi* a bad last, so that it is easy to keep up a succession of these really lovely things for a few weeks in June. They look particularly well close to *Incarvillea Delavayi*, which, with its rather trying pink, is all the better for white neighbours. The *St. Bruno's* and *St. Bernard's Lilies* are very little known in this part of the country, apparently, yet their flowers, in the case of *A. Liliastrum*, so like miniature *Mary Lilies*, always awake lively admiration in the beholder. Perhaps it is because they are rather evanescent that they are not more grown; yet even when the bloom is gone the grassy Iris-like leafage is pleasing, and they are very neat in habit.

ASTER VAHLI is rather a taking little rock plant. It has the air of being some kind of everlasting flower, on account of its thick, stiff stems supporting the Daisy-like flowers. The leaves creep, and the flower-stems are about 4 inches high. In Thompson and Morgan's catalogue this plant is described as having pale blue flowers, but those of my plant are white, so it was probably a seedling when sent to me. The *Iris anglica*, in strong blues and rich yellows, are marvellously gay just now, and particularly good this year, but the Spanish *Iris*es seem all to have failed utterly, though planted at the same time and under the same conditions of purchase.

THE SMALL CAMPANULAS have enjoyed the warm rains we have lately had, and are very full of bloom. *C. garganica* is specially pretty, covered with its gay pale purple bells with constricted middles. *C. sibirica*, about 16 inches high, and of a dark purple, is rather pleasing. I have never seen *Inula glandulosa* so large in flower as it is this year, its great filamentous discs of glowing orange are quite gorgeous in the sun. Taken by the description of *Viola cornuta papilio* as a mass of blue butterflies hovering over a green clump, I bought it, but do not think it nearly so pretty as a couple of *Violettas* I raised from seed a year or two ago. The colour of *V. papilio* is heavy (if I have the right thing) whereas one of the seedlings has white and the other (all the rest were yellow and smaller) light, but very bright lilac-blue flowers, poised on extremely slender stems over delicate foliage very like in general appearance to that of a clump of *Campanula carpatica*. The plants are altogether much lighter and more graceful than is my particular *V. papilio*, which was bought as a named plant. The tiny

ALPINE POPPIES are delightfully pretty. The foliage has the advantage of that of the Iceland Poppies, in being more lacy and silvery, and the flowers in having so much wider a range of colour, while the minute perfection of each tiny round tuft, first hoary with a misty dew in the morning, and later sparkling with scattered diamond drops in the sun, and the exquisite craped blossoms above, only 3 inches or 4 inches high, is inimitable. I know no other small rock plant of the season quite so delicately lovely as this in general colouring. A young plant of that glorious

ROSE FRAU KARL DRUSCHKI has given three superb flowers, good enough for any show, and is pushing up a fine lusty shoot from the lowest possible point, and thereby differs from nearly all the rest of the Roses here, which unite by common consent in promising, and in some cases already producing, a wretched, undersized first crop of bloom. *Frau Karl* is evidently a gem of the first water for our soil, whatever it may be in light land—not that I have seen, or heard, any but good reports of it anywhere. With Billiard and Barré, I am, so far, greatly disappointed, as a small plant has produced two

large flowers, very loose and flimsy and open, of a pale washed-out yellowish colour, almost exactly like those we got from the much-praised Gustave Régis. I do not call this gold, or anything approaching it, but, of course, opinions and expressions always have differed, and always will, where colour description is concerned. One of Barr's last year's "send outs," in the person of the *Lupinus polyphyllus* Purple King, is handsome and telling in colour, which, in its case, does answer fully to the description of the raiser. The white *Libertia formosa* is pretty, with grassy leaves and clustered spikes of flowers, and the Orange Ball shrub is an old friend always receiving a warm welcome. Beside the porch of a little house not far from here there is a magnificent specimen of this very ornamental, if not particularly uncommon, shrub. It is as high as the house (a two-storied one), and has a spread of 12 feet to 15 feet

ornithological ignorance of the writers, combined with their absolute composure in issuing authoritative dicta. One individual thinks bullfinches eat insects, and yet expects to be accredited an authority. Another talks of "a pair of finches" clearing off some insect or other, and seems quite contented with his own accuracy of observation and description, and the distinction between pestilent house sparrow and invaluable hedge sparrow seems to be unknown in several cases. The apologists for the birds being of this calibre, while on the other side the letters are mostly those of people who do not think indistinct generalising is argument, and know something, if not everything, about their subject, I am afraid the mischievous majority among our plummy friends will continue to suffer the slings and arrows of the outraged gardener. He is not to be moved by the most gushingly inaccurate statements in favour

of the tits like sparrow and hedge sparrow, naughty tomtit and good coletit are generally lumped together) who "clear" a Pear tree of aphids only, it may be feared, later on to clear it, practically by ruin, if not actually by consumption, of Pears. All the same, who could kill a tomtit, or who would be brutal enough to do other than deplore the dead pink and grey and black beauty that cost us so many shillings in Gooseberry and Currant netting? On the whole it is better to pay and net and grumble, and have the birds, the hateful house sparrow always, and most emphatically, excepted. I vote for a sparrow club in every village! I believe there must be some people who will not set killing traps for mice, but I also believe these people catch them in "alive" traps, then carry them secretly to someone else's premises and let them loose there.

M. L. W.

INDOOR GARDEN.

THE COCOA TREE.

(THEOBROMA CACAO.)

COCOA trees are found growing wild on land adjacent to the great Amazon River and near to

the Equator. The first knowledge Europe had of the Cocoa plant was through Columbus, who, finding the fruit was liked by the Indians, took home some to Spain with him; it was probably a century afterwards that it was introduced

into England. The Cocoa tree is an evergreen, growing from 20 feet to 25 feet high. The flowers are borne on the main stem and branches, and the consequence is that when the fruits are ripe a Cocoa plantation presents a very attractive sight, with its large pods of many colours covering the trunks and main branches. The flowers are small and insignificant, and are produced in bunches. The Cocoa tree bears blossoms and fruits more or less all the year round, the chief crops being in June and December. The pods require three months' development to bring them to maturity. A full-grown pod weighs 1 lb. to 1½ lb. To grow the Cocoa tree in this country with success we must strive to place it under conditions resembling those in its natural habitat. Young Cocoa trees can

safely be sent over from the West Indies in Bamboo pots in a Wardian case when quite small, say six months old. Great care must be used in removing them from the Bamboo pots, so that the roots may be in no way damaged. Place in a soil consisting of good yellow loam, leaf-mould, and just enough sand to keep the soil open. Place in a stove house, keep this at a temperature of 70° to 80° Fahr., and syringe with warm rain-water night and morning, so keeping the air in the house fully charged with moisture. Fresh air when the external atmosphere is above 65° is beneficial. At 3 feet or 4 feet high the stem usually breaks into two, three, or four branches. When about 18 inches long they should be pinched in order to make them break again, and the resulting shoots, after growing 18 inches, in like manner should be pinched. The tree will bear flowers when about five years old, and they appear on the main stems around the scars left by the old leaves. Although the flowers are bi-sexual, there being no insect agency for the distribution of the pollen, it is necessary to fertilise them artificially. If room can be spared I have found it advisable to plant the young Cocoa tree in a deep, well-prepared bed in the stove house.

Shade is absolutely necessary, for the leaves will become burnt and withered if it is not given. The blinds should at least be lowered from say ten till four o'clock in spring, summer, and autumn. The winter sun can, however, be allowed safely to play upon them. When well established pruning is necessary, and should be done about December; at the same time a good dressing of old stable manure is beneficial. One tree growing in my stove house at Norwood this year had nine pods upon it, and a second tree six. Three pods came to maturity and were seven months on the tree. These were ripe in April, and were exhibited at the Royal Horticultural Society's show, obtaining a silver Banksian medal. The following day they were opened and the ripe matured seeds, numbering 117, were removed. Twelve of these were planted, and twenty-one days later were all growing 2 inches above the soil. This, I think, is the first time Cocoa pods have been gathered fully matured in this country, and young plants raised from English-grown seeds.

JAMES EPPS, JUN.

Beulah Hill, Upper Norwood.

ROUND ABOUT A GARDEN.

THE SUBURBAN SLUG.

THE worst enemy of small suburban gardens appears to be the slug. They also suffer as a rule from deficient sunlight, for most of them have a cherished tree or two, and these with the adjoining houses make ineffective traps to catch sunbeams, especially from the London atmosphere. But, discouraging as the result of want of sunlight may be, the chief drawback to gardening in London is still the slug. A choice seedling which may have had three leaves one day is discovered next morning to have none at all, only a juicy stump remaining to show where some slug found a supper. The Dahlias, for weeks after they have pushed above ground, have a hard time, with their leaves reduced to ragged lacework and their vigour sapped because the succulent stems have also been sampled by the slugs; while growing clumps of many perennials look as if a fastidious rabbit had grazed among them. Probably it would be found that of the limited number of plants which always "do well" in



COCOA TREE IN FRUIT IN MR. EPPS' GARDEN AT BEULAH HILL, UPPER NORWOOD.

at least. Just now it is in perfection of gold balls and silver-lined leaves, and makes a very fine show indeed. We have here a rather good *Salisburia adiantifolia* of considerable size, but, personally, I consider this a very interesting tree of stiff habit and unchanging colour, as dull as a painted tin Palm.

I find the alpine and hybrid perpetual fruiting Strawberries make charming edgings. Of course, there is no novelty in this use for them, but still one seldom sees them so applied. I have seedlings of St. Joseph and Sutton's alpine varieties now setting fruit well and at the same time producing quantities of runners, which latter seem too good to throw away, as if rooted now they will make good plants by autumn, so that if any GARDEN reader cares for a few I shall be glad to bestow them and thus encourage a deserving plant.

Some of the letters written about birds in a contemporary are amusing by reason of the utter

London gardens, the majority owe it to their slug-proof qualities.

THE FAULT OF THE CAT.

For the slug naturally multiplies where the natural checks upon his multiplication are removed. In the country gangs and relays of blackbirds are always hunting for slugs in the shaded corners which these affect; but in London the blackbird can never be really numerous because its conspicuous nest is always placed so low down as to be within easy reach of the multitude of marauding cats. The slow-worm, again, is a famous extirpator of slugs—it eats nothing else, as a rule—in a walled garden; but it would have no chance of survival if introduced where cats or rats are common. A list might be made of special slug exterminators which help a man with his garden in the country, but which cannot find a foothold in a cat-infested town or city. The consequence is that you can hardly turn over a broken flower-pot in some London gardens without finding it as crowded with slugs, sheltering from daylight, as a street porch with people during a thunder-storm. One would expect, therefore, every jobbing gardener in London to be a specialist in the art of exterminating slugs; but I do not see that they pay any more attention to the matter than their fellows in the country, though their charges suffer four times as much.

NATURAL HISTORY AND GARDENING.

This brings me back to a point which has been warmly disputed by critics of some previous remarks, namely, that our gardeners ought to be taught and encouraged in youth to cultivate many useful branches of natural history which they now neglect. The practical training which a lad gets when he is gradually promoted from the rough work of a garden to more important and responsible functions is not sufficient, because he learns little outside his day's work. There should be some means of giving him a scientific knowledge—by which is not meant a knowledge of Latin names—of the plants amid which his life's work lies and of the natural history of their friends and enemies. Especially should he be encouraged in habits of original observation. When a bird is trapped the gardener will probably give its body to the cat or throw it away; instead, he should open the bird's crop and see what it had been eating. Thus, even in the crops of the sparrows which infest a kitchen garden you may find nothing but insects at this season, and late in the year nothing but the seeds of weeds, hundreds of them. It should not take a gardener long to discover the few weeks during which, and the particular crops towards which, the sparrow is mischievous. Then he could take his measures accordingly and enlist the sparrow's free services during the rest of the year.

ANIMALS USEFUL AND OTHERWISE.

Wild mammals are much less in evidence than birds in connexion with a garden, but the gardeners who know the difference between mice, voles, and shrews as they affect their work, are in the minority. While the mice are almost omnivorous, and frequently do great damage to seeds, and the herbivorous voles eat green and growing matter, the carnivorous shrews are extremely useful in devouring insects, &c. Yet most gardeners treat all alike with the back of the spade. The hedgehog,

again, has his faults, if he can get to a poultry yard, but he will quickly clear an enclosed garden and its rockeries of snails. Yet how often does a gardener suggest the introduction of a hedgehog for that purpose? Nor have I known a gardener who did not kill harmless slow-worms, the sworn foes of slugs, at sight, because they looked like little snakes.

GARDEN INSECTS.

The insect world is full of friends and enemies to the gardener, but he seldom knows them by sight, especially when they have changed their clothes and become moths or flies instead of caterpillars or grubs. Why should not a gardener always keep a rearing-cage, into which he could put a few of such caterpillars or grubs as he found infesting his plants, and so find out what they "come to," and how to be on the look out for them? Most of the mischief is done at night, it is true; but you can often find caterpillars by scores with a lantern. Some insects, moreover, work by day; but when a favourite Rose



CAMPANULA PULLA ON ROCK GARDEN.

tree is being spoilt by leaf-cutter bees I doubt if ever a lad is told off with a butterfly-net one morning to catch the little bees as they come to work, and so put an end to their mischief. The leopard moth, which destroys fruit trees; the goat moth, which ruins timber; the ermine, tiger, and silver-y moths, whose caterpillars ravage the herbaceous border; the lackey-moth, buff-tip, and others, which strip whole branches of fruit and ornamental trees bare of leaves—all these and the methods of suppressing them ought surely to be familiar to men whose work lies in the garden.

OPPORTUNITIES OF PROFIT.

I am not blaming gardeners for not knowing what they have never been taught to know. Where is the profession which exhibits knowledge outside its education? With the introduction of "Nature study" into our schools lads will in future no doubt come to their work in the garden with more knowledge of the life around them; and knowledge is always profitable. In the south of England

there are scores of gardeners who could have made a good deal of money had they known that the caterpillars which two years ago suddenly began to infest the Monk's-hood plants were those of a foreign moth establishing itself for the first time in England, and commanding a high price among collectors. Other rarities often fall in the gardener's way if he only knew how to recognise them, as he would easily learn to do if in youth he had been trained to the study of Nature. E. K. R.

NOTES ON HARDY PLANTS

CAMPANULA PULLA.

AMONG the neatest as also the most free flowering of the dwarf Harebells is *Campanula pulla*. The plant is a native of the mountain pastures of the Austrian Alps, and doubtless one of the best of summer alpine. In some districts, I believe, difficulty is experienced in its cultivation, but it usually grows and flowers freely in most gardens if let alone. Though among the very dwarf sorts that, as a rule, submit to almost annual transplanting and division, this one, at least in this respect, must be excepted. It appreciates a rich, light, free soil, and a fairly moist position when growing, and if not kept to the rock garden its whereabouts should be well marked, as scarcely any evidence of the plant is left during winter. In the border it is often lost in winter by the somewhat dangerous practice to such things of mulching and the subsequent "pricking over" with the fork. E. J.

AUBRIETIA FIRE KING.

I HAVE read with interest the remarks of your correspondent "E. H.," on page 387 of *THE GARDEN* respecting the above *Aubrietia*, and I am surprised that he should have been so unfortunate with it, for after growing the plant for several years with, I think, success, we regard it as one of the most desirable *Aubrietias* in every way. A description of our mode of treatment may be of interest to others. About three years ago we wished to make a patch of it on the front of a mixed border, and for this purpose a mound of rocks with some light, rather poor, soil between them was made, this being about 9 inches higher than the level of the border. The plants were then divided into small pieces and firmly planted, and the mound is now completely covered. Although *Fire King* begins to flower early in April it does not appear at its best till quite the middle of May, and our experience is that it flowers more freely than the commoner varieties, one spike having from ten to twenty flowers, and during last month the patch was a mass of brilliant colour. Except giving plenty of water through the summer it has received no further attention, and the dimensions, I may now inform "E. H.," are 3 feet 8 inches by 2 feet 6 inches, and we shall be extremely pleased if "E. H." will honour us with a visit at any time, and kindly send a card when he can conveniently do so. No doubt this *Aubrietia* does resent winter dampness, and should be planted where it escapes it. The plant is neat, strong, and remarkably floriferous. A. E. THATCHER.

Aldenham House Gardens, Elstree, Herts.

HARDINESS OF HABERLEA RHODOPENSIS.

I THINK I am able to set all doubt about this at rest by stating that about half a dozen plants of it

in exactly a similar position as described by Mr. Arnott on page 404 of your issue of the 13th inst., viz., north-east terrace, planted in the angle formed by the next higher stratum of the rock-work in peaty loam and sand, survived here last winter, although the temperature ranged between 2° to 15° below zero Fahr. of continued frost for more than a fortnight. Having passed unscathed through an ordeal like this may, I think, be accepted as sufficient proof of its safety in English winters, provided always the plant is not in a damp or waterlogged spot.

The effect of the pleasing flower colouring is heightened if a somewhat dark corner can be spared for the plant. There is also this advantage that, while the *Ramondia*, which looks best in a position above the level of the eye, the *Haberlea* may, without at all losing in effect, be planted on the same site lower down; in fact, I am inclined to think that such a position would be even preferable.

E. HEINRICH.

Planegg, near Munich (Bavaria).

THE DOUBLE GORSE.

(*ULEX EUROPEUS FL.-PL.*)

UNDOUBTEDLY the double-flowered variety of *Ulex europæus* is the best form of Gorse to cultivate in gardens and pleasure grounds. While it flowers with all the profusion that makes the common Gorse or Wbin the greatest glory of our English commons and wild places, it has as a garden shrub two distinct advantages over the type from which it came. First, the doubling of the flowers, and the consequent relief, in a great measure, of the plant from seed-bearing, allow the blossoms to remain much longer in beauty, which is a strong recommendation. Second, the plants themselves are always of a dwarfer, sturdier, and more compact habit, and therefore do not become gaunt and leggy, as the common Gorse so frequently does in garden soil. Owing most probably to this character the double Gorse did not suffer anything like so much as the common one did during the severe weather of January and February, 1895. The double Gorse has to be propagated from cuttings, and the following I have found to be a successful method: The cuttings should be taken in July or August, when the young wood has become moderately firm, and they should be cut just below a joint and left 2 inches to 3 inches long. No artificial heat is needed, and they may simply be put in in sandy soil under a frame, handlight, or bell-glass. The cuttings should be dibbled almost as closely together as they can conveniently be put. Shading should be given them during sunny weather, especially after being first put in. They will be rooted sufficiently to pot off during the following summer, and must then be grown on till large enough to plant out. On account of the difficulty in transplanting Gorse the cuttings should never be planted out except in the place where they are intended to remain.

B.

THE FLOWER GARDEN.

THE TULIPAS.

(Continued from page 425.)

TULIPA EICHLERI, a bold and very handsome Tulip from Asia Minor, is a great rarity. It resembles in habit of growth and shape of flower the fine *T. Greigi*. The leaves are broad and very glaucous, the stems under a foot high, the flowers of a rich glowing crimson, averaging 6 inches to 8 inches across, with broad wavy petals, which reflex on expanding, revealing a remarkable inner basal colouring consisting of a deep lustrous black ring formed by the outer petals, edged with gold, upon which rests a well-defined 3-rayed Maltese Cross, also black and edged with gold, formed by the bases of the inner petals. A charming and brilliant

Tulip with refined flowers of great beauty. A warm, light, not too rich soil brings out its best qualities; it is good alike for borders or for rock gardens, and more than any other Tulip needs a good summer's baking. It should always be lifted to ripen, and the ripening period should extend fully three months. Spurious *T. Eichleri* are often sold; they are quite unlike Regel's plant, more resembling large and vulgar-looking *T. montana* than anything else. The true plant flowers with *T. Greigi* early in April. The spurious ones a fortnight later.

T. elegans (Baker).—A species of garden origin and a well-known early-flowering Tulip. It has given rise to several lovely colour forms much prized to-day. The type plant has long, tapering buds, the petals of which always reflex; they are dark scarlet, furnished internally with a large, well-defined yellow basal disc. It is an old-time Tulip of acknowledged garden worth, found in almost every garden, and grown by the ton for its yield of flowers for market.

Var. alba flowers much later than the type. Its petals are pointed and elegantly recurved at the tips, margined with a faint edging of rose; the basal colouring is reduced to a slight stain of grey. The petals average 5 inches in length, and when fully expanded never lose the characteristic funnel shape.

Var. maxima lutea has elegant, long-petalled flowers some 6 inches long, contracted near the middle, expanding fully at the tips, coloured a rich tone of yellow with an orange shading, and margined with a thin line of rose throughout. The flowers have the long funnel shape of the variety *alba*, a beautiful and rare variety. Many of the standard garden Tulips, such as *gesneriana*, *fulgens*, and *elegans* have yellow sports, which closely resemble each other. This form of *T. elegans* may be distinguished from them all by having leaves low down on the stem, almost basal, and the flowers of this variety are distinct in their long tubular base and funnel-shaped petal tips.

Var. lutea pallida—"Leghorn Bonnet"—is apparently not a variety of *T. elegans*, and now included among May-flowering Tulips of no particular type (which see later).

Var. sulphurea is a sulphur form of the variety *maxima lutea*, and possessing all the good attributes of that fine variety, differing only in its bright sulphur colouring, very rare, but *maxima lutea* often sports a sulphur-coloured variety.

Var. variegata.—A pretty but variable "broken" *T. elegans*, the petals of which are flaked and feathered yellow on a scarlet ground, colouring often very rich, but sometimes self yellow with a few scarlet flecks, sometimes scarlet with a few yellow flecks, and occasionally parti-coloured; there is no limit to the vagaries in colouring the plants will show in the course of years. A very showy plant at all times.

T. flava (Hortus).—A noble Tulip of garden origin and one of the last to flower. It grows 2 feet to 3 feet high, and the leaves and stems are very stout. The flowers average 4 inches to 5 inches long, the petals of which are pointed, slightly reflexing, all equally broad, lined and feathered green near the keel on all surfaces, and gradually changing to a lovely straw or maize yellow with age. There is no distinct basal marking, but the margins are generally shaded a softer tint of sulphur. It is one of the finest Tulips grown, very strong and free, and always conspicuous, as it towers aloft above its fellows, and when the sun shines on the flowers the petals show many lovely tints of cream and yellow. It is very choice and popular, and not ruinously expensive.

T. fragrans (Munby).—An Algerian form of *sylvestris*.

T. fransoniiana (Parl.).—An elegant Tulip of *Didieri* type, size, and form, with rich crimson flowers, shaded violet externally, especially near the keel. The basal blotch is



SHOOT OF DOUBLE GORSE (*ULEX EUROPEUS FL.-PL.*).

very large and vivid, edged with a clear regular band of pure white. A pretty garden Tulip rarely seen.

T. fulgens (Hortus) is a magnificent garden Tulip, well known and valued for its large reflexing crimson flowers and long stout stems. It grows 2 feet to 3 feet high, the petals are ovate, the outer ones much pointed, surfaces lustrous crimson, basal colouring yellow, showing also on the outside. A splendid Tulip of vivid colouring, reaching a diameter of 10 inches in good soils. It should be grown alone to be effectively pleasing; its colouring appears hard when associated with Tulips of a softer tint. One could recommend it for mass bedding calculated to be effective at a distance, and it is strong enough to hold its own amongst border plants, rarely dwindling, and always vigorous and free. Its varieties are lovely Tulips.

Var. lutea pallida is a pale yellow form, straw tinted externally, and slightly marked a richer yellow around the seed vessel. One of the rarest Tulips and a great beauty.

Var. maxima lutea (Mrs. Moon) is another grand golden-yellow Tulip, as strong and as tall as *T. flava*. It resembles *T. fulgens* in details of size and shape, and the base is slightly tinted a darker yellow. The popular name Mrs. Moon deserves preference; there are far too many Latin names employed to designate yellow forms of garden Tulips. It is a difficult matter to keep in close touch with the characters of the plants, so little do they vary one from the other. Such names as *elegans lutea maxima*, *fulgens lutea pallida*, *fulgens maxima lutea*, *elegans lutea pallida*, and *Gesneriana lutea pallida* should be deleted and popular names take their place.

T. galatica.—A new plant of great merit, resembling in habit and stature *T. armena*, and it is said to be found in imported collections of that variable species. It produces pale creamy yellow flowers, greenish when they first open, shading to a rich creamy tint with age. The base and tips of the petals are olive green, and a broad flushing of that colour occurs on the outside of each petal in its early stages. It is a very choice and rare plant, worth all the care that can be bestowed upon it. It grows well on a rockery slope, and though capable of growing in any warm border, its dwarf stature, compact habit, and love for a dry soil during its resting season suggest the rock garden for the better display and well-being of the plant. It flowers in April and lasts long in good condition.

T. gesneriana (L.).—A well-known plant of sterling worth and the parent of many choice varieties. It should be represented in every garden. The type plant has massive flowers 6 inches across, coloured a rich scarlet-crimson, the petals of which are rounded, forming a perfect deep cup when expanded. The basal colouring is rich blue. It is a native of Eastern Europe.

Var. albo-cerulea is a short-stemmed form with slightly smaller flowers, rich scarlet in colour, and furnished with blue basal colouring, upon which a white star rests. Sometimes the white colouring is marginal only, but more often proceeding from the base and running up the midrib into the scarlet zone of colour.

Var. albo-oculata differs in having a pure white base and more rosy colouring. It is a pretty flower of sweet fragrance, often met with under the name of Rosalind. Late.

Var. albo-maculata differs from the type plant in having a very pale blue base.

Var. aurantiaca has broad strong leafage, stems nearly 2 feet high, flowers 8 inches across, coloured a rich orange-red, paler on the

outside, and shading to an apricot tint near the keel. The external colouring is very soft and pretty, and the petals are broad and stout, pointed but not reflexed. It does not hold its flowers erect till they expand, when they become quite rigid. One of the best Gesner Tulips, developing enormous flowers in a good soil. Very late.

Var. aurantiaca maculata resembles the last variety, differing only in having a dark, ill-defined basal blotch.

Var. ivioides.—A charming little plant resembling *T. billietiana* in outline. The flower is 5 inches across, and clear yellow in colour, straw yellow externally. The basal eye is six-sided, very large, coloured intense black, and resembling a garden *Ixia* in its vivid and sharply-contrasting colours. It is a Tulip one could recommend as distinct from any other, and of a type that cannot fail to please. It thrives well, increases quickly, and quite small bulbs flower freely.

Var. lutea is a typical Gesner Tulip in shape and habit, clear golden yellow in colour. The basal colouring is reduced to a slightly darker stain of yellow. It is pleasingly fragrant.

Var. lutea pallida.—A magnificent yellow form, the petals of which are very long, much recurved, and contracted near the middle, thus giving the flower a distinct funnel shape. The colour is a pale yellow suffused with a soft creamy shading. A very beautiful flower indeed.

Var. rosea.—A rose-coloured form of the type, base large and blue in various shades; too badly defined in shape and too indistinctly coloured at the base to please everyone. Its one redeeming point is its fragrance, and its rosy colouring in a bud state is pleasing.

Var. spatulata is a magnificent form often 11 inches across the expanded flower. Stems nearly 2 feet high, petals broader at the top than the middle, coloured a rich glowing dark scarlet, and furnished with a wonderfully vivid blue basal colouring. More widely known as *Gesneriana Major*, and the varieties *aurantiaca* and *aurantiaca maculata* are forms of this variety.

SOME CONTINENTAL NURSERIES.

MESSRS. LINDEN AND CO., MOORTEBEEKE, NEAR BRUSSELS.

THE history of the formation of M. Lucien Linden's Orchid nursery at Moortebeeke is romantic. One learns that in a greenhouse upon the ground now occupied by Orchid houses an amateur cultivated a few *Odontoglossums* that were so remarkably fine, better than those produced by the most skilled growers a few miles away, that M. Linden came to the conclusion there must be something in this particular spot which exactly suited *Odontoglossum* culture. He was so convinced of this as eventually to buy the land upon which the amateur had his greenhouse, as well as the plants, and anyone visiting M. Linden's nursery at Moortebeeke to-day and taking note of the *Odontoglossums* will hardly feel justified in saying there was not a good deal of truth in his conviction. The establishment at Moortebeeke does not cover much ground, yet the houses are so conveniently and compactly built that the space is fully utilised, and the nursery, though probably consisting of not more than twenty houses, contains an immense quantity of plants. On either side of a large span-roof house, filled with *Lælias* and *Cattleyas*, smaller similarly shaped houses are built at right angles, and their doors open into the large central house. These small houses on the one side are

built in one block. Instead of each house having separate walls, pillars (where the wall ordinarily would be) support the roofs of two houses.

ECONOMY IN CONSTRUCTION

is thus obtained as well as the great advantage of a circulation of air uniformly throughout the houses. All this block of low span-roofed structures is filled with *Odontoglossums*. Beneath the stages are tanks kept full of soft water, and with this the plants are always watered. The canvas shading does not rest upon the glass, but is raised quite 18 inches above by means of an iron framework. This permits the air to circulate between the canvas and the roof, and during hot weather the houses and plants are by this means kept cool. M. Linden appears to believe in having plenty of moisture in the *Odontoglossum* houses, for besides the tanks below the stages already referred to, most of the plants, which are growing in small pots and pans, are placed above pans filled with water. M. Linden makes

NO USE OF LEAF-SOIL.

All the Orchids are growing in a compost of peat and sphagnum. Considerable difference of opinion seems to exist as to the value of leaf-soil as a medium for potting Orchids. Some view it with disfavour, others with indifference, while some again are loud in their praises of it. Probably something depends upon the quality and character of the material. The term leaf-soil as understood in gardens is comprehensive. However, it would be difficult to find a finer collection of *Odontoglossums* than those at Moortebeeke, whether growing in leaf-soil or peat and sphagnum. All, or nearly all, are in small pots, and the size of the pseudo-bulbs is astonishing. The most beautiful of the *Odontoglossums* in flower was

O. CRISPUM BOULE DE NEIGE,

a pure white, and probably the best of the albino forms of *O. crispum*. Perhaps most remarkable among the many *Cattleyas* that we saw were the plants of

CATTELEYA LEOPOLDI.

They were evidently completely at home; some of the growths were 3 feet high. *Lælia superbiens*, a notoriously difficult Orchid to cultivate, was represented by splendid plants. *Cattleya labiata* Linden, a particularly handsome form of this useful *Cattleya* pointed out to us, was distinguished by the same rude health as the others. The flowers are very deeply coloured. One of the most attractive hybrid *Cattleyas* in flower was *C. Acklandiae* × *C. granulosa*; the sepals and petals are greenish, spotted with brown, and the lip is bright purple, contrasting well with the sombre hues of the former. There are seedling

CATTELYAS, LÆLIAS, AND LÆLIO-CATTELYAS

in great quantity and in various sizes. Many are growing in tiny pots, and these are plunged, several together, in baskets of moss. *Cypripedium lawrenceanum* as cultivated in M. Linden's Moortebeeke nursery is a far more handsome plant than one is accustomed to consider it judging from home grown examples. One house was half filled with plants whose

RICHLY-COLOURED FOLIAGE,

marked with deep green blotches upon a whitish (one might almost say white) ground made a splendid display. Not only was the colouring of the leaves remarkable, but the vigour of the plants also. They evidently are in very congenial surroundings in the Moortebeeke nursery. Many other good *Cypripediums* were noticeable; for instance, *C. harrisianum superbum*, as finely coloured a form as we remember to have seen; *C. chamberlainianum* × *C. usneae*, *C. Miss Louise Fowler* var. *moortebeekeense*, the dorsal sepal having a primrose-coloured margin, and the centre green, marked with chocolate; the lip is pale purple. *C. chamberlainianum* × *C. enanthum* is a pretty flower, and several good forms of *C. callosum Sanderi* were pointed out. There were not a great many Orchids in flower at the time of our visit; the *Odontoglossums* generally were yet in bud. In the course of a week or two they will make an unexampled display if one may venture

to judge by the appearance of the numerous and uniformly vigorous flower-spikes that everywhere were to be seen. The fact that most impresses one about M. Linden's Orchids is their rude health, cleanliness, and vigour. They seem one and all to be amid conditions perfectly suited to their well-being, and although climate and, perhaps, other local circumstances doubtless in some measure account for their successful culture, it will be satisfactory to the supporters of peat and sphagnum as a rooting medium for Orchids to learn that leaf-soil is not in any degree responsible.

NOTES ON NEW PLANTS.

ODONTOGLOSSUM CRISPUM TRUFFAUTIANUM.

THIS, the latest variety of *Odontoglossum crispum* to receive recognition from the Royal Horticultural Society, is a large, well-proportioned flower, with broad prettily-crikkled petals marked with a mass of large crimson-red spots. The sepals each have one large similarly-coloured blotch. The lip is long, of good form, yellow beneath the column, brown still lower, and with a white margin. It was shown at the Drill Hall on June 9 by Mr. Ballantine, gardener to Baron Schröder, The Dell, Egham, and there received an award of merit.

NICOTIANA SANDERI.

RICH as was the Temple show in novelities, not one amongst them was more conspicuous in merit or showed greater promise of future value as a decorative plant than *N. Sanderi*. Everybody knows the sweet-scented white *Nicotiana affinis*. The above appears to be of similar growth, but the flowers, instead of being white, are a beautiful rosy pink, like a *Calanthe Veitchii*; so much like a *Calanthe* did it appear at a distance that many experts mistook it for this plant. I had no opportunity of enquiring as regards its habit of growth, &c., whether it is as easily reproduced from seed as is the white one; if so, a really useful and beautiful plant has been found for the adornment of the conservatory and flower garden.

OWEN THOMAS.

CORRESPONDENCE.

(The Editor is not responsible for the opinions expressed by correspondents.)

THE ESCHSCHOLTZIA.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I have read with much interest the notes of your correspondent (page 390), under the heading "Wanted, Information," and as I have had some experience in the culture of the *Eschscholtzia*, I venture to make a few suggestions. The Californian Poppy is a curious and interesting plant; it delights in a deep rich soil, and when once established likes to be left much to itself. I have tried sowing in seed-pans and transferring the young plants into the flower-beds in early spring, but never met with any great success; in fact, I always find the Poppy family resents this treatment. The *Eschscholtzias* are classed as annuals and may be grown as such, because they flower the first season if sown early. But they are true perennials, with persistent fleshy roots, and when left alone last many years. When they have become established it is not an easy matter to get rid of them, for they sow their seeds and spread as wildings, and are found in all sorts of odd places where the plants have found suitable nooks for themselves.

A few years ago I had occasion to convert two vineries into plant houses, and having no further need for the borders the question arose as to what to do with them. At last it was decided to plant one with herbaceous Paonies and the other with the *Eschscholtzia*. The Paonies were planted in September, and grew away with great rapidity the following summer. Many of them threw up strong spikes of bloom. The seed of the *Eschscholtzia* was sown in March. The surface of the border was rather rough, some of the old mulching material being left on. This kept the soil moist, and afforded shelter to the young plants until they were able to take care of themselves. When the plants were about 2 inches or 3 inches high they were thinned out, after which they grew away very rapidly. We had a grand display of flowers through the summer months, and the following season the border was a blaze of bright colours. The soil was of a rich, loamy nature with a dry subsoil. The *Eschscholtzia* likes plenty of moisture in the growing season, but when the soil is wet and heavy I have not been able to grow it so successfully.

T. B. FIELD.

HYBRID PERPETUAL ROSES UNDER GLASS.

[TO THE EDITOR OF "THE GARDEN."]

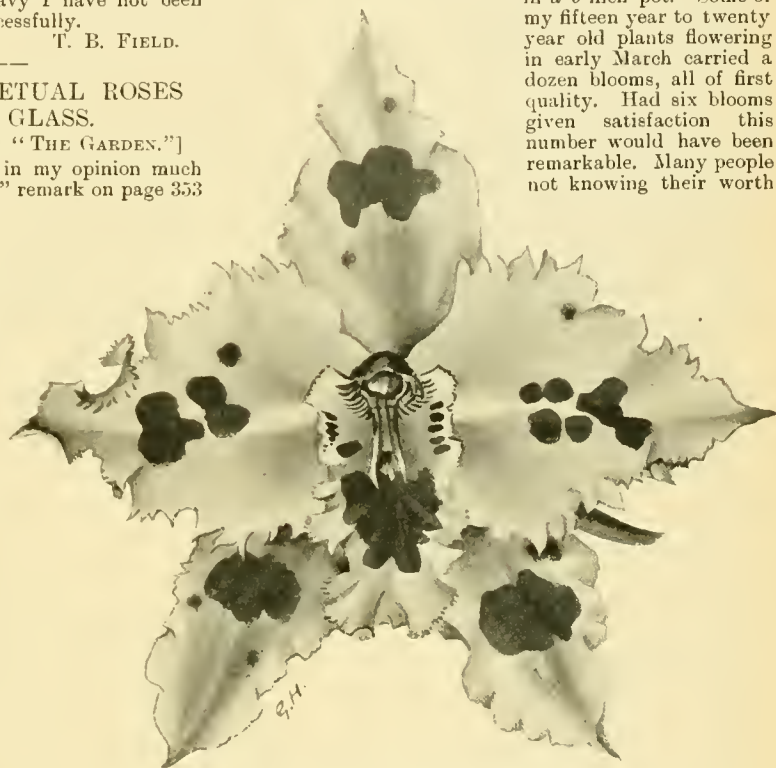
SIR,—While there is in my opinion much truth in "Philomel's" remark on page 353 of *THE GARDEN* that "I do not think all of them are suitable for forcing," some other statements under the above heading require greatly modifying. As to the sorts suited for forcing, and early forcing in particular, I can assure "Philomel" that, like the *Daffodils*, very few indeed can withstand with impunity artificial heat. There are two statements in "Philomel's" note to which I take exception, viz., "I should like to impress upon would-be growers of forced Hybrid Perpetuals the importance of young healthy plants." To this I couple

the following, which occurs in the same column later on: "I am sure it does not pay to grow Hybrid Perpetuals after three or four years." The two statements have a very similar ring in their composition, as though an acre or two of "maidens" were awaiting distribution somewhere. Yet in spite of the statement as to three or four years, I can assure "Philomel" that hundreds of dozens of the finest Roses that have been put upon the market this year are from plants three times this age at the very least. I have seen all the early forced Roses that have been shown at the Drill Hall for some years past, and I can affirm that no such quality has been seen there. If these Roses cannot be well done, or it does not pay, does "Philomel" think that practical market men who have to make it pay or sink under the load would grow the plants year after year and be in no wise anxious to discard them at fifteen years or even twenty years old? Some plants that I have are quite the latter age, and I have more than 100 of these old ones.

A neighbour has some equally old, and in both instances have they been forced, and early forced, each year all that long time. Moreover, these

are the very first to answer sensibly to heat, and without exception the plants produce the finest formed, best coloured flowers of all. In a house of 1,000 plants every one of those twenty year old can be pointed out yards away. When the Royal Aquarium at Westminster was first opened some substantial prizes were offered for Roses in pots, and I for one do not forget the examples of 4 feet, 5 feet, 6 feet, and more through that were set up for this competition. The plants were grand, flowering superbly, and not babies of three years old, very far from this, for not a few carried five or six dozen blooms, and had been shown very often. No greater mistake exists than that of discarding the plants before they have had time to demonstrate their worth. Whether the stems are long or short will depend, firstly, upon the variety; secondly, upon the quality of the wood and how many shoots have been left at pruning time. A market grower wants all the good flowers he can get, and a private grower may be satisfied with

three or four on a plant in a 9-inch pot. Some of my fifteen year to twenty year old plants flowering in early March carried a dozen blooms, all of first quality. Had six blooms given satisfaction this number would have been remarkable. Many people not knowing their worth



ODONTOGLOSSUM CRISPUM TRUFFAUTIANUM.

(Exhibited by Baron Schroder before the Royal Horticultural Society on the 9th inst. when it obtained an award of merit.)

would discard these old plants from appearances, but I can assure "Philomel" and the readers of *THE GARDEN* that no plants give better coloured or more finely formed flowers. The fact that some market men do keep Roses so long is proof that they pay; if they did not they would soon be committed to the fire heap.

"Philomel" advises that these Roses be repotted in "June, giving a small shift." In a general way there is no period of the whole year so mischievous if the roots of an H.P. Rose are interfered with in June. This section of the great Rose family commences to emit its new roots about September; the time is largely dependent upon the season, if wet or dry. In the first week of October any of the H.P.'s may be potted with advantage. At the same time the pot plant already forced can be shaken clean of soil, and by being potted anew the roots are encompassed with soil absolutely fresh, and it is this in which an H.P. delights. "Philomel," by potting in June, cannot shake out his plants, and by giving the "small shift" suggested retains about the roots of his Roses 95 per cent. of soil that is quite worn out and impoverished. Had "Philomel" to force early Roses upon his own

plan I think he would be inclined to alter his method, even for the sake of economy in pot purchases. What would he say to providing each year pots of larger size to provide a small shift, say, for 5,000 or 10,000 Roses? The pot bill would sadly reduce the profits without doubt. "Philomel" thinks the American method of having pipes under the Rose beds would do here. I say emphatically I do not. On the other side of the Atlantic steam-heating is the thing, and it can be shut off at any moment, and the pipes cool down at once. Here we use hot water, and the pipes may take hours to cool.

From "Philomel's" list of Roses as suited to forcing, and early forcing in particular, I should delete the following: Ulrich Brunner, Alfred Colomb, Duke of Teck, Duke of Wellington, Pride and Beauty of Waltham, Prince Camille de Rohan, and Charles Lefebvre. No H.P. Rose the petals of which are so solidly laid and so overlapping at the margin and point as this last is suited to flowering under glass before May. All such formed flowers require a long time to develop. It is the thinner framed flowers, the petals of which are by no means numerous, and such as open quickly with sunlight that bear the forcing treatment best. What I here refer to as early forcing are H. P.'s fit to cut at the end of January to the middle of February. To get good flowers at this time pruning should be done early in November, and slight warmth turned on in the end of the month. It will depend upon the presence or absence of fog how early or late the crop may be, and at no season does the forcing require sounder judgment. The buds should not be showing before the earliest days of the new year. The best red Rose for this early work is General Jacqueminot, the next Captain Hayward. A little later Pink and White Baroness Rothschild, to be followed quite early in March by Mrs. J. Laing, La France (not an H.P. Rose of course, and its long, weak neck is not in its favour), Ulrich Brunner, and others. Very full short-petalled Roses like Fisher Holmes require a long time to develop, and a study should be made of this and other points to which I have referred. Later than the above, save the last-named, Duke of Edinburgh and Duke of Teck will come splendidly with nearly cold house treatment. Throughout May I have daily cut these in fine condition. I have studiously given the above sorts in the order in which they may be flowered under glass, an item of not a little value. Any Rose, however, of the right colour may be tried for forcing, and you may try fifty to find everyone of them defective where these things have to be grown for profit.

Hampton Hill.

E. JENKINS.

NATIONAL ROSE SOCIETY'S TEMPLE SHOW.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—I have noticed during the last few months several references from time to time in your columns to the National Rose Society and its work. May I be permitted to point out to your readers, more particularly to your Rose-loving readers, although the latter would almost include the former (for who does not love the Rose?) that the National Rose Society holds its great Rose show this year on July 1, at the Temple Gardens, Victoria Embankment, and that if the society is to continue carrying on its work in an efficient manner it will need the hearty support, not only of the Rose lover, but of the outside public. It is no secret that, owing to the illness of the King, last year's show was anything but a financial success, and that must be avoided if possible this year. The society has done its part by increasing its schedule of classes, by making a special feature of exhibition Roses in vases, and in numerous other ways endeavouring to make the show as attractive as possible, and it only remains for the Rose lover to do his. Of course, he can best help the society by sending his name to the hon. sec., Mr. Edward Mawley, Rosebank, Berkhamstead, Herts, and becoming a member. His annual subscription of 10s. 6d. entitles him to three 5s. tickets to the Rose show

(the subscriber of a guinea receives six), and in addition he receives a unique library of literature on the Rose, how to plant, what to plant, how to prune, and how to grow, the whole history of the flower from the dormant bud to the living bloom, with a catalogue of all the Roses best worth growing for all purposes. If he is not sufficiently interested to become a member, he at least ought to see the Roses (the writer or any member of the committee would be pleased to sell him tickets). What the Derby or Ascot is to the racing man, the Academy to the picture lover, Henley to the oarsman, the Crystal Palace and the Stanley Show to the cyclist, that the National Rose Society's great show at the Temple should be to the lover of Roses, and more. The seeker after novelties (and who does not want to see something new, be it Roses or anything else?) will find them there. If he wants to know the name of an old favourite, there he will find it, or the information will be given him. From an educational standpoint the show is invaluable.

But I have taken up enough of your space; my object in writing you is to endeavour to interest a few more of that large circle which the society has scarcely tapped, the Rose lover, in the society for the encouragement of the culture of the queen of flowers—the Rose—and our national emblem.

HERBERT E. MOLYNEUX,

Hon. Local Sec.

Brantwood, Culverden Road, Balham, S. W.

STAGING CARNATIONS.

[TO THE EDITOR OF "THE GARDEN."]

SIR,—Like your correspondent "A. D." (page 404), I was much struck with a small exhibit of cut Carnations at the Temple show, and in this respect we were by no means alone, for it attracted a large share of attention throughout the exhibition. The long sprays of well-shaped and coloured flowers were so different from the crowded lumps of blossoms that too often do duty for cut Carnations as to suggest the question whether this example could not be more often followed? T.

THE FRUIT GARDEN.

HUMIDITY IN FRUIT HOUSES.

HEAT and moisture are most important agencies in connexion with forcing various fruits under glass. Important, however, as they both are in respect to first-class culture, it is not too much to say that while the former is carefully studied, little or no care is taken about humidity or atmospheric moisture in the vinery or Peach house. But in this we are apt to go to extremes. The leaves of both Vines and Peaches, as well as the developing crop of fruit, require moisture to sustain and keep them healthy and clean, but in some instances, and at different periods of leaf formation, the atmospheric moisture may at times prove too heavy or dense, which must have a weakening effect upon young and naturally tender growth. The evil, perhaps, may not be striking or even noticed at the time, but, nevertheless, growth will lack that vigour and texture in the foliage necessary to withstand the fierce power of the sun later on.

Formerly it was the custom when a start was made to force early Grapes to place a heap of fermenting material in the vinery, with a view of obtaining both heat and moisture. Further than this, the evaporating pans were kept filled with steaming water, while the Vines themselves were freely syringed twice a day, and all with the view of inducing the buds to break freely and evenly. Under such conditions, together with a fairly high temperature, nothing more or less than what may be termed a "stewing" atmosphere, was maintained, and though good results were secured on the whole, the health and fruitfulness of the Vines would undoubtedly have been better with less moisture.

But there is something to say with respect to the wide difference in the structure of vineries in those days and our present up-to-date ones. Owing to the heavy woodwork and small panes of glass then employed much shade was afforded to the leaves, and prevented their being scorched by the sudden appearance of the sun after a spell of dull weather, during which time growth would have extended and become naturally weak for the want of solar heat. Then, again, the primitive mode of ventilation, and many vineries with portable roofs, made them less air-tight than those of the present day, and therefore moisture, or undue moisture, had a chance to escape. But all this is changed now; the modern vinery is built practically air-tight, which necessitates much closer attention to ventilation, according to the condition of the weather, while the very light woodwork and large panes of glass employed prove a great advantage in securing light, but at the same time are less safe for the vegetation growing beneath when atmospheric moisture is not properly infused and the careful management of the ventilators studied.

Moisture in the vinery is necessary to assist and sustain growth, and also to prevent the introduction of red spider. The latter is, perhaps, the worst enemy the Grape grower has to contend with, and he is fortunate who, after having secured a good crop of fruit, can point to strong, clean, and leathery foliage up to the end of the season. Red spider, unless introduced into the vinery by some plant or other, seldom attacks Vines whose leaves have had room to develop fully, and which have become stout in texture. This is the aim growers should always have in view. I would now point out the evil which is likely to result where the Vines, during their early stages of growth, are subjected to a very moist and stuffy atmosphere, which does not allow of the leaves gaining corresponding stoutness and texture as they increase in size. The use of the syringe and water-pot should be regulated according to outside conditions.

During sunny and mild periods, when plenty of fresh air can be admitted into the vineries for several hours daily, the bare places, such as borders, especially those parts in close proximity to the hot-water pipes, pathways, and walls, may be damped over frequently, but allowing, when trying winds are not prevalent, a chink of air at the highest point of the roof during the night, so that moisture does not condense and settle on the foliage. Span-roof vineries should run north and south. This being so the vines on the eastern side catch the first morning sun, which, as the season advances, gains power daily. When the vinery is not entered until the usual time in early summer 6 a.m., the foliage that has been dripping with moisture all night is subjected to perhaps two hours sun before ventilation is afforded to allow undue moisture to escape. It would be rather remarkable when such conditions are allowed to go on if the leaves escaped some injury, and therefore a check to growth, and it is just as likely for red spider to make its appearance. Although moisture is advised to keep this enemy at bay, it may, indirectly, by being employed to excess, have a weakening effect on the leaves. Eventually these through not being able or sufficiently strong to withstand the full glare of a fierce sun, are scorched, and fall an easy prey to this much-dreaded pest.

Moisture and ventilation, when dealing with Vines or fruit trees under glass, should go hand in hand. A few large leaves on a Vine, or rather on each shoot, are preferable to a mass of weak growth, which never becomes really dry. Further proof, if necessary, of a badly ventilated vinery, and where moisture is used in excess, is in the long air roots which the Vines emit. Seldom if ever, can good Grapes be produced on Vines where such conditions exist.

Goodwood.

R. PARKER.

CHERRY GROWING.

(Continued from page 409.)

CHERRIES IN THE GARDEN.

MOST garden soils are sufficiently fertile to grow Cherries, but it is necessary that the rooting medium should be fairly deep, and quite essential

that the natural drainage should be good, as a stagnant water-logged soil is fatal to the welfare of the trees. November is the best time to plant, and if I have any special gospel to preach in this article, it is to begin with good trees. The nurseryman will gladly supply them, and even if they cost more to begin with they are the cheapest in the end, for poor trees are dear, no matter what is paid for them. It is not advisable to encourage a rank growth, so that if the soil is in a fairly good state of cultivation no manure is needed at the time of planting. It is always wise, however, to dig deeply and stir the subsoil, and if the latter is retentive and lacking in lime I would suggest working in a little basic slag at the rate of about 6 oz. to the square yard. Bush and pyramid trees should be quite 12 feet apart, and in planting the holes should be made broad, but not deep, and the roots be spread out evenly near the surface, covering them with a few inches of the best soil into which a little burnt earth, wood ashes, or lime rubble has been mixed.

Pruning.—It is a well-known fact that Cherries are averse to the knife, and severe pruning operations are frequently followed by exudations of gum. All the same, it is necessary to do some pruning with garden trees to keep them shapely and within bounds, and so far as possible the work should be done in the summer. If the trees are gone over in the summer, when the growth is tender and the superfluous side shoots are pinched back to five leaves with the thumb and finger, repeating the operation on succeeding growths later, all the other pruning that is necessary is that of shortening back the shoots to two or three buds.

This should not be delayed later than October, and the longer it is left after then the greater the liability to gumming. If the points of the leading shoots are pinched out in the summer they will need no further stopping, and when the tree has reached its limit of space the extension shoots may be treated in the same way as spurs. By carefully following this system of summer pinching very little knife work is necessary, and the trees enjoy freedom from gumming in consequence.

Attention to the roots is sometimes necessary, as young trees have a tendency to produce rank growths at times that are sparsely furnished with fruit buds. To meet the emergency and check the exuberance it is a good plan to lift the trees in the autumn, shorten back the long roots, and replant. Older trees that are in a state of bearing rarely need such treatment, as the strain of fruiting has a tendency to keep exuberance of growth in check. The condition of the growth must guide the grower in his manuring operations. Cherries object to poverty, and when in good bearing annual dressings of animal manure or a phosphatic chemical fertiliser manure may be applied with advantage, but if the growth is inclined to be rank care must be exercised in the application of anything of a nitrogenous character, which is conducive to the formation of wood. Being a lime-loving fruit, top-dressings of mortar rubble or chalk are beneficial to Cherries growing in soil not containing much lime.

Trees on walls.—Before planting trees on walls an examination should be made of the border to see that the drainage is good and the soil of a suitable character. If the latter is inferior after



GERMAN OR FLAG IRISES IN LADY RICHMOND'S GARDEN.

trouble may be saved by removing it and making up a border of loamy compost, to which a free mixture of lime rubble has been added. Plant good fan-trained trees in November, keeping the roots close to the surface, and finish off with a mulching of decayed manure over the roots. In the pruning of wall trees the same principles may be adopted as with bush trees, doing most of the work in the summer. The trees will need attention in June when the pinching of superfluous shoots and the laying in of others should be done. Leading shoots on young trees should be allowed to extend without stopping. If these matters are properly attended to the October pruning will consist of shortening back the shoots that were summer pinched to about two buds, laying in growths for filling spaces and extension, and properly fastening the main branches to the wall so as to make everything secure. Bearing trees are benefited by having the surface soil over the roots removed occasionally, and in place of this a top-dressing of good loam should be given, adding mortar rubble and wood ashes to the mixture. After much careful observation I am convinced that the gumming and decay of branches, so common amongst Cherries on walls, are often due to injudicious pruning, and poverty or stagnation of the rooting medium. The above remarks apply to the culture of Sweet Cherries, as the Morello, being of somewhat different habit, is treated separately below.

Varieties.—Generally speaking varieties of the Duke class are the best for garden culture, as bushes and pyramids, and for walls, but all the following are worthy of notice. Early Rivers' is true to its name, and produces large shining black fruits that are very handsome. Bigarreau de Schrecken and Bigarreau Jaboulay are both fine early Cherries, and ripen their fruits in June. They are best suited to wall culture, and prefer a south aspect. May Duke is one of the finest early Cherries for garden purposes, and Royal Duke, which succeeds it in order of ripening, is likewise good. Archduke, Black Eagle, and Governor Wood are all fine flavoured Cherries, worthy of garden culture, and in the way of later

varieties Emperor Francis, Late Duke, Florence, Bigarreau Napoleon, St. Margaret's, and Noble are an excellent half dozen. G. H. HOLLINGSWORTH.

(To be continued.)

GERMAN IRISES IN A TOWN GARDEN.

FEW plants are more accommodating than the German or Flag Iris; it thrives almost, if not quite, as well in the town as in the country garden, as the accompanying illustration, taken in Lady Richmond's garden at Hammersmith, will show. It is neither fastidious as to soil nor situation, although, of course, it thrives best when well looked after. Not only because of its flowers is the German Iris valuable in the town garden, for it is a good evergreen and much appreciated even during the dull winter months. There are many beautiful varieties of the German Iris now to be had. A row of plants makes a brave show, and nowhere are they more appreciated than in the town garden. H. T.

GARDENING OF THE WEEK.

FLOWER GARDEN.

SPRING-FLOWERING SHRUBS.

MANY of these do not generally receive the amount of care and good culture which their merits deserve. Their delicate tints when in flower and more graceful appearance as compared with evergreens, beautiful and useful as the latter are, demand more attention. All those which are disposed to form dense growths should now be looked over and partially thinned out so as to prevent their becoming masses of weak and unproductive spray, which cannot get properly ripened, and as a consequence does not

produce flowers to perfection. All deep digging amongst the roots should be avoided. A top-dressing of leaf-mould or a little rotten manure slightly pointed into the surface of the ground after they have been planted for some years is of great advantage to them.

THE BANKSIAN ROSES.

Owing to the frost and cold winds experienced the early part of May these have not in many places done so well as usual. They are magnificent objects on a wall in early summer, when they produce their enormous profusion of flower clusters. They are, however, tender, and only suitable for localities where the soil is dry and the climate good. Where they succeed they grow very rapidly, making very long shoots, and the older they get the more freely they bloom. They should be pruned immediately after flowering. The shoots should be thinned out, particularly those that are of most gross growth, as they are least likely to ripen. The growths left should not be shortened much, merely topped. It often happens that these Roses are planted against walls where they get but little nourishment in the way of moisture during their growing season. A good soaking of liquid manure two or three times in the season will be of immense benefit to them.

PYRETHRUMS.

The great improvement in size and colour which has been effected in these, together with their hardiness, makes them most useful, especially to those who have but limited accommodation for preserving tender plants. The flowers last a long time after they are cut, and I know of no flower that will stand a long journey better than these. The plants are herbaceous, and are easily propagated by division in spring. A rich and rather heavy soil is most suitable for them. In poor, dry soils they are apt to flower very freely early in summer, throw up fresh growth in the autumn, and in consequence are killed in winter. For autumn display the best way is to cut them back about the end of June, they will then throw up fresh growths and flower in the autumn.

INTERMEDIATE STOCKS.

To have these in bloom in spring and early summer the seed should be sown now, for unless the plants are well established before winter they will be too late to come in with the majority of spring flowers. The best place to sow is in a border of light, not very rich soil; as soon as the plants are 2 inches or 3 inches high, and before they become drawn, transplant them into beds in rows about 6 inches apart each way. Early in October they may be lifted and planted where they are to flower.

T. B. FIELD.

Ashwellthorpe Hall Gardens, Norwich.

INDOOR GARDEN.

In the stove and greenhouse a rearrangement of the plants at this time of the year is necessary, as it will be found that some plants have outgrown their allotted space, while others have made but little progress. In addition to the benefit afforded to the plants individually, a change in the general arrangement of the house is usually appreciated by the employer who takes an interest in the garden. Take advantage of the opportunity also to clean and tend any climbers growing over the roof of the house, such as *Stephanotis*, *Dipladenia*, or *Passiflora*. Also tie in the young wood, and in the case of free-growing plants like *Allamandas*, *Bougainvilleas*, *Aristolochias*, and *Bignonia Cherere*, where the young wood has become entangled, a somewhat severe thinning should be given. Remove the weaker shoots entirely from the base of this year's growth rather than shorten them back; this will add to the neatness and order of the house, and also offer better opportunities for maturing the young wood. *Ixoras*, where the corymbs are rapidly developing, should have attention, as frequently mealy bug finds a lodgment among them. The plants should now be tied into such shape as will show the flowers to the greatest advantage when they open. Avoid stiff and formal tying, and allow the plant to assume a little of its natural

habit. See that the temperature of the material in which they are plunged does not fall below 75° until the flowers open.

ANTHURIUM ANDREANUM,

A. ferrièreense and their hybrids should be afforded sufficient room for the full development of their foliage. These plants will be greatly benefited by occasional applications of clear liquid manure, also by a light syringing among the pots with the same an hour or so after the house is closed. The small yellow thrip is apt to disfigure the spathes during hot dry weather, and although we are not enjoying those atmospheric conditions just now, I would advise fumigating the house with XL All once a week for a few weeks. The dull cold weather now prevailing will necessitate an extra amount of fire-heat to maintain the necessary temperatures, therefore in Croton houses paint the pipes with sulphur to check the increase of red spider, also shut up the house early in the afternoon with all available sun-heat, and syringe the plants thoroughly.

CALADIUMS.

Pot up the latest batch of tubers in small pots where they are in demand for table work during the latter part of July and August, also place in their flowering pots the latest batch of *Acalypha sanderiana*. This is a summer plant only, and is seldom seen in good condition after September. The latest lot of *Gesneras* should now be placed in 6-inch or 7-inch pots to flower in October and November, the season when these plants show to the greatest advantage. Attend to the young plants of *Campanula pyramidalis* from seed sown during the spring; these should be placed in 7-inch and 9-inch pots for blooming next summer as soon as the plants are sufficiently advanced.

CARNATIONS

for winter-flowering that have not already been finally potted should be attended to without delay; the plants must not be exposed to heavy rain at any time, but if the weather is fine they do well on a border of ashes in a sheltered position out of doors.

Wendover.

J. JAQUES.

THE FRUIT GARDEN.

FIGS.

TREES in the second house now ripening the first crop of fruit will require an abundant supply of stimulating liquid and good syringing where water can be applied without wetting the fruit. Turn the foliage aside where the ripening fruit is too much shaded from sun and light, and maintain a gentle circulation in the hot-water pipes to keep the house up to 60° or 65° by night and to admit of a plentiful circulation of air by day, without which Figs of high quality cannot be expected. If spider or scale attacks the leaves and ripening fruit put a stop to syringing, and sponge the parts affected with soapy water to keep these pests in check until syringing can be resumed.

EARLY HOUSES,

from which all the fruit has been gathered, will be the better for a good washing with the garden engine, and the mulching may be replenished with fresh manure. As the second crop of fruit is not always so fine as the first, liberal thinning will be advisable, but instead of removing all the smallest it will be well to take off and leave some of all sizes to prolong the supply when the trees again begin to produce ripe fruit. Although fire-heat will still be necessary at times, it must be used in moderation, particularly at night, when comparative rest will benefit the trees, and early closing with solar heat and moisture will redeem the time lost without distressing them. When young trees in pots intended for forcing have made their second growth, stopping must be discontinued and stimulating food withheld in order to secure firm, short-jointed wood, which will be thoroughly ripe by the autumn.

MELONS.

About this time a number of pits and frames will be set at liberty by the clearance of forced vegetables and the more tender bedding plants.

To make the best use of these a good stock of the leading sorts of free-setting Melons, including *Blenheim Orange* and *Earl's Favourite*, should be ready for planting in strong, but not over rich loam, placed in ridges some 18 inches from the glass. As many of the preceding occupants leave a colony of insects behind, the frames and lights should be well cleansed with boiling water, and in order to give the plants a start a trench may be taken out along the centre of the old bed and filled in with fermenting leaves or stable manure, which should be made very firm before the soil is introduced. A good external lining along the front will also assist the plants through the early stages of growth. Early crops now swelling or ripening off will well repay steady attention to linings and covering up with mats at night. Reduce the supply of water and atmospheric moisture when the fruit begins to change colour. Ventilate more freely on bright days, and ensure flavour by full exposure to the sun and air. The cultivation of Melons in houses after this time is a very simple matter, the main points being a bottom-heat of 84° to 90°, plenty of air on fine days to secure dark green sturdy foliage, an abundance of water to the roots, and a good syringing to keep them free from insects. The Melon, being a tropical plant, requires abundance of solar heat and atmospheric moisture all through the growing and swelling period, with sufficient ventilation to build up stout healthy foliage. Gradually diminish atmospheric moisture, and increase the ventilation, as it is plenty of dry warm air that brings out the proper flavour, and assists keeping properties. It is my fortune to pass judgment officially on a good many Melons, good, bad, and indifferent, but mostly the latter.

Madresfield Court.

WILLIAM CRUMP.

KITCHEN GARDEN.

TURNIPS.

SEED SOWN now will produce better roots than can be expected earlier in the year, provided the soil and other conditions are favourable to quick growth. In gardens having a light porous soil, it taxes the resources of the cultivator to procure sufficient mild-flavoured roots during the hot days of early summer, especially so when time does not allow of keeping them well supplied with water. For this sowing *Red Globe* is unsurpassed with us, and I believe it is a general favourite in most gardens. Drills should be drawn 1 foot apart and 2 inches deep and the seed sown thinly, fill up the drills by pushing the soil in with the feet, and rake the surface level. In the event of the soil being dry at the time of sowing a good watering should be given the day before, but if showery weather prevail then is the best time to sow. Birds are troublesome in some gardens in persistently pulling up the plants when just sprouted, hence it is necessary to net the bed until the first green leaves appear. A slight dusting of soot should be given occasionally when the dew is upon them to deter the Turnip flea and other insect pests to which Turnips are liable. Thin out to 8 inches or 9 inches apart when large enough, and keep the hoe working among them on fine days. Liquid manure from the drainings of stables, &c., may be occasionally applied with marked results. By encouraging quick, unchecked growth throughout, the plants will be able to withstand slight attacks by insects without much harm resulting.

CAULIFLOWER.

Continue to plant batches of the Autumn Giant type in accordance with the demand. By planting a few rows at a time and having plants in various stages there is greater certainty of maintaining an unbroken supply than when large breadths are planted at one time from the same seed-bed; herein lies the advantage of sowing a pinch of seed at frequent intervals. If the ground be at all dry the plants should be puddled in, *i.e.*, after making the holes in the shallow drills, drawn at 2½ feet or 3 feet apart, these should be filled with water and a man follow immediately with a dibber and insert the plants, again watering them to settle the soil about their roots. When well established some manure may be occasionally given with advantage. Vegetation is very backward, and this being so

extra attention to details in the cultivation of vegetable crops as well as others becomes necessary. Assist the crops by all means, but let a judicious use of stimulants in accordance with the weather prevailing be duly considered. Frequent stirring of the surface soil about the crops is of first importance, and next comes the proper use of manures best suited to each crop.

Stonleigh Abbey Gardens. H. T. MARTIN.

CHRYSANTHEMUMS.

SUMMER-FLOWERING VARIETIES

growing in beds or borders will now need a neat support, and so much depends on the way this is performed as to the effect produced at the time of flowering that the little extra trouble bestowed on them now will be more than repaid if properly done. Simply branching them up to one stake by placing the ties round the growths is unpractical and unpleasing. Two ways, however, commend themselves, the first by placing a good stout stake in the centre of each plant, and looping each shoot loosely but securely to them. This answers well for the taller sorts when placed about as single specimens in the shrubberies; but the most successful plan, when these are grouped in beds or borders, is to support all the principal growths with separate sticks. Stout one year old willows cut during the past winter are suitable for the purpose, and by training out the shoots so that each plant forms a small specimen in itself is the best way I am acquainted with for producing a good display. At the same time the necessary light and air, so essential to their successful development, is assured. After the staking is completed thoroughly mulch between the plants with some good half-decayed farmyard manure, and keep the roots well supplied with both manure and clear water, and give occasional applications of soot and Clay's Fertilizer during showery weather. The growths will be much benefited if good dampings overhead with clean soft water are given during late afternoon after hot days. Apply tobacco powder to the foliage should green fly or black aphid make its appearance, and one or two applications of black sulphur should be given to ward off attacks of mildew. If allowed to spread to any extent it will do serious damage to the under foliage.

Early flowering varieties in pots, which will include such as Mme. Desgrange and its two sports and Source d'Or and its golden sport, the two latter being among the most useful for all decorative purposes yet raised, ought now to be well established in their flowering pots, and will require plenty of stimulants. These are always best treated as small bush plants for general usefulness. One strong stake should be allowed to each and the shoots loosely looped with twisted bast, and the plants turned round weekly.

Specimen-trained plants will now need every care and assistance to induce them to make a strong healthy growth. As I have before pointed out, the mere size of the plants will count for little unless the chief attributes are encouraged, viz., plenty of good healthy foliage, perfectly developed blooms, and the natural and pleasing training. To ensure this every small detail must be attended to. Careful watering is of the utmost importance, and during hot drying days the plants should be carefully examined three or four times daily. Never give water till they absolutely require it, but when doing so fill up the pots three or four times, thus ensuring every particle of the soil being thoroughly moistened. Manure water of some kind or another should be given every other time. I know of nothing better than horse manure, cow manure, and soot, the latter placed in a sack, and all stirred up together in a large tub and diluted to about the colour of strong tea; by so mixing it one is pretty sure of what one is using, and the plants like it. This, of course, should be renewed when the strength is exhausted. Good Peruvian Guano should also be given by way of a change, but great care is necessary not to give it at too great a strength. Allow no insect life or fungus to get possession of the foliage, but resort to the precautions often previously advised. All late

and small flowering varieties should now be finally potted without delay.

E. BECKETT.

Aldenham House Gardens, Elstree.

ORCHIDS.

CYPRIPEDIUM BELLATULUM, C. niveum, C. Godefroye, and C. concolor having passed out of bloom should have attention in the way of repotting, &c., as soon as the young growths are well on the move. It is advisable not to disturb or transfer to larger receptacles unless more rooting space is really needed, as this section of Cypripediums resents root disturbance, and over potting is likely to be injurious. If the roots have become firmly attached to the pots or pans the latter should be broken and the pieces carefully liberated from the roots if these are perfect, the compost in good condition, and the plants compact. Merely pick away the sour surface material and transfer the plants to other receptacles without the slightest disturbance. Place the plants in their pots or pans so that the base of the young growth is a little above the rim and is not buried in the compost; the latter should consist of peat, chopped sphagnum moss, good fibrous loam and leaf-soil in equal proportions, with a quantity of finely broken crocks or mortar rubble, mixing the whole well together; the compost should be pressed moderately firm about the roots and brought level with the base of the young growths; grow the plants in a light position in the East Indian house, and apply water sparingly for a few weeks. After repotting, those that do not need repotting should be resurfaced with the same kind of potting material.

Oncidium lanceanum and O. luridum are both beginning to grow, and as new roots issue from the base of the young growths when but a few inches long the necessary repotting should be done. These Orchids grow well in leaf-soil, merely laying one crock in the bottom of the pot, and adding a few smaller ones to the depth of about half an inch or 1 inch; Fern roots may be used as a substitute. Over either place a thin layer of moss or the rougher part of the leaf-soil. Do not over-pot the plants, allow room for about two years' growth, press the leaf-soil moderately firm among and around the roots, and work in a few fair sized crocks as the work proceeds, fill up to within an inch of the rim of the pots, and fill the remaining space level to the base of the plant with a layer of fresh moss. These Oncidiums have a tendency to grow away from the compost, each leaf, by the growth of the rhizome, rising higher than the preceding one, thus making it very simple to propagate if it is desired to increase the stock. When plants have outgrown their receptacles, and are about to issue new roots from the base of the young growth, sever the rhizome behind the second leaf, and carefully liberate the roots if any remain in the compost. Pot up in the usual way, and allow the back part of the plants to remain undisturbed.

Trichopilia suavis and variety alba, after a long period of rest, are again producing new growths, therefore if repotting is needed it should now be done, otherwise a surface dressing with peat and chopped sphagnum moss will alone suffice. Equal proportions of good fibrous peat and sphagnum moss form a suitable compost for them, with Fern roots used as substitute for crocks; they also grow well in leaf-soil. If repotted in the latter compost it should be used in the same manner as recommended for Oncidiums, taking care especially after repotting that the plants are not watered too freely; these grow best in the Cattleya house.

F. W. THURGOOD.

or five other nurserymen arranged exhibits in the corridor. Messrs. Kelway and Son of Langport were awarded a gold medal for a fine show of more than 120 Delphinium spikes and fifty or sixty bunches of Peonies, all arranged in vases standing on the ground, so that they were easily seen to advantage. Messrs. Cutbush and Son had a group of their new Marguerite Coronation, and also a new silver-leaf Geranium with a good truss of rosy red flowers named Caroline Schmidt. Both of these were awarded certificates. Mr. John R. Box of West Wickham had a group of new Begonias and alpine plants. He was awarded a silver medal and also certificates for his new double white Begonia Mrs. J. R. Box and a rosy salmon variety called Lord Milner; other interesting varieties were also shown. Mr. Richard Anker showed an interesting group of Cactus and Echinocactus and miniature conservatories with same. A certificate of merit was also awarded to a model of a patent hot-water tray as a fuel economiser by the Efficient Light and Heating Company, agents for George Cotton and Co. Mr. John Russell of Richmond exhibited a new Wistaria russeliana, nice plants in bloom in pots with long racemes, and was awarded a certificate.

ROYAL HORTICULTURAL SOCIETY.

FLORAL COMMITTEE AT CHISWICK.

PRESENT: H. B. May, Esq. (chairman), Messrs. R. Dean, C. E. Shea, J. Hudson, C. R. Fielder, G. Renthe, C. Jeffries, and J. A. Nix. The meeting of the above committee at Chiswick, on the 11th inst., was by no means one of the most pleasant, rain falling incessantly. The meeting was called to examine Irises, and most of those receiving the three marks, thus x x x, being well known.

The following were highly commended:

Iris pallida.—To all intents this may be regarded a species: at any rate it is typical of all that is beautiful in what may be called a true Flag Iris. The handsome fragrant blossoms are soft lavender almost throughout, and produced so profusely as to be valuable for cutting. The spikes are fully 2½ feet high. From Messrs. Barr and Sons, Covent Garden, and Messrs. J. Veitch and Sons, Chelsea.

I. pallida dalmatica.—This noble Iris is certainly one of those plants that everyone should grow. Less uniform in the colour and also the character of the blossoms as compared with the above, the plant is remarkable at sight by reason of its giant proportions. Fully established it will reach nearly 4 feet high. The wider spreading and larger flowers are more purple than the type. Very handsome and sweet-scented. From Messrs. Veitch and Sons and Messrs. Barr and Sons.

I. pallida Queen of May.—The warm rosy tinted flowers render this one of the most popular. The shade of rosy lilac usually applied to it does not do justice to the beautifully tinted blossoms. From the Rev. W. Wilks, Shirley Vicarage, Croydon, and from Messrs. J. Veitch and Son, and Messrs. Barr and Sons, Covent Garden.

I. pallida Albert Victor.—In the boldness of its stature as well as in the glaucous colouring of the handsome leafage we have here a fine companion to *I. p. dalmatica*. The predominant colour as seen in the upper petals is blue, the same shade being suffused with rose in the lower petals. From Messrs. James Veitch and Sons, Chelsea.

I. pallida Celeste.—In this Iris the standards or erect petals are of a distinct and pleasing blue shade, paling to delicate lavender near the base, while the falls or lower petals are of a more pronounced azure blue tone. From Messrs. Barr and Sons, Covent Garden.

I. sibirica lactea.—The chief characteristics of the Siberian Iris are the extremely narrow leafage and tall graceful habit. It is not a Flag Iris as we know these things to-day, but a distinct type that may be well grown in any good garden soil. The variety lactea is one of the whiter forms, the creamy blossoms being faintly reticulated or veined. A pretty and elegant variety. From Messrs. Barr and Sons, Covent Garden.

I. valnicrana.—A well-known garden Iris of many years' standing. Showy and vigorous generally in habit, the plant when in flower attains about 3 feet high. The falls are pale violet, and the standards of deep lavender. The flowers are large and most effective when seen in a large group. From Messrs. Barr and Sons.

I. innocenza.—This belongs to the *I. Amena* group, and if we are not mistaken the correct name of the variety is *L. Innocence*. The variety, however, is one of the most charming, the substantial ivory-white flowers being delicately veined with reddish-purple. It is a good free-flowering Iris that should be in all collections. From Messrs. James Veitch and Sons, Chelsea, the Guildford Hardy Plant Nursery (proprietor, Mr. Upton), and Rev. W. Wilks, Shirley Vicarage, Croydon.

I. Amena Mrs. H. Darwin.—We regard this as the greatest bloom producer of the Flag Irises. We speak of established plants growing and the produce per square yard. In these respects we know of none to equal this comparatively little-known variety. Rather dwarf in growth, rarely more than 2½ feet in full flower, the spikes are well jointed. It is practically white flowered save for the usual reticulated petals, which in this case are pale blue. A most valuable mid-season Iris. From Messrs. Veitch and Sons and the Hardy Plant Nursery, Guildford.

I. Darius.—An old Iris of at least thirty years standing, if not more. It belongs to the variegata section, is freely flowered, of good form, and one of the best in the yellow-flowered class. We believe it has previously received recognition from the above society. From Messrs. Barr and Sons and Messrs. James Veitch and Sons, Chelsea.

I. Graculus.—This also belongs to the variegata group, and is a most handsome Iris. The falls are crimson with white veins, the rich colouring rendering the variety at once conspicuous. It is well known and freely grown by all lovers of Irises. From the Rev. W. Wilks, Shirley Vicarage.

I. Mrs. Neubronner.—Of the same group, has standards and falls of a rich clear golden yellow. It is a strikingly beautiful Iris. From Messrs. James Veitch and Sons, Chelsea.

SOCIETIES.

ROYAL BOTANIC SOCIETY.

MR. HAWES, superintendent of the Royal Botanic Society's Gardens, hoping to reorganise a series of meetings, invited aid from some nurserymen to exhibit there on the 17th inst., and intends to hold another exhibition on July 15. There were new and rare plants and floral table decorations, the latter arranged on more than one dozen tables by the young lady pupils of the society. Miss Sowerby also arranged on a Bamboo frame a very pretty exhibit of Iris and Ivy. Besides the magnificent display of some 2,000 Rhododendrons in the large tent by Messrs. John Waterer of Bagshot, four

I. pallida mandralisca.—This received two marks—commended. It is a good variety, but not the equal of those already mentioned.

BIRKENHEAD SHOW.

THE horticultural section of the Wirral Agricultural Show is usually of an important and interesting character, but this year (June 17 to 19), whether from its earliness or the bad season, the exhibits were much below the average.

Mr. J. Bracegirdle, gardener to W. H. Watts, Esq., Wavertree, proved nearly invincible in the plant classes, winning in the group of 60 feet with well-finished Crotons, Palms, Caladiums, &c.; for ten stove or greenhouse plants (five foliage and five flowering), staging good Crotons, Alocasias, Palms, Aralias, Hydrangeas, Pelargoniums, &c.; three plants in bloom; three foliage plants; one greenhouse plant in bloom; stove plant in bloom; foliage plant; and three Ferns.

The cut bloom classes were somewhat poor, which may be attributed to the season. The first prize takers were Mr. J. Williams, gardener to C. J. Proctor, Esq., for the table decoration; Mr. H. Ogden, for the hand bouquet and twelve bunches, in which *Amaryllis*, *Ixora*, *Allamandas*, *Eouvardias*, &c., were good; Mr. S. Bell, gardener to J. U. Hodgson, Esq., for six and three Roses; Messrs. Smith and Mather, for three beautiful ladies' sprays.

In the fruit classes, Mr. J. Jackson, gardener to R. T. Richardson, Esq., won for both white and black Grapes; J. Lee, Esq., for Peaches; and T. Brocklebank, Esq., for Strawberries.

In the vegetable classes, T. Brocklebank, Esq., won for six kinds, having good Asparagus, Peas, Cauliflowers, &c.; twelve white round and twelve coloured kidney Potatoes; also for Leeks, autumn Onions, Cos Lettuce, Peas, Cauliflowers, Vegetable Marrows, and Carrots.

Silver medals were awarded to Mr. H. Middlehurst, Liverpool, for finely-grown Spanish Irises, Mignonette, Liliums, Poppies, Verbena Miss Willmott, Sweet Peas, &c.; Mr. J. Webster, Wavertree, for greenhouses, frames, and his new boiler "Eclipse" which promises to become useful; and Mr. W. H. Shilton, West Derby, for small greenhouses, frames, &c.

Certificates of merit were given to Messrs. Webb and Son, Stourbridge, for good Gloxinias, &c.; W. H. Lever, Esq., for a group of plants; Messrs. Thomas Davies and Co., for well-grown Irises, Lily of the Valley, Gladiolus, &c.; and Messrs. Dicksons, Chester, for Ferns, Palms, and cut flowers.

CROYDON AND DISTRICT HORTICULTURAL MUTUAL IMPROVEMENT SOCIETY.

"HEATING and Ventilating Horticultural Structures" was the title of the paper read before the members of this society, at their rooms, Sunflower Temperance Hotel, George Street, recently, and the subject found a worthy exponent in the society's chairman, Mr. W. J. Simpson, who from the commencement to the conclusion made his remarks lucid and interesting to those assembled.

The lecturer alluded to the adoption of hot water as the best means of producing the required heat, because by this system it was safe, effectual, and economical; and not only does this apply to horticultural structures, but also to public buildings, churches, &c., where a genial and healthful degree of warmth is required. In the lecturer's opinion, after some years of practical experience, the best boiler is the upright or spiral tubular form, these being very powerful, and can at all times be relied upon to properly perform their work if due attention is paid to them. Coal and coke are the chief forms of fuel, because we have in these the constituents of carbon and hydrogen from which we get the best heating effect. A good rise for the pipes should be afforded, and where much piping is in use expansion joints should be provided, which will, of course, allow for the necessary expansion and contraction which takes place in the pipes as they become heated or cold. By equal distribution of pipes in the house much advantage is gained. The different temperatures required were classified under three headings, viz., stove, intermediate, and greenhouse, and the proportion of piping the lecturer advised was 1 foot of 4-inch pipe to every 20 feet cubic feet of air for the stove, 1 foot of 4-inch pipe to every 30 cubic feet of air for the intermediate, and 1 foot of 4-inch pipe to every 40 cubic feet of air for the greenhouse. Valves should be placed in the flow and return pipes in each compartment to regulate the heat; also air taps should be placed at the highest point of the piping.

At the conclusion of the lecture Mr. M. E. Mills proposed a hearty vote of thanks to the lecturer, and this received unanimous support.

Mr. P. Oxtoby exhibited a good collection of Gloxinias, and at the next meeting, July 14, he will read a paper on the popular subject, "Tomatoes."

strength, a rise of a few degrees may be allowed, and by March 50° at night, running up 20° with the sun, will be very suitable.

Dissolved bones (A. H. C.).—We much prefer the bone-meal to the dissolved bone, as the former is obtained from the glue works, and is the ground residue after the bones have been deprived of their fat and gelatine, whereas the dissolved bone is obtained by what is known as the acid process, sulphuric acid being employed in dissolving the bones. Bone-meal would be an excellent material to use for your Chrysanthemums, about one pint to a bushel of compost.

Sweet Briar foliage blighted (H. H.).—There is nothing to be alarmed at concerning the foliage sent. The rusty appearance of the edges of the leaves is the result of a slight frost upon the tender foliage, and the dark-coloured markings are caused by cold cutting winds. The new foliage will quickly hide all these blemishes, and the check to the plants will be very slight indeed. Perhaps there is a draught near the plants that are injured.

Snails (R. J. K.).—I do not think there is any powder or anything of that kind that you can use to keep the snails off your plants. You should lay Cabbage or Lettuce leaves about as traps for them. Try and find out where they hide; perhaps you will find them under your seed-boxes. Examine the latter after dark with a light, and collect all you can find. As you say, they cannot come in from outside. If you keep on killing them you must sooner or later exterminate them.—G. S. S.

Soot and lime for Roses (L. T.).—A good sprinkling of soot upon the ground so that it is quite black would be decidedly beneficial if applied at once, and would assist greatly in keeping away insect pests. Lime and gypsum are best applied during winter and early spring. Gypsum may be given at the rate of 3oz. to 4oz. per square yard. It is highly beneficial where heavy dressings of manure have been habitually employed. Slaked lime is usually given at the rate of about 5oz. or 6oz. per square yard.

Naturalising Anemone nemorosa (F. B. M., *Guersey*).—This plant thrives best in an open copse of deciduous trees, shrubs, and scrub. It is not likely to succeed under such dense conifers as *Pinus insignis* and *austriaca* or *Quercus ilex*. These trees exclude light and impoverish soil to such an extent that common weeds reputedly hard to kill fail to grow beneath them. A site beneath your English Oaks or the Birches, where good light filters through and the leafy canopy is of good height, would suit this Anemone, and when planting avoid disturbing the natural disposition of the soil. The leafy debris helps to keep the soil cool and in a uniform state as regards moisture, and decayed leaves are the natural food of the Wood Anemone. Absolutely dense shade is not necessary, and if you plant colonies in various exposures, avoiding both extremes, the greater number will not fail to establish themselves, and the loss of one colony will be nothing in comparison with the rapid increase of the others.

Iris florentina rhizome (N. V.).—If all the Irises are as the sample we say at once they are comparatively worthless, as not only is the current growth—which in reality is the flowering centre for another year—entirely wanting, but the secondary or side buds are seemingly blind. We are quite at a loss to account for the sad plight, as usually in these plants the back rhizomes are not so deficient of root fibre and side buds. We do not say that the old rhizome is incapable of resuscitation; we say it is unworthy, when growing plants can be had so cheaply. Even supposing a break issued from the old rhizome at any time during the present year it would require another two seasons before these could be grown to a flowering size. On the other hand, young plants put in now would flower quite well in the spring of 1904. Should you choose to plant the old pieces you can do nothing better than peg them on the surface of well dug ground with strong galvanised wire, so fixing the portions that the rhizome will be about half buried in the soil.

Fruit of Cherry trees withering and dropping (SEVERN VALE).—The cause of healthy Cherry trees on north and east walls shrivelling and dropping must, we think, be more attributed to the season and the locality than to the suggested cause, namely, deficiency of lime in the soil. The absence of lime in fair quantities from the soil in which not only Cherries but all other stone fruits are grown, is well known to be inimical to the successful culture of these fruits, but we have never known a case of this description which could properly be attributed to this cause alone, as every quality and texture of soil contains lime in more or less proportions. We, therefore, think that some more local and specific influence has been the cause of the mischief. We have recently seen in many gardens in the neighbourhood of London Peach trees on walls (outside) which had set excellent crops and the fruit swelling away nicely (as we have seen Cherries and other stone fruits) but the frosts of the latter part of May were so severe that the young fruit in almost every case (even where protected by canvas blinds) was killed outright, and afterwards withered and dropped in deplorable quantities, so much so that the crops of these fruits in most gardens this year are a total failure. We suggest that this may have been the cause of your Cherries shrivelling and falling. We have known instances where Cherries have flowered freely, and to all appearance have set a good crop of fruit, the fruit swelling afterwards to the size of Peas or larger, when suddenly they cease growing, wither, and fall. The cause of this we have invariably found to be weak and defective flowers, possessing hardly, if any, pollen, and therefore making it impossible for fertilisation of the berries to take place. A casual examination of the flowers will soon disclose the fact whether this is so or not, and if found so, then what pollen there is must be brought into contact with the stigma of the flowers by means of a rabbit's tail or some other agent convenient to use for distributing the pollen. The cause of weak and unfertile flowers may generally be traced to some defective point or points in their culture or in the conditions surrounding them. If you have reason to suspect that the soil in which they grow is suffering from an insufficiency of

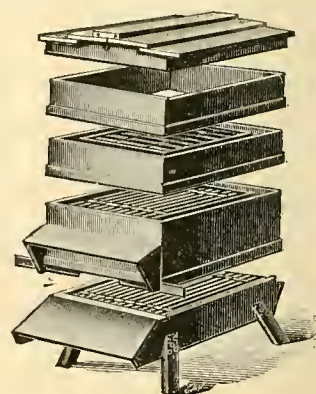
lime, no time should be lost in adding it to the border, and this is best done at this time of the year by watering the trees with water in which lime has been mixed in the proportion of a peck of lime to 30 gallons of water. The lime should be mixed with the water overnight and applied in a clear condition without sediment. Judging from the brown and spotted appearance of most of the berries sent we are inclined to say that frost is accountable, yet a few of the berries are free from blemish, and these, we think, have refused to swell in consequence of imperfect fertilisation.

Greenhouse decoration (B.).—Whatever may be the size of a greenhouse a considerable amount of reserve is necessary to maintain a regular display of blossoms in it throughout the year. At least twice as much glass will be needed for growing on plants, and that, too, exclusive of pits and frames. Again, it is not possible to throw away all the plants as they go out of bloom, as some of them must be kept for stock, that is to say, the supply of cuttings. Such things as Chinese Primulas, *Calceolarias*, *Cinerarias*, &c., can be at once thrown away, as young plants of these are raised from seed. Besides this, there is the question of sufficient labour, and an outlay on bulbs and such things, if a continuous supply is required. For January you would have to depend chiefly upon forced bulbs, *Spiraeas* and Lily of the Valley. In February the same, with the addition of forced shrubs, *Begonia Gloire de Secaux*, and some of the Primulas. March gives us *Azaleas* and many other hard-wooded plants, in addition to most of those mentioned for the preceding months. As spring advances we have the *Hippeastrums* and the earlier *Pelargoniums* flower, and during the summer they are a great help. In addition to these there are a vast number of things, such as *Begonias*, *Lantanas*, *Heliotropes*, large-flowered *Cannas*, and *Lilium Harrisii*, all of which will help to carry on the display till late in the summer, at which time *Lilium speciosum* is available. From this time to Christmas the principal flowering subjects available are *Chrysanthemums*, *Bouvardias*, *Begonia Gloire de Lorraine*, *Tree Carnations*, *Roman Hyacinths*, *Salvias*, *Abutilons*, *Celosia pyramidalis*, *Primula obconica*, and the earliest *Cinerarias*.

TRADE NOTE.

AN UP-TO-DATE BEE HIVE.

MR. E. H. TAYLOR, Welwyn, Herts, in his catalogue of bee-keepers' appliances and supplies illustrates the up-to-date



twenty-first century hive. It is fitted with swarm-preventing chambers, containing shallow frames, brood nest with ten standard frames, porch and entrances, 6-inch lift, containing rack of 21lb. sections, 6-inch lift for tiering, quilts, roof and legs, two dummies, &c. The frames should be removed from drawer under brood nest when packing bees up for the winter. Dead bees and refuse drop to bottom of drawer, and so do not choke up entrances. In the spring this is easily drawn out and cleaned, and refilled with shallow frames. Since introduced this hive has had an extraordinary demand, and has proved most satisfactory. Numerous other appliances are described and illustrated in Mr. Taylor's catalogue.

CATALOGUES RECEIVED.

Horticultural Sundries.—Messrs. James T. Anderson and Sons, Limited, 135, 137, and 155, Commercial Street, E.

General Catalogue.—Messrs. D. Hay and Son, Montpellier Nurseries, Auckland, New Zealand.

PUBLICATIONS RECEIVED.

WE have received from Messrs. George Newnes the half-yearly volume of the *Sunday Strand*, which makes an excellent present to friends. It is well bound and full of well-written stories. *The Strand*, *Sunday Strand*, *Wide World*, and the *Captain* for June are of the usual excellence. *The Studio* for June, besides many fascinating articles and illustrations, has for a frontispiece "The Sorrowing Angel," from the painting by G. F. Watts, O.M.R.A. An angel is weeping over the bloodstained plumage of birds killed by fashion's votaries. The following is the dedication: "To all who love the beautiful and mourn over the senseless and cruel destruction of bird life and beauty."

The Century Book of Gardening has reached Part 10. It opens with "Exhibition Roses," by Mr. Edward Mawley. Other subjects in the present part are "Flower Gardening in the Grass," and the beginning of "The Greenhouse and its Flowers." Many of the old illustrations have disappeared and more appropriate ones are substituted. The illustration of "Palms and Ferns at Streatham Hall, Exeter," is very beautiful.

The World's Work for July will be a summer number, containing, among other notable articles, one describing, technically but popularly, with beautiful illustrations, the great national work carried on at Kew Gardens.

* * * The Yearly Subscription to THE GARDEN is: Inland, 15s.; Foreign, 17s. 6d.

ANSWERS TO CORRESPONDENTS.

Names of plants.—E. M.—*Rhododendron cinnabarinum*.—C. P.—The *Heucheras* are *H. sanguinea* and *H. sanguinea alba*, and the *Iris*, *I. squalens* variety.—Miss Whitehead.—*Cnicus altissimus*. The *Veronica* is *Veronica Teucrium* var. *prostrata*.—Several boxes were received at the moment of going to press. The names of the plants will be given in our next issue.

Greenhouse temperature (A. H. C.).—At this season of the year the greenhouse should be kept at about the outside temperature night as well as day, then, as the autumn nights grow cooler a night temperature of 50°, with a rise of 10° or 15° may be maintained. Throughout the winter a minimum night temperature of 45° rising 10° to 15° in the day will suffice. By February, as the sun gains

THE HOLLAND HOUSE SHOW AND YORK GALA.

HOLLAND HOUSE FLOWER SHOW.

By kind permission of the Earl and Countess of Ilchester the Royal Horticultural Society held its great summer show in the grounds of Holland House, Kensington, on Thursday and Friday last. Fine weather prevailed, and there was a large number of visitors. Notwithstanding the adverse weather experienced this season, and the pessimistic prophecies with regard to this show, it was a splendid exhibition of plants and flowers. Hardy flowers in great variety, for instance, Irises, Delphiniums, Sweet Peas, Carnations, Pansies, Aquilegias, &c., were largely responsible for the display. Roses, except the single and garden sorts, were not very good; the bunches of these, however, were very attractive. Tuberosus Begonias, Roses in pots, Cannas, Rhododendrons, as well as a remarkable variety of ornamental leaved plants, added considerably to the beauty of the show. Orchids were not so numerous as at the Temple show, although Messrs. Sander and Sons' group was very fine indeed. Messrs. Rivers exhibited a number of their famous pot fruit trees, but exclusive of these fruit was almost absent. There were extensive displays of hardy ornamental trees and shrubs out of doors, as well as of clipped Yews. Lord and Lady Ilchester kindly allowed visitors to visit the grounds around Holland House, a charge of 1s. being made for the benefit of the gardening charities. All those responsible for the arduous work connected with a flower show of this description deserve congratulation for the success that has attended their efforts.

LUNCH TO THE COMMITTEES.

Sir Trevor Lawrence, Bart., presided, and thanked the committees and judges heartily for their work for the society. The Rev. G. Henslow and Mr. Wilson Ker of Liverpool were among the speakers. The president said that great thanks were due to the Earl of Ilchester for allowing the show to be held in his beautiful grounds.

FLORAL COMMITTEE.

Present: Messrs. H. B. May (chairman), R. Wilson Ker, C. R. Fielder, James Smith, John Jennings, J. F. McLeod, R. W. Wallace, Charles Dixon, W. J. James, Charles Jefferies, C. T. Druery, E. T. Cook, H. J. Cutbush, W. G. Balter, H. J. Jones, C. J. Salter, C. Bick, J. W. Barr, R. C. Notcutt, C. W. Knowles, W. P. Thompson, W. Howe, E. H. Jenkins, Charles E. Shea, and Charles E. Pearson.

HARDY FLOWERS.

The hardy plant group from Messrs. Wallace and Co., Colchester, was among the finest in this exhibition. Not only were good plants numerous and well disposed, but the manner of setting up the plants in sensible groups left little to be desired. This is as it should be, for the small bits of things even now too frequently seen in collections reveal nothing of the garden beauty or value of the same plant when well grown. In quantity Messrs. Wallace displayed several good Heucheras, such, for example, as *H. micrantha*, *H. m. rosea*, *H. brizoides*, the recently certificated *H. Rosamunde*, which with *H. Flambeau* is of hybrid origin. This is a desirable set of these elegant plants, some of which should be grown by all. Quite naturally, some of the Lilies were very fine, and of these we select *L. Martagon album*, *L. Henryi*, and the magnificent *L. auratum virginale*, a superb form in every way and of giant stature. This, we were informed, had been raised in this country from a single bulb. Other good things in Lilies were *L. auratum platyphyllum*, *L. longiflorum giganteum* (exceptionally strong and imposing), *L. pardalinum*, *L. excelsum*, and others. How much the Lily is the prince of hardy flowers may readily be seen even by a few grouped as in this way. *Ixias* and allied things, the former in quite a great assemblage, were very striking by their numbers, while *Brodieas* and *Calochorti* are ever special items of this firm.

The hardy group from Messrs. Barr and Sons, Covent Garden and Long Ditton, showed what could be done in the way of cut flowers even after so terrible an experience of continued wet and cold, which in the Thames Valley have been most severe. At the same time, the array of material set up by the firm demonstrated in a large degree the exceeding hardihood of many flowers. For example, the Pæonies were in quite strong force, and of double sorts we noted such as *Leonie*, of soft delicate pink; *Duke of Wellington*, very fine white; *Mme. L. Mere*, blush-pink; *Lord Salisbury*, rich crimson, &c. Of single ones, *The Bride*, large snow-white; *Queen of May*, pale soft pink; and *The Moor*, rich glowing maroon-crimson, were the most notable. Next in importance, perhaps, were the giant Oriental Poppies, of which *Princess of Wales*, silvery grey, and *Duke of Teck*, crimson-scarlet, were the finest of the named sorts.

Mr. Amos Perry, Winchmore Hill, made a special feature of the new Water Lilies, and, indeed, of aquatic plants generally. Needless to say these plants afford to many a great deal of interest; and when, as was the case in Mr. Perry's group, the varied contents of a collection are disposed in an interesting as also an intelligible way, the interest is largely increased. Of the Nymphæas we single out the following as the more meritorious on this occasion: *Wm. Falconer*, scarlet; *Jas. Brydon*, rich salmon-pink; *atropurpurea*, fine; *gloriosa*, very fine; *sphaerocarpa rubra*, a rare Swedish sort, were all in splendid form and arranged in shallow trays, and with suitable environment made quite a feast of these charming and justly popular flowers. The vases of aquatic specimens, too, were of exceeding interest.

Pæonies from Messrs. Paul and Sen, Old Nurseries, Cheshunt, were very showy and good when we remember the terrible ordeal through which such things have passed. We noted *Faust*, soft pink; *Princess Mathilda*, soft flesh and yellow centre, very beautiful; *Duchesse de Nemours*, white; *Mme. Lebere*, crimson, fine; *Candidissima*, soft pink, very pleasing; *Mme. Loise*, deep crimson. Large cut shrubs, Irises, Larkspurs, *Potentillas*, *Dictamnus*, *Inula glandulosa*, with *Anthericum*, *Lupinus arboreus*, and other things were in this showy group.

Messrs. G. Jackman and Son, Woking, on this occasion set up a showy group of cut perennials, in which Pæonies and Delphiniums were in great variety, *Trollius*, single and double *Pyrethrums*, *Sidalcea malvaeflora*, a showy plant with red flowers; *Delphinium cardinale*, *Campanula turbinata pallida*, *Heuchera brizoides*, *Saxifraga macnabiana*, finely spotted; *Bletia hyacinthina*, *Galax aphylla*, *Cypripedium spectabile*, very fine and in large numbers; the rare Japanese *Conandron ramondioides*, with mauve flowers; *Dianthus Napoleon III.*, with *Incarvilleas* and *Campanula mirabilis* were all showy and good. *Astrantia major* was a most interesting plant, and *Kalmia myrtifolia* one of the most pleasing shrubs.

Spanish Irises, Poppies, and a magnificent group of *Verbena Ellen Willmott* came from Messrs. B. S. Williams, Holloway. The Irises were in many sorts, and, indeed, represented the cream of these flowers as at present known.

The Pansies and Violas from Messrs. Dobbie and Co., Rothesay, were a pretty feature of the show, and the tents on a comparatively cool June day suited these flowers quite perfectly. The varieties were very numerous, and we refrain from entering into details. A beautiful group of hybrid Columbines was also included in this firm's group.

One of the surprises of the show, even if somewhat drawn out of season, were the *Pentstemons* and *Phloxes* from Mr. John Forbes, Hawick. The flowers in the former group were large and of good colour, while the *Phloxes* were of moderate size, as might be expected at this early date. Of these latter *Eden*, snow white; *Coquelicot*, vermilion; *Adonis*, salmon; and *P. Hacquart*, purple,

were among the most distinct. A large collection of each was staged.

Mr. J. R. Box, Croydon, arranged *Sedums*, *Sempervivums*, and *Saxifrages* and such things among stones on the turf.

Sweet Peas from Mr. Robert Sydenham came in charming variety.

Messrs. William Bull and Sons, Chelsea, had Irises of the English and Spanish sections, with *Anemones*, *Ranunculus*, and other things.

Hobbies, Limited, arranged a handsome lot of Sweet Peas with their own foliage, and in large, sensible bunches the flowers were of good effect. Tufted Pansies also came from this firm, *Bullion*, an old golden sort, and *White Beauty* being of exceptional merit. The new perennial *Pea Lathyrus latifolius grandiflorus albus* was in grand form.

From Mr. G. Reuthe, Keston, Kent, came a most interesting lot of things, alpines nicely arranged with *Ixias*, *Cushion Irises*, Pæonies, *Campanulas*, &c. Some *Eremuri* were very fine, e.g., *Aurora*, chamois colour; *Bungei præcox*; *Warei*, tawny yellow; and *Mrs. Reuthe*, soft yellow.

Tree Carnations from Mr. A. F. Dutton were splendidly shown in tall vases.

A basket of *Dianthus Napoleon III.* came from Mr. J. Robson, Altrincham, very good in colour.

The hardy group from Messrs. T. S. Ware was in all respects a fine one, replete with the best things in season. Poppies, double white *Rockets*, *Campanulas*, *Thalictrums*, Irises of many sections, many fine *Liliums*, with Pæonies, Pinks, *Larkspurs*, *Romneya Coulteri*, and *Ostrowskia magnifica* were among the more showy in a large and comprehensive group.

A large array of Sweet Peas came from Messrs. Jones and Sons, Shrewsbury, and, backed with Spanish Irises on tall stems, made a splendid show.

Pinks, as shown by Mr. Chas. Turner, Slough, were in some dozen sorts, fully embracing all grades of this flower.

Mr. M. Prichard, Christchurch, Hants, contributed a grand lot of Pæonies, *Campanula Moerhemi*, *Japan Irises*, *Lupinus arboreus*, *Dianthus Napoleon III.*, with *Potentillas*, Poppies, English and Spanish Irises, and other fine showy things.

Mr. W. B. Childs, Acock's Green, also set up hardy things galore, Poppies, Irises, *Pyrethrums*, *Anemones*, and such things.

Messrs. Cannell had their hybrid Columbines in great variety, while Messrs. Kelway, Langport, exhibited a most telling lot of Pæonies and Delphiniums. The latter were grand, the spikes bold and prepossessing in the extreme; indeed, this firm has been chiefly instrumental in perfecting this lovely race.

Mr. R. C. Notcutt, Ipswich, had a group of Pæonies, Poppies, *Pyrethrums*, *Heucheras*, *Larkspurs*, English and Spanish Irises, *Thalictrum*, *Scabiosa caucasica*, &c.

The Misses Hopkins, Mere, Knutsford, had a small group of hardy things, mostly of the small alpine class, with Pinks, Violas, Thrifts, *Veronicas*, &c.

Mr. G. Bunyard, Maidstone, had a showy group, in which *Campanulas*, Pæonies, *Geums*, Lilies, *Verbascum*, *Gaillardias*, *Phlomis russellianus*, *Gillenia trifoliata*, *Japan Iris*, German Iris, with many showy Poppies, and other plants.

STOVE AND GREENHOUSE PLANTS.

The display in the large tent was a most imposing one, stove and greenhouse plants, both foliage and flowering, being chiefly represented. A handsome group set up by Mr. John Russell, Richmond, made a splendid representative display of fine foliaged plants. This group occupied one corner of the tent, and was backed by several good Palms and a fine specimen of *Dracæna russelliana*. Well-coloured *Crotons* were largely in evidence, the plants being beautifully fresh and clean. *Alocasias*, for which this firm is famous, were seen to advantage,

several splendid plants adding materially to the general effect. *A. sanderiana nobilis*, *A. watsoniana*, *A. sanderiana*, and *A. Lowi* were conspicuous; *Dracena sanderiana*, *D. Doucetti*, and *D. norwoodiense* were pleasing and effective, and with *Caladiums*, both large and miniature forms for an edging, finished off a splendid group.

With a glorious group of *Cannas*, Messrs. H. Cannell and Sons, Swanley, Kent, excelled. This display comprised some 120 plants, and appeared to be in superb condition. Some of the more striking *Cannas* were Mrs. G. A. Ströhlein, Duke of Marlborough, Black Prince, Aug. Chantini, Jean Tissot, and Hans Werdmüller, all good selfs, and Miss Bertie Brunner, Elizabeth Hoss, Queen Charlotte, and Comte de Bouchand among the fancy flowers.

A group of flowering and foliage plants arranged in undulating fashion came from Messrs. R. and G. Cuthbert, Southgate, Middlesex. Handsome *Rhododendrons*, representing *Kate Waterer*, *Caractacus*, *Cynthia*, *The Maroon*, *Michael Waterer*, *John Waterer*, and others saw these plants well displayed for so late in the season. Other flowering plants were *Hydrangea paniculata grandiflora* (very fine plants), *Saxifraga pyramidalis*, *Gladioli* in variety, and *Ivy-leaved Pelargonium* Mrs. Hawley. Pretty foliage plants added a charming finish.

The Right Hon. Lord Aldenham, Aldenham House, Elstree, Herts (gardener, Mr. E. Beckett), made a superb display of *Crotons*, representing no less than sixty varieties. The group contained some 200 plants, and was arranged with considerable taste. This exhibit was undoubtedly one of the features of the show. Some of the more noteworthy plants were *Etna*, *Delight*, *Majesticus*, *Aigburth Gem*, *Mme. de Boudney*, *Reidii*, *Lord Wolseley*, *Thomsonii*, *Picturatus*, and *Flamingo*.

Handsome indeed and representative was the collection of Ferns grouped by Messrs. James Hill and Son, Barrowfield Nursery, Lower Edmonton. *Adiantums* were in fine form and condition, notably *A. cuneatum grandiceps*, *A. luddemannianum*, *A. tinctum*, *A. Pacotti*, *A. Legrandii*, and *A. macrophyllum*. *Pteris longifolia Mariesii*, *P. aspericaulis*, and *P. Victoria* were striking examples of the *Pterises*, and of the *Davallias* excellent plants were seen of *D. tenuifolia Veitchii*, *D. epiphylla*, *D. Assamica*, and *D. fijiensis plumosa*, besides many other handsome foliage plants.

On this occasion Mr. H. B. May, Dyson's Lane Nurseries, Upper Edmonton, made one of the finest displays it has been our pleasure to see from this firm. It was a most comprehensive exhibit, and included choice stove and greenhouse foliage plants, as well as a charming assortment of flowering plants. The group occupied about two-thirds of one side of the central stage of the large tent, and was the centre of attraction.

Magnificent aptly describes the large and comprehensive group of stove and greenhouse plants set up by Messrs. James Veitch and Sons, Limited, Chelsea, S.W. This surely was one of this firm's best efforts, and represented many charming plants at their best. Stately Palms were effectively arranged, and interspersed at suitable intervals were choice specimen foliage plants. Among the latter were *Dracena godseffiana*, *D. Victoria*, *Maranta sanderiana*, *Pandanus Veitchii*, *Phyllotenus Lindenii*, and the following *Crotons*: *C. Aneitumensis*, *C. Lucy*, *C. Warrenii*, *C. Inimitable*, and *C. Reidii*. *Caladiums* in charming variety, *Aralias*, and other fine-foliage plants were in fine condition. *Carnations*, *Orchids*, *Cannas*, and choicer *Javanese Rhododendrons* were excellent, and were much admired.

Messrs. William Bull and Sons, King's Road, Chelsea, S.W., made another handsome display. Their group of stove and greenhouse plants was a welcome feature. Several handsome and stately Tree Ferns were a conspicuous feature of this group, and the numerous smaller Palms, *Dracenas*, *Crotons*, Ferns, *Caladiums*, &c., which were, unfortunately, rather too closely arranged to give the best effect, represented much that was to be admired. *Hydrangeas* and *Verbena Miss Willmott* were good flowering plants.

Caladiums were finely shown by Messrs. John Peed and Son, West Norwood, London, S.E. In several instances the individual plants were of a high order of merit, and the group as a whole deserves high praise. Good plants of *Candidum*, *Silver Cloud*, and many others were well staged.

A group of flowering and foliage plants from Mr. William Icton, Putney Park Lane, Putney, S.W., had several subjects in it to admire. *Liliums*, *Azalea mollis*, *Lily of the Valley*, and *Hydrangea paniculata* among the flowers, and a pleasing variety of foliage plants, made a dainty little exhibit.

The novelties in the groups of Messrs. Sander and Sons, St. Albans, Herts, are always a centre of interest, and on this occasion several handsome plants were in evidence. The new pink Tobacco plant (*Nicotiana Sanderæ*) was exhibited in splendid form and condition, and seems to give proof of its value as a new flowering plant. Newer foliage plants were represented by *Polypodium Knightæ*, a superb plant with long overhanging fronds, prettily cut; *Phenix Roebelenii*, a very pretty plant of good form; *Dracena godseffiana*, very effective; *Ficus pandurata*, *Heliconia Edwardus Rex*, *Asparagus Sprengeri variegatus*, and several others.

From Messrs. John Laing and Sons, Forest Hill, S.E., came a charming display of tuberous-rooted *Begonias* and a pretty little group of *Caladiums*, all in one display. Single *Begonias* largely predominated, and among them were some very handsome and also some dainty flowers.

Messrs. Blackmore and Langdon, Twerton Hill Nursery, Bath, again asserted their superiority as *Begonia* experts, their display on this occasion being of the finest description. Large and handsome flowers, borne freely on well-grown plants, representing the double flowering tuberous-rooted *Begonias* at their best, and in every imaginable shade of colour, made up this superb display.

Another very fine display of *Begonias* came from Messrs. B. E. Davis and Sons, Yeovil, Somerset. The group was arranged on the staging in the centre of the tent, and was most convincing in its character as to the decorative value of these plants. Freely-flowered double and single sorts, and each of high merit, showed to what perfection these plants have now attained.

From the Ranelagh Nurseries Company, Royal Leamington Spa, came a charming group of *Asparagus myriocladus* (a very pretty and dense form), *Crotons*, *Palms*, &c.

A pretty group of *Gloxinias*, shown in a cut state and also as growing plants, was arranged by Messrs. John Peed and Sons, Roupell Park, West Norwood. This firm, it is quite evident, possess a very fine strain of these plants, as was evident by the large and handsome flowers.

Zonal *Pelargoniums* in charming variety were set up in bold bunches by Mr. Vincent Slade, Taunton, Somerset. Both double and single forms were in evidence, although the latter were largely in the majority. There were seventy-two bunches in this attractive exhibit, and the display made a welcome piece of colour.

Messrs. Barr and Sons, King Street, Covent Garden, W.C., again contributed one of their fine exhibits of pigmy trees from Japan. The trees, in most instances, were of a great age, and were in excellent condition. A pretty feature of this display was a miniature scene from Yamato Mount, constructed by the famous garden architect, Roko Saburno.

Messrs. James Carter and Co., High Holborn, London, W.C., made a display in a tent of their own, and it was of a very pretty and interesting character. This firm's *Invincible* prize *Gloxinias* were a conspicuous group in the centre, and gave undoubted evidence of the high quality of the strain. *Verbena Miss Willmott* was grandly represented, and a fine lot of Carter's Giant *Mignonette* calls for special notice. Pigmy trees, rock plants and hardy flowers were also shown in pleasing variety.

An interesting group of succulents from seed, with some handsome specimen plants of *Asparagus Sprengeri*, was exhibited by the Right Hon. the Earl of Ilchester (gardener, Mr. C. Dixon). Many very pretty little plants, were in this collection.

Messrs. Storrie and Storrie, Dundee, N.B.,

among other things exhibited *Streptocarpuses* in bunches, arranged among fronds of Maidenhair Fern. They were of good quality, and were seen in a charming variation of colour. From the same source came a splendid lot of single *Begonias*, in this instance in a cut state.

Messrs. William Cutbush and Son, Highgate and Barnet, had an immense display, embracing plants of the most interesting description. Little pet *Begonias*, so well suited for bedding, were much admired for their dwarf growth and their free flowering. *Kalosanthes* seedlings, embracing many pleasing tints, and the new *Anemone*-flowered *Marguerite Coronation* were in splendid condition. *Verbena Miss Willmott* was in superb form. *Calla eliottiana*, *Verbena King of the Scarlets*, bedding *Geranium*, and *Caroline Schmidt* (a pretty bicolor) were well shown.

Messrs. James Veitch and Sons, Limited, Chelsea, S.W., had a table of beautiful flowering plants. *Streptocarpuses* in choice hybrids, as this firm so ably represents at all times, were in pleasing shades of colour. *Kalanchoe flammea* was again superbly staged, and the new *K. Kewensis* was represented by three useful plants. *Corydalis thalictrifolia*, *Lobelia tenuior*, and *Rehmannia angulata* were three pretty new flowering plants.

ORCHID COMMITTEE.

Present: Messrs. H. J. Veitch (chairman), J. O'Brien, H. A. Stacy, H. Little, W. Boxall, J. W. Odell, James Douglas, De B. Crawshaw, F. W. Ashton, J. Colman, T. W. Bond, J. Wilson Potter, H. T. Pitt, M. Gleeson, W. H. Young, Norman T. Cookson, W. H. White, Walter Cobb, E. Hill, G. F. Moore, W. Thompson, E. Ashworth, and H. J. Chapman.

Messrs. Sander and Son, St. Albans, had a splendid bank of *Orchids*, filling half one side of the central stage. Most conspicuous throughout were the numerous remarkably fine *Cattleyas* and *Lælio-Cattleyas*. Among them may be mentioned *L.-C. canhamiana* var., *L.-C. c. Fire King*, *L.-C. c. King Edward VII.*, *L.-C. Marguerite* (*L. purpurata* × *C. Mossiæ vestalis*), *L.-C. Martinetti superba* (*C. Mossiæ* × *L. tenebrosa*), *Cattleya Warneri* var., *L.-C. Lady Wigan*, *C. Mossiæ reineckiana*, *L.-C. Martinetti* var. *ochracea*, *C. M. Alexandrie*, with white sepals and petals, rich yellow throat, and pale purple lip; *C. Mossiæ Wagneri*, *L.-C. c. Rex*, and *Lælia elegans schilleriana*. *Miltonia vexillaria* also figured largely in this display, and there were some fine *Odontoglossums* and *Cypripediums*. The former included *O. wilckeanum* var., *O. excellens*, *O. crispum Sanderæ*, *O. c. Sibyl*, *O. ardentissimum Fascinator*, and others. Other good plants were *Zygo-Colax Veitchii*, *Oncidium Janeirense*, *Epidendrum prismatocarpum*, *Vanda cærulea*, *Miltonia vexillaria*, and *Cattleya roehrsiana* (*C. Mendelii* × *C. hardyana*).

Messrs. Charlesworth and Co., Heaton, Bradford, also showed *Orchids* well. The display contained numerous good *Cattleyas*, *Lælio-Cattleyas*, *Cypripediums*, &c. Some of the most remarkable were *C. Mossiæ Colossus* (very fine), *C. M. Imperialis* (rich colour), *L.-C. Eximia*, *Brasso-Cattleya striata* (*C. Mossiæ* × *Brassavola fragrans*), *L.-C. canhamiana Fire King*, *C. Loddigesii*, *L.-C. Dante* (*L. purpurata* × *C. maxima*), and *L.-C. Fascinator*. *Cypripediums* included *C. Curtisii superbum*, *C. gowierianum magnificum*, *C. callosum Sanderæ*, and *C. eliottianum*. Of *Odontoglossums* there were *O. Adriana*, *O. crispum* var., *O. luteo-purpureum*, *Brassia verrucosa*, *Miltonia candida*, *Phaius Phœbe*, and *Epidendrum prismatocarpum* were other good plants.

Messrs. Hugh Low and Co., Enfield, showed a group of *Orchids* that comprised many good things. *Lælio-Cattleya Epicasta*, *L.-C. cinnabarina* × *arnoldiana*, *L.-C. canhamiana*, *Cattleya Mendelii* (very fine), *C. intermedia alba*, *C. gaskelliana* (very beautiful), *C. Mossiæ Bronze Queen*, *C. M. reineckiana*, *Vanda Agnes Joaquim*, *V. Hookeri*, *V. teres*, *Sobralia kienastiana*, as well as *Cypripedium lawreanum hycanum*, *C. gratixianum*, *C. hackbridgense*, *C. Lowi* × *insigne Chantini*, *C. gigas Cordeani*, and some *Dendrobiums*.

Jeremiah Colman, Esq., Gatton Park, Reigate (gardener, Mr. W. P. Bound), exhibited a miscellaneous group of Orchids, among which were some good *Odontoglossum*s, for instance, *O. c. Mary* Colman, a fine large symmetrical flower, the sepals heavily blotched with chocolate-red; *O. c. bonnyanum*, *Oncidium macranthum*, with a flower raceme over five yards long; *Cattleya Mossie reineckiana*, several interesting *Masdevallias*, as *M. bella*, *M. harryana*, *M. polysticta*, *Cypripedium*, *Odontoglossum citrosimum*, *Anguloa Ruckeri*, &c.

Messrs. B. S. Williams and Son, Holloway, N., showed a small group of Orchids that included *Laelio-Cattleya canhamiana*, *L. C. Hippolyta*, *L. C. c. Edouard André*, various *Cypripedium*s, *Odontoglossum cordatum aureum*, *Cattleya Mossie*, &c.

M. A. A. Peeters, Brussels, showed a splendid plant of *Cattleya Warneri alba*, bearing one spike with five lovely flowers.

ROSES.

Hobbies Limited, Dereham, had a capital display of Roses, in which the pretty rose-pink Rambler, Dorothy Perkins, was largely in evidence; Crimson Rambler also was there, as well as many other forms in their interesting group.

Messrs. T. S. Ware (1902), Limited, Feltham, Middlesex, made a very charming and valuable contribution in the form of a group. All types were well represented, and with a few exceptions were growing in pots. Good Hybrid Perpetuals were Mrs. John Laing, Frau Karl Druschki, and Mrs. Sharman Crawford. Among the Teas, Mildred Grant, Souv. de Jean Ketten, Peace, and Ma Tulipe were good.

ROSES (COMPETITIVE CLASSES).

There were but two entries in the class for twenty-four blooms, distinct, open to amateurs. In this Mrs. Haywood, Woodhatch, Reigate, was first with a fair lot of blooms, Clara Watson, Cleopatra, and Helen Keller being the best. Mr. Alex. Hill-Gray, Beaulieu, Newbridge Hill, Bath, was second.

Four entrants in the class for twelve blooms, distinct, made a pretty display. Mr. O. G. Orpen, Colchester, was a good first with large blooms of good colour and fairly even finish. His best flowers were Maman Cochet, Mrs. W. J. Grant, Bessie Brown, Mme. Jules Grolez, and La France. The second prize was won by Mr. T. B. Gabriel, St. John's, Woking, with bright and clean, though rather small, blooms. Captain Hayward was a good bloom in this stand.

In the class for six blooms of any one variety of H.P., three of the four exhibits were distinctly good. Mr. Charles Lamplough, Chatteris, Cambridge, was placed first with pretty blooms of Mrs. W. J. Grant. Mr. O. G. Orpen was second with La France.

The open class for forty-eight blooms, distinct, brought out four good displays, in which Messrs. Frank Cant and Co., Braiswick Rose Nursery, Colchester, were a good first. Considering the season this exhibit was a very fine one. Those worthy of special mention were the Rev. Alan Cheales, Ulrich Brunner, Mrs. John Laing, Frau Karl Druschki, Captain Hayward, La Fraicheur, Lady Roberts, Duke of Edinburgh, Mrs. R. G. Sharman Crawford, and Marchioness of Downshire. The second prize was won by Messrs. D. Prior and Son, Colchester, who had a nice lot of blooms of good colour. There were several very lovely Roses in this stand, although in some instances they were rather smaller than usual.

Two boxes in the class for eighteen blooms, Teas and Noisettes, in not less than twelve varieties, were forthcoming. In this instance Mr. Alex. Hill-Gray was placed first with a pretty lot of blooms, several of which were very pleasing. Comtesse de Nadaillac, Mrs. Edward Mawley, Catherine Mermet, and Princess of Wales were among the best. Mr. Orpen was a good second, and in his box there was more colour. Maman Cochet, Anna Olivier, White Maman Cochet, and Muriel Graham were conspicuous.

Class 6, open to amateurs, for twelve blooms in not less than nine varieties, saw these types of the Rose nicely shown, though small. In this case

Mr. T. B. Gabriel was again first, his blooms being of good form. He was the only exhibitor.

Six blooms of one variety, open to amateurs, was another class in which three competed. In this instance Mr. Orpen was first with a very pretty set, White Maman Cochet being the variety. The Rev. F. R. Burnside, Great Stambidge Rectory, Essex, was second with Souvenir d'un Ami.

In the class for eighteen Teas and Noisettes, distinct, there were two good exhibits. First prize was won by Messrs. D. Prior and Co., Colchester, with a neat and even set of blooms. Princess Beatrice, Niphetos, Mme. Hoste, Catherine Mermet, Media, and Souv. de S. A. Catherine were the best. Mr. George Prince, Longworth, Berks, was second, also with a good lot of flowers.

In Class 9, for eighteen bunches of garden Roses in not less than twelve varieties, there was only one exhibit, which was awarded first prize. This came from Mr. Orpen, and, considering the season, was an excellent display. His best bunches were Reine Olga de Wurtemberg, Hebe's Lip, Turner's Damask, Lady White, Alistair Stella Gray, Fimbriata, Bardon Job, and wichuriana.

For twelve bunches of *Rosa rugosa* and Bourbon Roses, in not less than nine varieties, good bunches won first prize for Messrs. Paul and Son, The Old Nurseries, Cheshunt. *Rugosa alba*, Mrs. A. Waterer, *Rugosa Rose Apple*, and Conrad F. Meyer were the best. Messrs. Frank Cant and Co. were placed second with a good exhibit, embracing many charming sorts. Messrs. George Cooling and Co., Bath, also had a good display.

The class for thirty-six bunches of garden Roses was one of the best features of the Rose show. Here there were three exhibitors, and their display was a distinctly good one. First prize was won by Messrs. Frank Cant and Co., whose group was one of exceptional merit. The bunches were large and deftly arranged, and embraced a charming variety of both form and colour. Conspicuous were Mme. L. Poncet, Rainbow, Cecil Brunner, Mme. Jules Grolez, Marquis de Salisbury, Lady Battersea, Mme. Falcot, Souv. de C. Guillot, Laurette Messimy, Corralina, and Austrian Briar Harrisonii. A very charming lot secured second prize for Messrs. B. R. Cant and Sons, The Old Rose Gardens, Colchester. The varieties were excellent, embracing all those worthy of inclusion in a select list. Papa Gontier, Mme. Charles, Mme. Falcot, Lady Battersea, Rainbow, Grace Darling, Cecile Brunner, Laurette Messimy, and York and Lancaster were striking.

Class 11 was for twelve bunches single Roses, Sweet Briar Roses, and their hybrids. In this instance Messrs. B. R. Cant and Sons excelled with lovely bunches of these beautiful Roses, Brenda, Lord Penzance, Meg Merrilees, Jeannie Deans, Flora McIvor (charming), Macrantha, Janet's Pride, Anne of Geierstein, and Rose sinica Anemone were lovely. Messrs. Frank Cant and Co. were second with less interesting bunches, although pretty. Paul's Carmine Pillar, Irish Glory, and Macrantha were very fine. Messrs. George Cooling and Sons, Bath, were third with a capital series. There were five exhibits in the foregoing competition. There was but one exhibit in the class for nine bunches of Chinas and their hybrids. First prize was awarded to Messrs. Frank Cant and Co., who had a really pretty display. Queen Mab, Irene Watts, Laurette Messimy, and Mme. E. Resal were very handsome.

Six bowls competed for the prizes offered in a class for a bowl or vase of Roses, arranged for effect. First prize was awarded to Miss Beatrice H. Lagton, Raymead, Hendon, for a lovely bowl of single carmine-coloured Roses. They were beautifully set up and won well. Mr. Orpen was placed second with a lovely bowl, cream and blush tinted single flowers being used. Mr. F. G. Olliver was third with a single cream-coloured variety.

The group from Mr. Charles Turner, The Royal Nurseries, Slough, was, as the schedule provided, of a most representative character. Beautiful specimen plants of the free flowering *Auguste Barbier*, *Alberic Barbier*, *Reine André*, and others were freely evidenced. Excellent Hybrid Perpetuals in vases and other types

of the Rose all contributed to make a lovely group. This exhibit was placed first. Messrs. Paul and Son, Cheshunt, also had a very fine group of Roses. *Rosa rugosa repens alba* was charming, as was *Rose Tea Rambler*. Hybrid Tea *Lady Battersea* was well shown, as were numerous bunches of the better garden Roses. On the whole this was a lovely display. Mr. George Mount, The Nurseries, Canterbury, also had an attractive exhibit, and was placed third. A grand lot of cut blooms of H.T. *Caroline Testout*, *Tea Catherine Mermet*, and others of a representative character made this exhibit much admired.

FRUIT COMMITTEE.

Present: Messrs. H. Balderson (chairman), W. Bates, J. Woodward, H. Markham, S. Mortimer, G. H. Maycock, T. Coomber, James H. Veitch, Owen Thomas, Henry Esling, A. H. Pearson, W. Crump, G. Wythes, G. Norman, E. Beckett, W. Fyfe, F. L. Lane, Jos. Cheal, R. L. Castle, G. T. Miles, G. Keli, and J. Willard.

Messrs. T. Rivers and Son, Sawbridgeworth, exhibited a splendid lot of pot fruit trees, Peaches, Nectarines, and Cherries. The trees—some pyramids, some bushes—were laden with fruits. *Sea Eagle*, *Princess of Wales (Rivers')*, *Thomas Rivers*, and *Belle Bauce* were the best of the Peaches, while Nectarines were very finely represented by *Early Rivers'*, *Victoria*, and *Cardinal*. Some large Cherry trees were at the back of the group, and bore splendid crops of fruit; for instance, *May Duke*, *Semis de Burr*, *Empress Eugenie*, and *Elton*.

Messrs. Hugh Low and Co., Enfield, showed Vines and Fig trees in pots. The Grapes, which were not ripe, included *Lady Hastings*, *Gros Colmar*, and *Syrian*. The Figs were *White Marseilles* and *Brown Turkey*.

Leopold de Rothschild, Esq., Gunnersbury, Acton (gardener, Mr. J. Hudson) showed boxes of splendid Plums gathered from pot-grown trees. They were *Transparent Gage*, *Reine Claude Comte d'Althann*, *Jefferson*, *Kirke's*, and *Early Transparent Gage*.

The Countess of Portsmouth, Hurstbourne Park, Whitechurch, Hants (gardener, Mr. R. Perry), showed a dish of *Black Tartarian Cherries*.

Two seedling Melons were shown by the Horticultural College, Swanley.

A Queen Pine-apple that would weigh about 8½ lb. was shown by Baron Nathaniel Rothschild, Hohe Warte, Vienna (gardener, Mr. J. Roberts).

* * * The exhibits of trees and shrubs will be described next week.

GOLD MEDALS.

These were awarded to Lord Aldeham (gardener, Mr. E. Beckett), Messrs. Thomas Rivers, William Bull and Sons, Russell and Son, James Veitch and Sons, Limited, William Cutbush and Son, and Fred Sander and Sons.

SILVER CUPS.

Leopold de Rothschild, Esq. (gardener, Mr. James Hudson), Jeremiah Colman, Esq. (gardener, Mr. W. P. Bound), Messrs. Blackmore and Langdon, Hobbies, Limited, H. B. May, J. Peed and Son, T. S. Ware, Limited, Cannell and Sons, James Carter and Co., Dobbie and Co., Charlesworth and Co., Hugh Low and Co., Amos Perry, Thomas Cripps and Son, J. Hill and Son, and W. Wallace and Co.

THE YORK GALA.

The grand Yorkshire Gala was held on Wednesday, Thursday, and Friday last for the forty-fifth time, but, owing no doubt to the Holland House show opening on Thursday, there was not so good a display as one is accustomed to see. Sir Christopher Millward, the committee, and the secretary (Mr. Fred Arey) worked hard for the success of this great northern show, and merit congratulations. Fine weather favoured the opening day.

PLANTS.

Mr. Walton Curtis, gardener to James Blacker, Esq., Thorpe Villas, Selby, won the first prize for a group of miscellaneous plants (300 square feet). The plants comprising it were very finely grown, and probably accounted largely for the premier position held by this group, for the general appearance was somewhat heavy. Tall plants of *Abutilon Savitzii*, *Acalyphas*, *Crotons*, *Aralias*, and *Dracenas* were effectively arranged among the groundwork of miscellaneous foliage and flowering plants, while in the centre was a large *Cocos weddelliana*, raised, and the base effec-

tively clothed with greenery and Odontoglossums. Two plants of Croton Prince of Wales at each end of the group were remarkably fine. The second prize was won by Mr. J. S. Sharpe, Almondsbury, Huddersfield, with a display that was most attractively arranged, although it contained neither such well-grown plants nor so great a variety as the first prize group. Those with light-coloured foliage were most largely used, such as *Abutilon Savitzii*, *Lilium Harrisii*, yellow *Crotons*, *Miscanthus*, and elegant and graceful *Palms*. Messrs. W. Artindale and Son, Sheffield, were third with a good group, though too crowded. A rustic arch in the centre hardly added to its beauty. The fourth prize went to Mr. W. Townsend, gardener to E. B. Faber, Esq., M.P., Belvedere, Harrogate; and Messrs. R. Simpson and Son, Selby, were fifth. There were no more entries.

Twelve stove or greenhouse plants in bloom: First, Messrs. J. Cypher and Sons. *Erica ventricosa* bothwelliana and *Statice intermedia* were the best; second, Mr. C. Lawton, gardener to Colonel Harrison-Broadley, Welton House, Hull.

Six stove or greenhouse plants: First, Mr. James Cypher. *Franciscea eximia* and *Hedearoma tulipifera* were the best; second, Messrs. R. Simpson and Son, Selby, *Ixora Prince d'Orange* being the best.

The first prize for six stove or greenhouse plants (amateurs) was won by Mr. C. Lawton, gardener to Colonel Harrison-Broadley, Welton House, Hull. *Allamanda Hendersonii*, *Dracophyllum gracile*, *Ixora Moraeii*, and *Clerodendron Balfourii* were the finest.

Three stove or greenhouse plants: First, Mr. James Cypher; second, Mr. James Sunley.

Single specimen stove plant in bloom: First, Mr. C. Lawton, gardener to Colonel Harrison-Broadley, with a very good *Bougainvillea Cypherii*; second, Mr. J. Sunley, with *Anthurium schertzerianum*; third, Mr. E. Dean, with *Clerodendron Balfourii*.

Single specimen greenhouse plant in bloom: First, Mr. W. Todd, with *Dracophyllum gracile*.

Three *Crotons*: First, Messrs. R. Simpson and Son, Selby, with good specimens; second, Mr. W. Townsend, Belvedere, Harrogate; third, Mr. W. Curtis, gardener to James Blacker, Esq.

The chief prize winners in the Fern classes were Mr. W. Townsend, Mr. J. Sunley, Mr. J. Snowdon (gardener to the Rev. G. Yeats, Heworth Vicarage, York), and Mr. C. Lawton (gardener to Colonel Harrison-Broadley).

ORCHIDS.

Table of Orchids: First, Mr. James Cypher, with a bright and effective display. *Cattleyas* figured largely, while *Odontoglossum*, *Oncidium Papilio*, *Dendrolium Phalaenopsis*, and others were well shown also. Arches covered with *Asparagus* and Orchids had an excellent background. Second, Mr. John Robson, Altrincham, with a pretty display. *Odontoglossums* being largely used, there was almost too much greenery.

Ten Orchids in bloom: First, Mr. James Cypher. *Cattleya Mossie*, C. Mendelii, C. Warneri, *Epidendrum vitellinum majus*, E. prismatocarpum, and *Odontoglossum citrosum* were the best. Mr. John Robson was second, *Cypripedium rothschildianum* × *Curtisii*, bearing two spikes each with three flowers, and *Laelia grandis tenebrosa* being most remarkable. W. P. Burkinshaw, Esq. (gardener, Mr. Barker) was third.

Six Orchids in bloom: First, Mr. James Cypher; second, Mr. J. Robson; third, W. P. Burkinshaw, Esq. Three Orchids: First, Mr. J. Cypher. Six Orchids (amateurs): First, W. Bateman, Esq.; second, W. P. Burkinshaw, Esq.

Three new or rare Orchids (amateurs): First, W. Bateman, Esq., The Ridge, Pannal, near Leeds (gardener, Mr. Rollinson); *Cypripedium Elinor* (self-germin majus × superbius), *Laelia cinnabarina*, and *Epidendrum prismatocarpum* were the plants shown. Second, W. P. Burkinshaw, Esq.

Single specimen: First, Miss Barstow, Garrow Hill, York, with *Dendrobium thysiflorum*.

PERLAGONIUMS.

Twelve zonal *Perlagoniums*: First, Mr. H. Pybus, Monkton Moor, Leeds, with fairly well bloomed plants. *Brutus*, Mrs. W. Paul, Dr. Kitch, Ruby, and Mrs. Kelley were the best. Second, Mr. James Sunley, Ashleigh, Milford Junction, with much smaller plants.

Six zonal *Perlagoniums*: First, Mr. H. Pybus, with finer plants than those in the preceding class. *President Thiers*, Mrs. Turner, and Mrs. Newdigate were very good. Mr. George Lee, Baker Street, York, was a not very good second.

Four zonal *Perlagoniums*: First, Mr. H. Pybus, with splendidly-bloomed plants, Mrs. Kelley being the best. Second, Mr. J. W. Clark, Clifton.

Six double-flowered *Perlagoniums*: First, Mr. H. Pybus, with good *Mme. Thibaut*, *Royal Star*, and others; second, Mr. H. Smith, Burton Lane, York; third, Mr. J. W. Clark.

Four double-flowered *Perlagoniums*: First, Mr. George Lee; second, Miss Wharton, Burton Grange, York; third, Mr. James Sunley.

Three double-flowered Ivy-leaved *Perlagoniums*: First, Mr. H. Pybus with *Mme. Crousse*, very well bloomed; second, Mr. Henry Smith; third, Mr. F. Dean, Bootham, York.

ROSES.

Mr. George Mount, The Nurseries, Canterbury, won the first prize for seventy-two blooms, not less than thirty-six varieties. Many good blooms were included, and Ulrich Brunner, Catherine Mermet, General Jacquemiot, Mrs. J. Laing, and Captain Hayward were some of the best. Messrs. R. Harkness and Co., Hitchin, Herts, were second with an exhibit of less uniform quality, *Lady Battersea*, General Jacquemiot, and *Etoile de Lyon* were of the best.

Messrs. Harkness and Co. were first for forty-eight distinct varieties of Roses, single blooms. Some of the flowers were rather damaged, but *Lady Battersea*, *Rubens*, *Duchess of Bedford*, *Comtesse de Nadailac*, and others were excellent.

Mr. George Mount, Canterbury, was first for thirty-six varieties, distinct. His stand contained good blooms of Ulrich Brunner, Bessie Brown, *Rubens*, *Liberty*, and Catherine

Mermet. Mr. J. D. Hutchinson, Crown Square, Kirby Moorside, was a fairly good second.

The first prize for twenty-four varieties, distinct, was won by Mr. Mount, Canterbury, with very creditable flowers. General Jacquemiot, Mrs. J. Laing, and *Mme. Moutet* were the best.

Mr. Mount, Canterbury, won the first prize for eighteen distinct varieties; *Anna Olivier*, Ulrich Brunner, Catherine Mermet, and *Caroline Testout* were excellent blooms.

Eighteen distinct varieties (amateurs): First, Mr. J. D. Hutchinson, *Comtesse de Nadailac* was very good; second, Mr. R. Park, Bedale.

Twelve Roses, distinct (amateurs): First, Mr. W. Hutchinson, with very good blooms; second, Mr. J. Bellerby, Burton Lane, York; third, Mr. R. Park, Bedale.

The first prize for twelve bunches of Roses (amateurs) was won by Mr. W. Hutchinson.

Collection of Roses in pots: Equal first, Mr. H. Pybus, Monkton Moor, Leeds, and Mr. J. D. Hutchinson.

FUCHSIAS, &c.

Group of Fuchsias in flower: First, Mr. George Lee, York, with very well-flowered and well-grown plants; second, Mr. F. Styan with smaller plants; third, Mr. J. W. Clark.

Single specimen plant: First, Mr. J. W. Clark, York, with a good pyramidal plant of the variety Mrs. J. Smith; second, Miss Wharton, Burton Grange, York.

Group of *Cannas*: The first prize was won by Messrs. Walshaw and Son, Scarborough, the only exhibitors, with a bright display of well-flowered dwarf plants.

Group of Carnations: First, Mr. John Robson, Altrincham, with a very fine lot of *Malmaisons*. They were small and carrying splendid blooms, though not many to each plant. *Tree Carnations* H. J. Cutbush, *Duchess Consuelo*, and *Uriah Pike* were also included. Really a very good group. Second, Mr. S. Barker, The Gardens, Clumber, Worksop, with *Malmaisons* quite 4 feet high, astonishingly vigorous, and bearing huge blooms; third, Messrs. Walshaw and Son, Scarborough, with a group of *Tree Carnations*.

FLORAL ARRANGEMENTS.

Miss Ada Stanley won the first prize for a group of flowers for table decoration.

Messrs. Perkins and Sons, Coventry, won the first prize in each of the following classes: Hand-basket of cut flowers, same but Orchids excluded, hand-basket of cut Roses, two bridal bouquets, two ball bouquets, two hand bouquets, single bouquet, shower bouquet of Roses. Messrs. William Artindale and Son, Sheffield, were second in almost every case. Perhaps the best of these floral displays was the first prize basket of red and yellow Roses; they were very beautiful. Messrs. Artindale were first for buttonholes and sprays.

For the best exhibit of floral designs a second prize was awarded to Mr. C. E. Simpson.

HARDY FLOWERS.

Twenty-four bunches of hardy border flowers: First, Messrs. Gibson and Co., Leeming Bar, Bedale, with striking and well-displayed bunches of *Gaillardias*, *Delphiniums*, *Pyrethrus*, *Poppies*, &c.; Messrs. Harkness and Son were second.

Twelve bunches of hardy border flowers: First, Mr. William Hutchinson, who had good Spanish Irises, *Poppies*, *Spiraeas*, *Hemerocallis*, &c.; Mr. G. Whitehead was second; and Mr. J. McIndoe third.

Eighteen bunches of *Ponies*: First, Messrs. Harkness and Sons; second, Messrs. Harkness and Co.

Collection of hardy flowers: First, Messrs. Harkness and Sons, Bedale, with a brilliant display, in which *Eremurus robustus*, *Pyrethrums*, *Poppies*, *Irises*, *Delphiniums*, and others were conspicuous; Messrs. Gibson and Co., Leeming Bar, were second; and Messrs. Harkness and Co., Bedale, third.

Twelve bunches of stove and greenhouse flowers: First, G. Whitehead, Esq.; second, Mr. J. McIndoe. Mr. McIndoe was first in a similar class, but Orchids excluded.

Twelve distinct varieties of Sweet Peas: First, Mr. G. Cottam, Cottingham, *Blauche Burpee*, *Gorgeous*, *Navy Blue*, and *Countess of Radnor* were the best; second, Mr. McIndoe.

FRUIT.

Decorated table of ripe fruit: First, Mr. J. Tullett, gardener to Lord Barnard, Raby Castle. Mr. Tullett obtained 104 points out of a possible 136. The Grapes (both black and white), Nectarines, and general arrangement for effect obtained maximum points. Lord Napier and Rivers' Early Nectarines, Grapes Buckland Sweetwater and Black Hamburg, Melons Triumph and a seedling, Brown Turkey and White Ischia Figs, and a Smooth Cayenne Pine were the best dishes. The large central and smaller vases were filled with *Odontoglossum crispum*, *Schizanthus*, *Heuchera*, and *Asparagus*. Mr. J. H. Goodacre, Elvaston Hall Gardens, was second. Queen Pine, seedling Melons, Black Hamburg Grapes, and Early Rivers' Nectarines were good dishes. Mr. Goodacre gained 99 points. Black Grapes, Melons, Figs, Strawberries, beauty of flower and foliage, harmonious blending of colour and general arrangement for effect gained maximum points. *Odontoglossum crispum*, *Masdevallia haryana*, and *Asparagus* were most effectively used for decoration. Mr. J. McIndoe, Guisborough Hall Gardens, was third with 91 points. Maximum points were given for Plums, White Grapes, and Melons. Mr. J. Dawes, Temple Newsam Gardens, and Mr. C. E. Simpson also showed in this class.

Collection of fruits, ten kinds: First, Mr. J. Tullett, Raby Castle Gardens, with excellent Black Grapes, Nectarines, and Melons; second, Mr. R. Dawes, Temple Newsam, with very good Madresfield Court Grapes and Transparent Gale Plum and Lord Napier; third, Mr. F. Jordan, Impney Hall Gardens. An excellent Queen Pine was in this collection.

Collection of fruits, six kinds: First, Mr. W. Nichols, Carlton Towers Gardens, with a very good lot; Black Hamburg and Buckland Sweetwater Grapes, Miles' Hybrid Melon and Rivers' Early Nectarine were the best;

Mr. F. Jordan, Impney Hall Gardens, was a close second. The Queen Pine, Hero of Lockinge Melon, Stirling Castle Peaches, and Humboldt Nectarines were very good, as also were the Grapes Black Hamburg and Foster's Seedling; third, Mr. McPherson, Londeborough Park Gardens, Market Weighton.

Collection of fruits, four kinds: First, Mr. J. Easter, Nostell Priory, with very good Black Hamburg Grapes, Peaches, Nectarines, and Melons; second, Mr. McPherson; third, Mr. J. McIndoe.

Mr. F. Jordan won the first prize for one Pine-apple. Mr. S. Baker, Clumber Gardens, was first for three bunches Black Hamburg Grapes; second, Mr. W. Nichols; third, Mr. Leadbetter, Tranby Croft Gardens.

Three bunches white Grapes: First, Mr. Nichols, with Foster's Seedling; second, Mr. W. Murchison, Ingmanthorpe Hall Gardens; third, Mr. McPherson.

Six Peaches: First, Mr. D. Williams, gardener to the Earl of Feversham, Duncombe Park; second, Mr. G. E. Thomas, Studley Royal Gardens; third, Mr. Barker, Clumber Gardens.

Six Nectarines: First, Mr. C. Lawton, gardener to Colonel Harrison-Broadley; second, Mr. Peter Blair; third, Mr. D. Williams.

Scarlet-fleshed Melon: First, Mr. J. Dawes; second, Mr. J. W. Goodacre; third, Mr. McPherson.

Green-fleshed Melon: First, Mr. McPherson; second, Mr. John Turton; third, Mr. McIndoe.

White-fleshed Melon: First, Mr. McPherson; second, Mr. McIndoe; third, Mr. Thomas Smart.

Six Figs: First, Mr. J. P. Leadbetter; second, Mr. Goodacre; third, Mr. John Snell.

Dish of Cherries: First, Mr. McIndoe; second, Mr. Goodacre.

Dish of Strawberries: First, Mr. Peter Blair. Twelve Tomatoes: First, Mr. E. Beckett, Aldenham House Gardens, with a splendid dish; second, Mr. G. F. Brotherton; third, Mr. A. H. Hall.

Mr. E. Beckett, Aldenham House Gardens, Herts, was first for the two collections of six kinds of vegetables, the prizes offered by Messrs. Sutton and Sons and Webb and Sons respectively; Mr. B. Ashton, gardener to the Earl of Lathom, was second in each case.

NON-COMPETITIVE EXHIBITS.

Messrs. Reamsbottom and Co., Geashill, King's County, Ireland, showed a brilliant lot of their famous Alderborough Anemones. Even so late in the season they made a striking display in white and many varied shades of purple and red.

Mr. Robert Sydenham exhibited Sweet Peas in vases in numerous lovely varieties. He also showed rustic table decorations of Carnations.

Messrs. Dicksons, Chester, showed a display of Spanish Iris, *Ixias*, *Ponies*, St. Bridgid Anemones, *Carnation Duchess Consuelo*, and other miscellaneous herbaceous flowers, making altogether a brilliant show. The *Ixias* were very beautiful, all having been grown outdoors.

Messrs. Clibran and Son, Altrincham, Chester, showed some *Malmaison Carnations*, *Tree Carnations*, *Kalanchoe flammea*, *Verbena Miss Willmott*, *Calla eliotiana*, the new bedding *Lobelia* Mrs. Clibran, *Draena Doucetti*, *Hæmanthus Kallreyeri*, and other plants, making an interesting miscellaneous group.

Messrs. Richard Smith and Co., Worcester, exhibited an extensive group of miscellaneous flowering and foliage plants. Bamboos made an effective background, while large balloon-shaped Clematis were conspicuous among *Hydrangeas*, *Spiræas*, *Anthuriums*, *Perlagoniums*, *Clerodendrons*, *Swainsonia*, *Ponies*, *Liliums*, and other plants. At both ends of the group were collections of herbaceous flowers that included some fine *Ponies*, *Pyrethrums*, *Poppies*, *Primulas*, &c.

Messrs. Mack and Miln, Darlington, showed a fine lot of *Malmaison Carnations*, *Princess of Wales* and *Margot* being splendid. *Liliums*, *Kalosanthes*, *Ferns*, &c., helped to make a pretty group.

Messrs. Kent and Brydon, Darlington, showed a group of ornamental and flowering shrubs. *Carnations*, *Rhododendrons*, *Verbena Brydon's New Scarlet*, and a new *Geranium* (hybrid between an Ivy-leaf and a zonal) called *Achievement* were also among the plants shown.

Messrs. W. and J. Brown, Staunford and Peterborough, showed *Verbena* Miss Willmott, zonal *Perlagoniums*, *Heliotrope*, *Carnations*, &c.

Messrs. Cutbush and Son, Hightgate, N., showed a group of their new *Marguerite Coronation*. It is a large white flower, with palest yellow centre, and very free.

Messrs. Harrison Brothers, Cockerton, Darlington, showed a group of fancy *Perlagonium* Harrison's Decorator (a sport from Captain Raikes), rose-crimson, blotched with black, and having a white centre.

George Yeld, Esq., Clifton Cottage, York, showed hybrid and cross-bred Irises and *Hemerocallis*.

NEW PLANTS.

Carnation Francis Samuelson.—A tree variety of a beautiful glowing apricot-scarlet colour; one of the most striking we have seen. The calyx is apparently non-burbling, but the stems are weak. From F. A. E. Samuelson, Esq., Breckenborough Hall, Thirsk (gardener, Mr. G. F. Brotherton). First-class certificate.

Hemerocallis Flame.—A hybrid between *H. flava* and *H. Sieboldi*, rich though not deep yellow; the exterior of the petals is brown-red. Shown by G. Yeld, Esq., Clifton Cottage, York.

Gold Medals were given to Messrs. Richard Smith and Co., Worcester, Reamsbottom and Co., Geashill, King's County, Ireland, Messrs. Mack and Miln, Darlington, and a special gold medal to Messrs. Kent and Brydon.

Gardeners' Royal Benevolent Institution. A most enjoyable and successful time was passed on Wednesday evening last, when the chair was taken by the Earl of Warwick. Among those present were Lord Redesdale, Mr. H. J. Veitch, and Mr. Arthur Sutton. A full report will appear next week. The sum collected was £1,750.

