

Per.
Eng
F-3



HARVARD UNIVERSITY

LIBRARY

OF THE

GRAY HERBARIUM

Received 26 Oct. 1912.



THE
Florist and Pomologist:

A PICTORIAL MONTHLY MAGAZINE

OF

FLOWERS, FRUITS, AND GENERAL HORTICULTURE.

CONDUCTED BY

THOMAS MOORE, F.L.S., F.R.H.S., &c.,

CURATOR OF THE CHELSEA BOTANIC GARDEN; EDITOR OF "THOMPSON'S GARDENER'S ASSISTANT;"
CO EDITOR OF "THE GARDENERS' CHRONICLE" AND OF THE "TREASURY OF BOTANY;"
AUTHOR OF "THE FERNS OF GREAT BRITAIN AND IRELAND NATURE-PRINTED,"
"INDEX FILICUM," "THE HANDBOOK OF BRITISH FERNS," ETC

1877.

LONDON:

PUBLISHED FOR THE PROPRIETORS BY
MESSRS. KENT & CO., 23 PATERNOSTER ROW, E.C.

MDCCLXXVII.

Gray Herbarium
Harvard University
26 Oct. 1912

LIST OF COLOURED FIGURES.

	<i>Facing page</i>
APPLE, WHITE WINTER CALVILLE... ✓	73
BEGONIA DAVISH ✓	85
BORONIA ELATIOR ✓	145
CAMELLIA MADAME CACHET ✓	121
CORNUS MASCULA AUREA ELEGANTISSIMA ✓	109
HYACINTH QUEEN OF LILACS ✓	241
MIMULUS (DOUBLE-FLOWERED) CROWN PRINCE ✓	253
" " GALATEA ✓	253
" " SPOTTED GEM ✓	253
" (SCARLET) FIRE-KING ✓	253
NECTARINE, LORD NAPIER ✓	229
ODONTOGLOSSUM TRIUMPHANS ✓	217
ONION, TREBONS ✓	37
ORANGE, TANGIERINE ✓	205
PEACH, BELLE IMPÉRIALE ✓	25
" DYMOND ✓	185
" EARLY ALFRED ✓	277
" MAGDALA ✓	277
" PREMIER ✓	97
PEAR, AMIRAL CÉCILE ✓	61
" BEURRÉ DE JONGHE ✓	61
" DOYENNÉ DU COMICE ✓	133
" THE PEACH ✓	157
" WILLISON'S QUEEN VICTORIA ✓	13
PELARGONIUM, PRINCESS OF WALES ✓	193
PRIMULA SINENSIS EVA FISH ✓	265
RHODODENDRON, PRINCESS OF WALES ✓	3
ROSE, MAGNA CHARTA ✓	49
TULIPA EICHLERI ✓	169
" HAGERI ✓	169

LIST OF WOODCUTS.

<p><i>Abutilon rosæflorūm</i> 211</p> <p><i>Adiantum Capillus-Veneris cornubiense</i> 105</p> <p><i>Adiantum princeps</i> 243, 244</p> <p>Apple, Striped Beefing 79</p> <p><i>Aralia filicifolia</i> 126</p> <p><i>Araucaria Goldieana</i> 39</p> <p>Auricula disease 134</p> <p><i>Begonia kallista</i> 221</p> <p><i>Bouvardia Humboldtii corymbiflora</i> ... 149</p> <p>Bug, Mealy 267</p> <p>Cordon Training of Wall Fruit Trees 42</p> <p><i>Croton Lord Cairns</i> 57</p> <p><i>Croton Queen Victoria</i>... .. 258</p> <p><i>Croton trilobus</i> 56</p> <p><i>Curmeria Wallisii</i> 233</p> <p><i>Cycas Normanbyana</i> 35</p> <p><i>Dactylopius adonidum</i>... .. 267</p> <p><i>Dracæna Goldieana</i> 247</p> <p><i>Eupatorium Berlandieri</i> 27</p> <p><i>Eupatorium ligustrinum</i> 27</p> <p>Fruit Trees, Cordon Training of ... 42</p> <p>Fruit Trees, wires for training on walls 24</p> <p>Fungus causing Peach Blister ... 175</p> <p>Grapes, Mildew of 51</p> <p><i>Hymenanchera crassiflora</i> ... 201, 202</p> <p><i>Lomaria Dalgairnsiæ</i> 197</p>	<p>Mealy Bug 267</p> <p>Mildew of Grapes (<i>Oidium Tuckeri</i>), with conidia germinating 51</p> <p><i>Nephrolepis davallioides furcans</i> ... 19</p> <p><i>Oidium Tuckeri</i>... .. 51</p> <p>Peach Blister, and its accompanying Fungus 175</p> <p>Pears, New Ornamental Japanese 100, 101</p> <p><i>Phoenix rupicola</i> 165</p> <p><i>Phylloxera vastatrix</i>, galls of, on Vine- leaf 270</p> <p><i>Phylloxera vastatrix</i>, various states of root-form and leaf-form of 271</p> <p>Red Spider 266</p> <p><i>Sarracenia psittacina</i>, leaves of ... 254</p> <p><i>Selaginella japonica</i> 137, 138</p> <p>Spider, Red 266</p> <p><i>Tetranychus telarius</i> 266</p> <p><i>Thrips minutissima</i> 266</p> <p><i>Trama auriculæ</i> 134</p> <p>Trellis, West's Patent Adjustable ... 71</p> <p>Vine-leaf infested with <i>Phylloxera</i> ... 270</p> <p>Vines, Adventitious or Air Roots of... 7</p> <p>Vines, Mildew on Young Leaves and Fruit of 51</p> <p>West's Patent Adjustable Trellis ... 71</p> <p>Wires for Training Fruit-trees on Walls 24</p> <p><i>Zamia crassifolia</i> 51</p>
---	---






W.H. Fitch del

Rhododendron Princess of Wales.

THE
FLORIST AND POMOLOGIST.


RHODODENDRON PRINCESS OF WALES.

WITH AN ILLUSTRATION.

E have already figured several of the beautiful hybrid forms of warm greenhouse Rhododendrons which have been bred from *R. jasminiflorum*, by the Messrs. Veitch and Sons, of Chelsea. The original cross yielded the well-known useful decorative plants Princess Royal, Princess Helena, Princess Alexandra, &c.; and as the result of a subsequent cross, there has been obtained through these a race with larger flowers, and having all the other good qualities of the first hybrids. The variety we now figure, *Rhododendron Princess of Wales*, is one of this second race of hybrids, and one of the most beautiful of them all, the colour being a peculiarly soft but brilliant tint of rose-pink, which is set off by contrast with the pure white of the throat and tube. The foliage is similar to that of the other hybrids of like origin.

This variety has been certificated by the Royal Horticultural Society and also by the Royal Botanic Society, and we are sure that those who grow it will be as charmed with the flowers themselves, as they must be by Mr. Fitch's attractive picture of them. As decorative plants these cross-bred Rhododendrons are a decided acquisition, since in the genial atmosphere of a warm greenhouse they go on growing and flowering indefinitely.—T. MOORE.

NEW TUBEROUS-ROOTED BEGONIAS.

R. W. E. GUMBLETON, of Belgrove, Queenstown, has communicated to the gardening journals the result of his careful study of several of the new Begonias of 1876, from which it appears that he would place *Gloire de Nancy* at the head of all the double-flowered varieties. This is really a magnificent plant, with flowers of a beautiful deep carmine-colour, of an upright and branching habit of growth, and exceedingly free-flowering; it has the additional great merit of having nearly all its blossoms male, and therefore double; altogether he thinks it is by far the finest variety that has yet appeared. Its raiser was M. Lemoine. *Balsaminæflora* is another exceedingly beautiful and full double-flowered variety, with rather irregularly developed outer or guard-petals; it has light green foliage, and apparently a compact and low habit of growth; the blossoms are of a very pleasing shade of light red, and are produced in the usual proportion of one double male between a couple of females, which are invariably single.

The finest and most brilliantly coloured of M. Lemoine's singles is *Oriflamme*, which produces large and perfectly formed flowers, of a fine deep carmine-colour and great substance; it is of an upright habit of growth, with dark green hairy foliage, and is very free-flowering, but it is not easy to get cuttings from it. *Diamant* has fine large blooms of a deep rose-colour outside and rosy-blush inside, very freely produced; its habit of growth is low and tufty, with large, bold, deep green foliage, slightly veined with white. It is altogether a most distinct and beautiful variety, of quite a new shade of colour in these plants. *Madame Oscar Lamarche*, one of M. Van Houtte's, is an exceedingly fine large-flowered variety, of perfect form and deep glowing carmine-colour, one of the very best and most free-blooming of all. *Charles Raes*, also sent out by M. Van Houtte, is of upright habit of growth, producing large blooms of a fine deep rose-colour, very free-blooming, and a lovely variety. These have all been grown in the open air at Queenstown.

As summer-flowering greenhouse plants, and also as summer flower-garden plants, these new forms of *Begonia* promise to become real acquisitions.—
T. MOORE.

ON CHANGES EFFECTED BY GRAFTING.

IN a late issue of the *FLORIST* (1876, 255), Mr. Wighton made some remarks respecting grafting, which the light of modern experiences seems destined to modify, even if the statements of Bradley, who wrote long ago, and the late Thomas Andrew Knight's remarks on the variations of grafted Apples, in the second volume of the *Horticultural Transactions*, were not sufficiently conclusive as to the operation of grafting being nearly as likely to change a variety, as to insure its permanence in the form of a young tree on another stock. Mr. Meehan has just published the results of some experiments undertaken by him in which the grafts of Rhode Island Greening Apple and those of a Red Astrachan were split down the middle and joined together tally-fashion, these being then grafted on stocks in the ordinary way. Twelve of these tally-scions, each formed of the two halves of wood of the before-mentioned varieties, were so worked, and three (25 per cent.) grew. One of the survivors has already fruited, and differs from either of the parent trees which supplied the scions, both in flower and fruit.

Many ancient writers have asserted that such a practice had been successful in producing new sorts of fruit, but we had all got into a sceptical state respecting the truth of their remarks, this being in a measure owing to our not knowing rightly the plants to which their names refer, and partly because their statements were unproved by experiment. We now know that variation can be infused into green-leaved stocks of many plants by grafting them with variegated scions, such having been the case with the Laburnum, Spanish Chesnut, Mountain Ash, Pelargonium, Holly, Passion-flower, Jasmine, Abutilon, and many other plants. This ought to be amply sufficient to prove that the returning leaf-elaborated sap is not confined to the wood of the scion the leaves of which have purified it. I

have seen many cases of fruits and flowers having become changed by grafting, and our gardening periodicals teem with records (from many separate observers) bearing out the fact that varieties of fruit-trees, but especially Apples, Pears, Grapes, and Oranges, are changed by grafting, and that not merely in quantity of produce, but in size, shape, colour, time of ripening, and flavour. We all know how Muscat Hamburg is improved when worked on a Black Hamburg stock, while Mr. David Thomson, Mr. Jack, of Battle Abbey, and many other cultivators, have given us evidence of the changes for the better effected by grafting other varieties. It is said—but I do not yet know how truly—that Mr. Maule has obtained tubers from plants of the common Sun-flower, this result having been brought about by grafting the Jerusalem Artichoke on that plant as a stock. If this statement proves to be true, it is even more remarkable than the same results obtained by the same experimenter in grafting potato-haulm on *Solanum Dulcamara* as a stock, about which the only doubt is as to whether the last-named plant does not sometimes produce tubers, or the semblance of tubers, on its fibrous or woody roots, when punctured or accidentally injured in some particular way.

Mr. Darwin mentions in his *Animals and Plants, &c.*, that parti-coloured tubers of the Potato have been obtained by grafting, *i.e.*, inarching the haulm merely of red and white varieties together. Again, there is the famous *Cytisus Adami*. But really, the evidence that grafting does sometimes give rise to variations, in a manner analagous to hybridism, is now so patent, that little more need be said on the subject, which in all its bearings is most wonderful. I do not wish to throw any doubt on Mr. Wighton's experiments, the results of which I feel sure are exactly such as he describes them, but as his remarks generally point to the conclusion that grafted plants always keep true to their kind, while, in many, very many cases, the opposite is known to be the case, I feel sure he will excuse my stating my belief on the point, my only apology for which must be a desire to induce other observers to come forward with the results of their experience, for the benefit of all the readers of the FLORIST AND POMOLOGIST.—F. W. BURBIDGE.

VINES AND VINE-CULTURE.

CHAPTER XI.—DISEASES AND INJURIES, AND THEIR REMEDIES (*continued*).

SHANKING.—Of all the perplexing maladies that affect grapes, this is the worst; other agencies may destroy a crop, or even the plants, much more speedily and completely, but there is no ill pertaining to vines the true causes of which are so difficult to estimate and to grapple with as this.

The term "Shanking" is applied to denote the drying or withering-up of the stalks of the bunches and berries of Grapes. Sometimes it is only a berry or two that "shanks;" at other times it is the whole bunch, and in extreme cases it may be the entire crop. The period when shanking commences is just as the berries begin to change colour, or to ripen, and it continues more or less in action until they are ripe. The berries that thus shank or lose the vitality of their stalks

never colour or ripen, but they become intensely sour, and they soon decay and require to be cut out. In many cases, all that the eye can detect is a minute black speck, or a ring round the stem or stalk of the berry. In other cases, the whole stem is quite blackened. It may be noted that shanking is far more prevalent amongst late grapes than amongst early forced ones; and again, that it is but seldom seen amongst out-door grapes; while some varieties—those of the Frontignan class, to wit—are far more subject to shanking than others, such as the Royal Muscadine.

As to the causes of “shanking,” many and varied opinions have been given. It is not so much, we believe, the result of any one special cause, as of a variety of concurrent causes. In a broad or general sense, shanking seems to be the result of some overstrain, some bad condition or injury, to the feeding or respiratory organs of the vine. Either the foliage has been in some way injured, or prevented from performing its proper functions; or the roots have got into bad condition, and cannot perform theirs; or, it may be, a combination of both these causes may exist. As to the immediate or leading causes of shanking, we shall briefly call attention to some of the principal:—

1. Overcropping.—The crop of fruit must be regulated according to the strength of the plant, and this may nearly be estimated by the amount of properly developed leaves; so that an over-crop of fruit is just tantamount to a scarcity of leaves, an overstraining of the power of the plant, and the result is shanking to a very serious extent.

2. The destruction of the foliage by red-spider, burning, or other causes, which, again, is equivalent to a scarcity of leaves.

3. A stripping-off a great quantity of fully developed leaves at one time, as is frequently done by those who neglect timely stopping, which interference with the foliage affects in a corresponding degree the action of the roots, and so on.

4. The roots getting into a cold subsoil, or the border becoming sour and soddened, whereby the young spongioles of the roots are destroyed.

5. Borders composed of too rich materials, containing too much organic matter, in consequence of which the vines may grow with great luxuriance, but seldom ripen the wood well. The roots formed, although plentiful, are very soft and spongy; they do not acquire firmness, but rot and decay during the winter season, and consequently the next season a fresh supply of rootlets has to be produced; then, when the strain upon the energies of the vine by the advancing fruit crop takes place, the roots are not in a proper condition to meet it, and as a result shanking begins. This late production of roots, their decay in winter, and the subsequent shanking, may go on year after year.

6. Excessive dryness at the roots, such as to cause injury to these organs. If the border is allowed to get dry whilst the vines are in full growth, and is then deluged with water, the young roots will as a consequence be certainly destroyed.

These, then, are several of the causes that directly or indirectly lead to shank-

ing, acting either singly or in combination; yet when a case of shanking appears, it may be very difficult to trace it to its true origin, or to apply a remedy. Many of the above-named causes may be avoided by good management, as indeed they all should; but where the roots are at fault, either through being in a too rich or a too wet sour border, the only remedy that can be adopted is to take them up carefully; remake the border thoroughly, taking care, if in a low or damp locality, to use a greater proportion of porous materials than before, so as to secure good drainage; and replant them.

Adventitious, or Air-Roots.—These are so called from their being produced on the stem of the vine, and their being suspended in the air like so many threads, as represented by the accompanying figure. They are of the same character as the true roots, and only require to be brought into contact with the soil to become such. These air-roots are sometimes produced in great profusion from every part of the stem, frequently attaining a foot or more in length, and so give the vine a strange appearance. There is no particular harm in them *per se*, but their presence betokens a want of proper action on the part of the true roots running naturally in the soil. They are a sign of bad health, and are frequently the precursors of shanking. They give evidence that the



ADVENTITIOUS ROOTS OF VINES.

proper roots are not in a condition to supply the great demands of a large expanse of foliage, &c., and that, aided by a warm, moist atmosphere within the house, Nature is trying to supply this want. Close warmth and moisture will induce the formation of such roots from vine-stems at any time. But if the true roots in a border are in a perfectly congenial condition, no air or adventitious roots will be produced in any ordinarily well-

managed vinery. They are, in short, the result mainly of the roots being in a cold, wet border. To prevent their formation, or to recover vines subject to this evil, the amelioration of the borders must be seen to. Some varieties of vines, such as those of the Frontignan class, being of a more tender constitution, are more subject to the formation of air-roots than others. When they are produced, they need not be cut off, except for appearance's sake, for they will wither up and die as the wood ripens.—A. F. BARRON, *Chiswick*.

FIG NEGRO LARGO.

IF all the Figs which grow in the garden, this is, to my mind, the most desirable, being fruitful to a degree, and the flavour being the finest I ever tasted. My experience of its good qualities is as grown under glass, and I do verily believe it will yield fruit continuously for eight months out of the twelve. In the early part of December, the flavour was as good as it was in June. No class of fruit-trees are more improved by root-pruning than the Fig; they are thus kept within bounds, and made to produce fruit at an earlier period, while those on the open wall should have a double net over them during April and May, to guard them from the frost.—J. RUST, *Eridge Castle*.

NERTERA DEPRESSA FOR CARPET BEDDING.

THE Nertera is certainly a very effective little plant, and deserves a place in every establishment where there are any pretensions to carpet bedding. Here, the first week in October the plants are taken from the beds, good-sized plants being divided into three, each piece neatly rounded, and then potted in a light compost, having a small portion of peat and sand mixed with it; 3-in. pots well crocked are used. The pots are then plunged in coal-ashes in a cold frame facing the south, in an open space not shaded by trees; they are well watered, the lights put on, and very little air given until they get established. They must never be allowed to get dry, for they are water-loving plants, and I do not think it is possible to give them too much. Although the plant is almost or quite hardy, I think it best to put a mat on the frame in severe frosty weather, though I have had them frozen through many a time, and have not found the frost injure them at all, if it is allowed to go out of the frame quietly, as it went in.

During the winter the plants will make some growth, but not so much as some persons would like; and here it is that they make a mistake. They grow it too fast, and get a lot of growth, but not the kind to bring flower, consequently they are not successful in getting a mass of berries. To make it berry freely it must be grown slowly, so as to obtain matured growth, and this will flower freely. In the beginning of March give plenty of air and water, and by the middle of the month take the lights off in the day-time; and if there is any appearance of frost, put the lights on in the evening. Towards the end of the month the lights can be left off altogether. The plants will begin to show flower about the end of April, and by the end of May the little green berries may be seen nestling in

among the green foliage. I plant it out in the beds during the first week in June, taking care not to disturb the ball more than is necessary. It will be found to contrast beautifully with *Sedum glaucum*. The habit of the Sedum is so neat, and the colour so soft, that it suits the Nertera well. The Nertera must be raised a little above the ground-level, to allow the foliage of the Sedum to be kept down close under it, in order that the berries may be seen just above the foliage. The berries of the Nertera begin to colour about the middle of July, and by the end of the month they will produce a good effect. Growing the Nertera in warmth causes it to berry too soon, and consequently the plants will not last the season through. It seems that we have had it berried here more freely than it has been seen elsewhere, and every one is pleased with its charming effect. — G. LEGG, *Cleveland House, Clapham Park*. — (Abridged from the *Gardeners' Chronicle*.)

THE AURICULA.

CHAPTER IX.—NOTES BY THE WAY.—ELECTION LISTS (*continued*).

HERE are many more cheerful things in a day's work than having to get up in the raw dark of a winter morning to catch the earliest train. It is day by the clock, but blind night to the eye; and yet who has not, for all that, thrown open the shutters downstairs for the first streak of morning grey or red to gladden him at his untimely candle-light breakfast! And when thus pressed into a highly unseasonable activity, have none of us horticulturists felt a humorous kind of sympathy with our forced rhubarb, seakale, mushrooms, and other disturbed vegetables; as if we, too, knew what it was to be "forced," and could understand the discomfort they must go through in their vegetable way, in being compelled to "get up" before their usual time, like ourselves blinking in the candle-light, to find the world wintry and dark!

Of all our florist flowers, the Auricula is almost the lightest sleeper, and a very early riser. With it, January is like the hopeful hour within which the winter day will break; and as the month grows old, we begin, on the same principle as opening the shutters in the dark, to look earnestly for the first faint tinge of colouring that tells of the bright spring growth. By the end of the month, the plants will become excitable, and in a spell of open weather one here and there may show the green which there is no mistaking, or a leaf may spring back from the heart that has seemed so still. Do not, however, be tempted to change winter treatment yet.

There will be no growth for the next six weeks to require more water than the strict winter supply. This should never be so short that the plants flag. If they have to show that sign of distress, with foliage short and thick, and little evaporation to cause thirst, they will have been in want for some time; for at this season they will bear more than is good for them before they express suffering.

I have the pleasure of appending some election lists, which, for various

causes, did not reach me in time for the press last month. I trust that with those already given, they will be found to occupy a useful place in these papers:—

Mr. R. LORD, Todmorden.

<i>Green-edged.</i>	Headly's Charles E. Brown.	Lee's Bright Venus.
Leigh's Colonel Taylor.	Sykes' Complete.	Wright's Emma.
Booth's Freedom.	Kay's Alexander Meiklejohn.	<i>Selfs.</i>
Trail's Prince of Greens.	Cunningham's John Waterston.	Spalding's Blackbird.
Trail's Anna.	<i>White-edged.</i>	Pohlman's Garibaldi.
Ashton's Prince of Wales.	Heap's Smiling Beauty.	Lightbody's Meteor Flag.
Hudson's Apollo.	Hepworth's True Briton.	Campbell's Pizarro.
<i>Grey-edged.</i>	Ashworth's Regular.	Turner's Charles J. Perry.
Headly's George Lightbody.	Summerscales' Catharina.	Martin's Mrs. Sturrock.
Lancashire's Lancashire Hero.		

Mr. CLEMENT ROYDS and Mr. JAS. CHEETHAM, Rochdale.

<i>Green-edged.</i>	Kay's Alex. Meiklejohn.	Taylor's Glory.
Booth's Freedom.	Walker's Geo. Levick.	Trail's Beauty,
Litton's Emperor.	Read's Czar.	<i>Selfs.</i>
Leigh's Colonel Taylor.	Conqueror of Europe.	Pohlman's Ellen Lancaster.
Trail's Prince of Greens.	<i>White-edged.</i>	Lightbody's Meteor Flag.
Trail's Anna.	Heap's Smiling Beauty.	Turner's Charles Perry.
Ashton's Prince of Wales.	Hepworth's True Briton.	Campbell's Pizarro.
<i>Grey-edged.</i>	Taylor's Favourite.	Kay's Topsy.
Lancashire's Lancashire Hero.	Ashworth's Regular.	Berry's Lord Primate.
Headly's Geo. Lightbody.		

Mr. J. DOUGLAS, York.

<i>Green-edged.</i>	Lancashire's Lancashire Hero.	Summerscales' Catharina.
Leigh's Colonel Taylor.	Sykes' Complete.	Cheetham's Countess Wilton.
Booth's Freedom.	Smith's General Bolivar.	<i>Selfs.</i>
Litton's Emperor.	Lightbody's R. Trail.	Netherwood's Othello.
Page's Champion.	<i>White-edged.</i>	Campbell's Pizarro.
Beeston's Apollo.	Heap's Smiling Beauty.	Martin's Mrs. Sturrock.
Ashton's Prince of Wales.	Taylor's Glory.	Spalding's Blackbird.
<i>Grey-edged.</i>	Ashworth's Regular.	Lightbody's Lord Clyde.
Headly's Geo. Lightbody.	Hepworth's True Briton.	Pohlman's Garibaldi.
Lightbody's R. Headly.		

Mr. JOHN RATCLIFFE, Ovenden, Halifax.

<i>Green-edged.</i>	Read's Dr. Horner.	Lee's Earl Grosvenor.
Trail's Prince of Greens.	Lancashire's Lancashire Hero.	Lee's Bright Venus.
Leigh's Colonel Taylor.	Sykes' Complete.	<i>Selfs.</i>
Trail's Anna.	Cunningham's John Waterston.	Spalding's Blackbird.
Booth's Freedom.	<i>White-edged.</i>	Netherwood's Othello.
Ashton's Prince of Wales.	Heap's Smiling Beauty.	Pohlman's Garibaldi.
Litton's Emperor.	Hepworth's True Briton.	Spalding's Metropolitan.
<i>Grey-edged.</i>	Ashworth's Regular.	Lightbody's Meteor Flag.
Kay's Alexander Meiklejohn.	Summerscales' Catharina.	Lightbody's Lord Clyde.
Headly's George Lightbody.		

Mr. J. KENYON, Halifax.

<i>Green-edged.</i>	Kenyon's Ringleader.	Choetham's Countess Wilton.
Leigh's Colonel Taylor.	Headly's George Lightbody.	Lee's Bright Venus.
Litton's Emperor.	Grimes's Privateer.	<i>Selfs.</i>
Ashton's Prince of Wales.	Waterhouse's Conqueror of	Pohlman's Ellen Lancaster.
Booth's Freedom.	Europe.	Netherwood's Othello.
Oliver's Lovely Ann.	<i>White-edged.</i>	Pohlman's Garibaldi.
Pago's Champion.	Hoap's Smiling Beauty.	Spalding's Blackbird.
<i>Grey-edged.</i>	Hepworth's True Briton.	Whitaker's True Blue.
Lancashire's Lancashire Hero.	Ashworth's Regular.	Turnor's Charles J. Perry.
Sykos' Complete.	Summerscales' Catharina.	

We shall all doubtless have felt interested to see one another's candid avowal

of concealed affections, and the choices which we have perhaps never before studiously laid open to our fellow-florists. I think it plain that the lists will be collectively a lucid guide to any beginner wishing to know the best flowers. He cannot make a mistake among those on which all have laid such distinction.

And which of us does not rejoice to find that *Smiling Beauty*—loveliest of white-edges, fairest of that fairest class, richest in her frosted-silver foliage, stateliest in her graceful bearing, purest in snowy edge, and blackest velvet of her blossoms—is, by acclamation, Queen among Auriculas? No one who has seen *Smiling Beauty* in her health and glory will easily forget her. With her high lead in first-place votes she represents the Auricula right royally.

Some of us will have felt a great wish that we had had room here and there for another good sort. I, for instance, was sorry I had not room enough among the Selves for such a flower, as *Othello* always is with me. But other points duly considered, I had made a *rich variety and distinction in true Self ground-colours* a rule of choice, and entrusted the black grounds to *Ellen Lancaster*, a velvety, intensely black Self of great substance, and a direct descendant of *Othello*; for the seed that produced *Ellen Lancaster* had rattled in a chance pod, shaking in the wind in Mr. Wilson's garden. Mr. Pohlman had pity on the pod, and in due time his reward in a fine seedling. It is a brilliant exception to the rule that chance-saved Auricula seed is comparatively worthless.—F. D. HORNER, *Kirkby-Malzeard, Ripon.*

SELF ALPINE AURICULAS.

AS it is now decided that there shall be an exhibition of Auriculas in London during the coming spring, and as it is probable that some of the northern growers may be induced to bring their flowers southwards on that occasion, I venture to express the hope that, if a schedule of prizes be framed, it will be cast in as liberal a spirit as possible. Take, for instance, the present race of Alpine Auriculas, mainly raised by Mr. C. Turner. Among these there are many flowers that are Self Alpines, and which, as a consequence, would be excluded from competition at the exhibitions of the National Auricula Society. They are too good, too brilliant in colour, and too striking in appearance to be passed over altogether; they are the result of immense labour, and mark a wonderful stride in the march of improvement. But they are not true Alpines in the northern acceptance of the term.

The first property in all Alpines is the shaded corolla lobes or petal,—*i.e.*, the base of the marginal or ground-colour must be dark, with a paler edge, the dark hue shading off into the pale, and the more richly shaded a flower is, the better is it appreciated. Another important property is that, whether the centre or paste be yellow, or sulphur-yellow, or cream, or even white, it must be free from any trace of that meal which forms the paste in the true Self Auricula. I mention this, because I have met with named Alpine Auriculas that are not true Alpines, but nondescripts, because of the presence of this mealiness.

The yellow centre is not indispensable to the true Alpine, for there are some fine shaded flowers having white centres, but the yellow-centred Alpines are by far the most valuable; pale-yellow, or custard centres, are admissible, but the nearer they approach to white, the less their value. So much were the yellow-centred Alpine Auriculas esteemed above those with white centres, that within the last year or two it has been found necessary to create a special class for the last-named at the exhibition of the National Auricula Society.

But as every correct Alpine, according to the northern estimate, must have shaded petals, it is obvious that some of Mr. Turner's flowers, and those produced by other raisers, though perfect in the centre, are yet inadmissible, because of their unshaded margins. But why cannot there be a class for Self Alpines, as there is for Self Auriculas in the show division? Take flowers like *Black Prince*, *Colonel Scott*, *Diamond*, *Etna*, *John Leech*, *King of Crimson*s, *Mercury*, *Perceval*, and *Spangle*, out of many others which have been raised at Slough, and they would find no place among shaded flowers, because almost entirely self-coloured on the margin; and yet, though they have large finely-rounded pips, with golden meal-less centres, and brilliant marginal colouring, they are not allowed to start in the competitive race. By all means allow the shaded marginal colour to be characteristic of the true Alpine, but let there be a class provided for the Selves, so that they also may have a chance to make a reputation on the exhibition-table.

The concession made in favour of the white-centred flowers may well be carried a little farther, so as to include the beautiful Self Alpines now being produced. The Floral Committee of the Royal Horticultural Society has awarded First-class Certificates to several of them, on account of their rare beauty. What do Auricula cultivators say to this proposal?—RICHARD DEAN, *Ealing, W.*

CORN SALAD, OR MANCHE OF THE FRENCH.

THIS forms an excellent and nutritious salad, little known and little cultivated. Great quantities are grown in France, and consumed during the winter months. The little daisy-like tufts are cut off near the ground, thrown into water, washed clean, and switched dry in a towel; then they are put in a salad-bowl, with a nice bit of tarragon and of chervil chopped up fine. The *Manche* is not cut up, but left entire. Oil and vinegar, pepper and salt, are added, of course, and the result is a very excellent dish; many a meal has been made of it and a bit of bread, and if the proportion of oil is two to one of vinegar, the meal is, of course, more nutritious and wholesome.

Seed of this plant is sown at the end of August. Choose on a wet day a small piece of dug ground, and with the spade smooth the surface over equally. Sow the seed on the surface, and if the weather is likely to be dry, shade with a mat laid on flat, a stick or two being laid across the bed beneath. In a week or so, the little plants will appear in thousands, when the mat may be removed. They are ready for use after the first frost, and are the better for frost, to make them tender and crisp. It is highly commendable as a salad.—H. KNIGHT, *Floors*.





J. L. Macfarlane del.

G. Severeys Chromolith. Brussels.

Willison's Queen Victoria Pear.

WILLISON'S QUEEN VICTORIA PEAR.

WITH AN ILLUSTRATION.

SAMPLES of this excellent autumn Pear were sent to us in September, 1875, by the late Mr. W. Willison, of Whitby, who was well known as a florist and rose-grower. Along with the fruit came the following particulars of its history:—"My Queen Victoria Pear was raised about twenty years ago, but whether from Marie Louise or Jargonelle I am not sure. I think it was from the latter, as it ripens nearly at the same time, and is of about the same size. This season the fruit is rather small. Like the Jargonelle, it does not keep long, and consequently it requires to be caught at the right stage of ripeness. Some of our best pomologists pronounce it the best early Pear they have tasted, and describe it as having a peachy flavour. The seedling tree has exhibited no sign of canker, and is very prolific."

Our plate gives an excellent representation of the appearance of this Pear, which reached us about the middle of September, and was then in condition for eating. The following memoranda were made at the time:—*Fruit*, about medium size, 7 in. round at the thickest part, and 4 in. on the longest side from the centre of the eye to the base of the stalk; ovate, with the sides slightly hollowed. *Stalk*, about 1½ in. long, set on very obliquely. *Eye*, large, with bold spreading segments, set in a very slight depression. *Skin* greenish, or pale brownish-tinted yellow-green, the exposed side with a thin coating of pale but bright russet-brown, just sufficient to give a warm tinge to the colouring. *Flesh* very juicy and sugary, having a strong pear flavour, blended with a smatch of that of noyau. The flavour is most pronounced when the fruit is eaten without paring it.—T. MOORE.

MUTILATED FLOWERS OF CARNATIONS AND PICOTEES.

"A Z." writes:—"I have not seen any reference in your papers on the Carnation and Picotee to the subject of 'mutilated' flowers, or what constitutes a 'mutilated' flower. The first rule of the schedule of prizes of the National Carnation and Picotee Society for the past year says, 'Any flower, or stand comprising a mutilated flower, will be disqualified.' Late on the day of exhibition I saw several flowers from which the upper points of the calyx had been cut—from which, indeed, the whole of the *incurved* points had been removed: was not this a mutilation, and should not such flowers have been disqualified?"

Yes, undoubtedly a mutilation, and as undoubtedly should have been disqualified. But did our correspondent find any flowers so treated amongst the winning blooms? If he did, I can only plead, as a set-off, the impossibility of making the full examination required in the time at the command of the judges. Late on the day of the exhibition my attention was called to this fault, which, as Talleyrand is reported to have said, "was worse than a crime, 'twas a blunder,"

for if the exhibitor had properly recurved the points of the calyx, he would have had a support to the petals which this cutting-down mutilation deprived them of ; but no flower so treated was brought under my notice which had been placed amongst the winners.

In the future, it will be well to recite what constitutes "mutilation." "Any flower from which a rough edge has been taken by the use of the scissors, or the calyx cut, other than the *dead* tips, which in some varieties are invariably developed." These being *dead* are lawfully subject to removal, as a grown-ent petal, or petal otherwise injurious to the symmetry of the flower, may be removed. What the florist may not do is to confer, by the dexterous use of the scissors, a smooth edge where nature has denied one, or to cut down the calyx.—E. S. DODWELL, *Clapham*.

ZAMIA CRASSIFOLIA.

UNDER this name, Mr. Williams has exhibited during the past season, and now catalogues, the striking-looking Cycad represented by the annexed woodcut (p. 15), which he has obligingly placed at our disposal. He describes it as a distinct and dense-growing species, with pinnate leaves about two feet long, the petioles covered with a dense whitish tomentum ; the pinnæ are from 2 in. to 2½ in. long, sharp-pointed, closely set, to which we may add that they are also variously directed. The plant is said to succeed well in a greenhouse.—T. MOORE.

POTHOS ARGYREA AS A WALL-CLOTHER.

FEW plants are more beautiful than this Pothos, which forms one of the most striking and attractive of basket-plants. There are several varieties, but it is very seldom that any of them are seen in gardens. The above is no doubt the most beautiful, but *Pothos rubrinervia* (the red-veined), is also a beautiful plant. They are semi-epiphytes, the branches throwing out into the air rootlets that adhere to a wall like ivy. They, therefore, not only grow well against walls, but run and root on them ; and it is in this style that the finely marked silvery variegated leaves of these plants show to most advantage.

There is no plant at all like this Pothos in character or appearance. Every one is arrested by its novelty, and struck by its beauty on walls. It is not a very fast grower, but the leaves last long in their perpetual beauty, as the plant is a true evergreen, and never seems to shed its foliage. The leaves, unlike those of many other choice variegated plants, also continue as bright and beautiful when old as in a young state. They possess great substance, and will bear washing with less injury than almost any other leaves, should they unfortunately get soiled.

The plant does remarkably well in a pocket of virgin cork, stones, or clinkers, on a wall. It is by no means particular as to soil ; a mixture of equal parts of turfy loam and peat, with the usual addition of silver-sand, suits it admirably. It is very effective, hanging over a pocket on a wall, or from a high mass of rock ;

but the plant delights to hug the wall closely, and if left to its own devices—and this is the surest method to secure artistic results—it will run into the chinks



ZAMIA CRASSIFOLIA (see p. 14).

and crevices of the rough cork, stone, or other substance with which the walls of houses are now so often made interesting, if not picturesque, and break out in branchlets or leaves of exquisite beauty in the most unlikely places. These

Pothos surprises are remarkably satisfying, for their intense beauty, as well as naturalness. *Pothos* on a wall speedily loses the character of having been planted, and seems as if indeed it might have been generated or produced by the wall-material itself. This, I take it, is almost the perfection of wall-furnishing, for the hand of art to be hidden under the art and beauty of a natural-like effect.

The *Pothos argyrea* is also easily propagated. The tip or any portion of each shoot or branchlet will grow, if merely placed in soil and subjected to a temperature of from 65° to 70°. This is also the heat that suits the *Pothos* best in a growing state; therefore the places for it are the walls of the plant-stove or orchid-house.—D. T. FISH, *Hardwicke House*.

THE CARNATION AND PICOTEE.

CHAPTER XIII.—DESCRIPTIONS OF THE BEST VARIETIES, OLD AND NEW.

BEFORE I had completed my self-imposed task of writing a monthly paper on these flowers, it was urged upon me by various correspondents that my work would be incomplete without a descriptive list, setting out the specialities of the various kinds now most esteemed, with any peculiarity of treatment required; and I so far see the force of this argument, that I have willingly undertaken this further task. I have myself—and I have not the slightest sense of shame in the avowal—such a keen sense of the beauties of the Carnation and Picotee, such an enjoyment in watching them through every stage and phase of their development, and such an eager appetite for every particular of their history, or specialities of their cultivation, that I cannot grow tired or satiated, though the story be oft-told. To me “age cannot wither, nor custom stale” their “infinite variety;” but whether this may be the case with my readers, I am not able to judge. Still, if I may draw an inference from the correspondence reaching me—which comes with an ever-increasing volume—I am bound to believe the love for “florists’ flowers” is decidedly in the ascendant.

For the descriptions to which an asterisk [*] is prefixed, I am indebted to my friend, Mr. George Rudd, of Bradford, his experience of those varieties being more extended than my own:—

SCARLET BIZARRE CARNATIONS.

ADMIRAL CURZON (Eason).—Twenty-four years ago I wrote:—“Commencing alphabetically, this variety is first on my list, as it is first in my regard,” and despite the change such a lapse of time inevitably brings, it is pleasant to record the Admiral is yet left to us, and is as worthy of admiration as in the days of his earliest youth. Wherever Carnations are grown, north, east, west, or south, there is Curzon, and, wherever shown, always to the front; indeed, quite nine times in ten it is the best flower of the exhibition. Raised at Derby by James Milwood, but sold by him prior to blooming to Mr. Eason, whose name it bears; first bloomed in 1844, sent out in 1845; it was one of those large leaps in advance which seem to defy all efforts to surpass. For several years its origin was the subject of dispute, Milwood asserting the seed was taken from his Premier P.F., but in this I have good ground for believing he was mistaken; and I have as little reason to doubt, it sprang from Walmsley’s William IV., which, excepting only the “legginess” of that old variety, it closely follows

both in habit and grass. It has a beautifully shaped petal, smooth, gently cupped, and of good substance, though it requires the aid of a card in blooming. Its colours are rich, bright, well-delineated, and strongly contrasted. Its outline is as unbroken as any flower I have ever cultivated, and its form when skilfully dressed good. It is of medium size, and a good grower, and generally produces abundance of pollen, but rarely bears seed unless carefully impregnated. When fairly started, during the swelling of the buds, an occasional dose of clear manure-water will add to the lustre of its colours and the size of its flowers, but it must be understood, this is never given to any weakly plants, whether of this or other varieties; such are always *stopped*, not stimulated, and thus their energies being devoted solely to the young growth, strong, healthy layers are generally obtained for another season.

CAMPANINI (Turner).*—A very large and very full variety, also full of colour, but sadly too confused to please the taste of the northern florists. Mr. Turner has shown this, I am told, in good style, and with well-defined markings, but with me not only have the centre petals been narrow and confused, but the markings have been broken and undefined.

DUKE OF EDINBURGH (Abercrombie).*—Good-shaped petal, very leathery in texture, but difficult to open in our northern air. The colours are good, and the flower lasts long in bloom.

DREADNOUGHT (Daniels).—A variety of extra fine character wherever grown true, though, unhappily, from the fault or misfortune of the raiser, in many, if not in most cases, Admiral Curzon was distributed for it. A seedling from Curzon, it follows its parent in most of its characteristics, save that its habit of grass is somewhat more erect and stiff, and when in good health it grows from six to twelve inches higher; the bizarre colour is also markedly darker. Raised at York. Sent out in 1858.

GARIBALDI (Heap).—As seen at Manchester, a variety of good form and well-defined markings, but the colours lack the richness needed to constitute a first-class variety. A good grower apparently.

GUARDSMAN (Turner).*—Shown in good character by Mr. Turner at the July Show of the Royal Horticultural Society, and then pronounced by D. Deal, the representative and exponent of "florist's flowers" in the *Journal of Horticulture*, as the best flower of the exhibition, but so far were the Judges, as I can testify, from sharing the opinion, that it seriously detracted from the merits of an otherwise first-class collection. It is a variety of large size and rich colours, but the centre petals are much too small and too confused to please the northern taste.

JOHN BURNETT (Harland).*—A sport from Wm. Harland S.F., by the same raiser. The petal is scarcely so fine in form as Admiral Curzon, but nothing can surpass its lovely colours. Requires generous growth, and should not carry more than two flowers on a plant. Medium early in flower.

LORD DERBY (Heap).—A flower of good form and medium size; petal smooth, well shaped, fair substance, and the markings distinct. Of its white ground I cannot speak, as my plants were "run," but I thought it worth replacing. A good grower.

LORD NAPIER (Taylor).*—A large fine flower, with plenty of colour and well-distributed, but the bizarre is pale, which injures the effectiveness of its contrast. Requires good growth. Raised by the late Mr. James Taylor, of Sneinton, near Nottingham.

LORD RANCLIFFE (Holliday).—Bloomed, I believe, first in 1844, and sent out as a variety of high pretensions. Twenty-four years ago, I wrote, "I think this flower has been quite sufficiently praised. I have seen it *good* once or twice, and only once or twice since it came out. It has fine, large, broad guard petals, but the higher tiers diminish too rapidly, and are too confused. When good the colours are very dark, regular, and well-contrasted, the white being pure, but I never saw it so smooth as several other varieties I could name. The grass is small, but prolific in increase." I have nothing to add to or detract from my description of such far-off time, but I am glad to recognise the vitality which gives it life and a place to this day.

MARS (Hextall).—Raised by my lamented friend, Mr. J. D. Hextall, of Ashby de la Zouch, in the last years of his green old age, and sent out in 1873. A seedling from Admiral Curzon; it is larger than the parent in size, and a more vigorous grower. A seasonal variety, requiring a hot summer to bring out its white ground in good character, it yet deserves cultivation, wherever the Carnation is esteemed, for its massive style, symmetrical form, and well-defined markings. Colours rich. Grow generously, but with a liberal admixture of charcoal in the compost. Will carry two full-sized flowers.

MERCURY (Hextall).—A companion flower to the above, and from the same parentage; scarcely so rich in its colours,—as seen by me last season, but my plants were not in rude health,—nevertheless, a variety of fair promise.

SIR JOSEPH PAXTON (Ely).—Sent out in 1851, being a seedling of that year. A flower of noble proportions, full of colour, and very commanding, though far behind Curzon, which when offered for sale, it was said to surpass. The petal is smooth and gently cupped, but slightly too long. Habit of grass compact; a tall grower, and prolific. Origin unknown.

TRUE BRITON (Hepworth).—One of the oldest varieties known. When ill-grown, a wretched thing, serrated and reflexed; but when well-grown, it is a very showy, strongly marked, and strikingly bold variety, forming a capital object for the back row of the home stage, and very often a good flower for the back tier of the stand. It is a good grower, has a fairly shaped petal, and the colours are well distributed.

—E. S. DODWELL.

NEPHROLEPIS DAVALLIOIDES FURCANS.

THE type of this fine new Fern is the extremely handsome Javanese species, *Nephrolepis davallioides*, now become familiar in cultivation. The charming and very distinct variety, of which the annexed woodcut (p. 19) is an illustration, was originally described by us in the *Gardeners' Chronicle* for 1873 (p. 213), our knowledge of it having been derived from Messrs. Veitch and Sons, of Chelsea, to whom our thanks for the use of the figure are due. They state that the plant was received by them from Messrs. J. Baptist and Sons, of Sydney, N.S.W.; that it was exhibited at the International Exhibition in Cologne in August, 1875; and that it received certificates from the Royal Horticultural Society in 1873, and the Royal Botanic Society in 1874. It is a noble fern, of robust growth, sending forth numerous arching fronds, from 3 ft. to 4 ft. long. From the normal form it differs obviously in the multifid furcation of the pinnæ. In the sterile pinnæ, which are few in number, at the base of the fronds, the furcation is rudimentary; but the upper fertile pinnæ are deeply parted, the furcation being twice, or even thrice, repeated in the extremities of the first divisions, the furcation thus becoming more complex towards the point of the frond; the lobes are all more or less divaricate.

It is a stove fern, of evergreen habit, and the multifid apices of its pinnæ render it one of the most ornamental of the larger-growing sorts.—T. MOORE.

NOTES ON THE CULTURE OF VINES IN POTS.

WHEN it is intended to produce Grapes very early in the year, many persons prefer growing the Vines in pots; and when they are well managed, very good fruit can be obtained in April. Vines are so easily raised from eyes, and can be grown with so little trouble into fine fruiting-canecan, the same season in which the eyes are planted, that any one having the convenience of a forcing-house can grow them.

All free-fruiting varieties of vines are suitable for early forcing, but some varieties are much better adapted to this purpose than others. The best of all is *Black Hamburg*; it is a certain bearer, and produces fruit of large size and excellent quality. I have tried nearly all the most popular black sorts, to compare with it, but none of them are equal to it on all points. *Snow's Muscat Hamburg* bears very freely, but I never found it set well on its own roots as a pot-vine, and as a consequence, the bunches were loose and the berries irregular in size. When *Royal Ascot* was sent out, it was thought to be well adapted for pot-

culture, as well as for early forcing, but it has not justified the expectations formed of it, and it cannot be depended upon to supply good early grapes from pot-vines.



NEPHROLEPIS DAVALLIOIDES FURCANS.

Perhaps the best white variety is *Foster's White Seedling*; it is of free-bearing quality, and the berries set well, and are of good flavour early in the

year; for forcing and pot-culture, it is the best white companion to Black Hamburg. *Buckland Sweetwater* comes next, and would be placed first, but I have not found it do well except when worked upon Black Hamburg. For many years I have exhibited *Buckland Sweetwater* at the early shows of the Royal Horticultural Society and other exhibitions, nearly always taking first prizes with them, but the vines are all grafted on Black Hamburg stocks, and planted-out. If *Buckland Sweetwater* can be grafted on this stock, and the vines be placed in a sunny position, no white grape except *Muscat of Alexandria* can be compared to it. *White Frontignac* is a very good white grape for pot-culture, and should be grown for its distinct, rich musky flavour. The new varieties raised by Mr. Thomson, of Clovenfords, I have not tried in pots. They are noble grapes, but I am afraid too tender for pot-culture; they are both grown at Loxford Hall in the early vineries, and when we can pilot them over the various ills that grape-vines are heir to, no other white grapes are equal to them in appearance, and the flavour is distinct and very rich. They are worked on the Black Hamburg stock; but even then, should the sun catch the leaves, through insufficient ventilation or other causes, *Duke of Buccleuch* will suffer first, and *Golden Champion* next. But then we ought not to be caught napping, and knowing that high-class Grapes are likely to be injured if we are, it will be only an incentive to increased vigilance.

Well, then, in a few words, the sum of the matter is this:—If the largest quantity of first-class grapes is to be furnished from a given space from pot-vines, and if a few white grapes are wanted, it will be best to grow five canes of Black Hamburg to one of Foster's Seedling.

Excellent pot-vines can be supplied by the trade for forcing purposes, but they are very expensive, and when gardeners have to grow a large number, they must also propagate their own stock. The eyes should be saved from vines that were fruited early, and they should be put in, each eye singly, in small pots in December, about the middle of the month. Towards the end of January place the pots in a forcing-house with a temperature of 55° at night. The pots should be plunged in a bed of tan, or other fermenting material, in a bottom-heat of 85° or 90° . When the young vines have grown three or four inches, repot them into 5-inch pots, and plunge the pots again into the bottom-heat. When the roots have grown to the sides of the pots, raise them up and simply stand them on the surface of the plunging material; in ten days or a fortnight after this, the vines may again be potted into 8-in. pots. I never plunge them after this, as they make a better class of roots when the pots are not plunged. After these pots are again well filled with roots, the vines will be ready to be potted into their fruiting-pots. 11-in. or 13-in. are the best sizes. Each time of potting, the compost should be well rammed in round the ball.

Vines luxuriate in rich clayey loam, with some crushed bones added to it. If the loam consists of the turfy part of an old pasture, no manure will be required; but, if the loam is not fibrous, a little rotted stable-manure added to it

will serve to keep the material open. When the vines are in full growth, they require plenty of tepid water to be applied to both roots and leaves, and the house should be shut up early in the afternoon, to utilise as much as possible the heat of the sun. The temperature may rise as high as 95° after the house is shut up; the best time to syringe is when the ventilators are opened in the morning, and at shutting-up time in the afternoon. Red-spider will be kept off by frequent syringings, and should thrips appear, it will be necessary to fumigate.—J. DOUGLAS, *Loxford Hall Gardens, Ilford.*

VILLA GARDENING FOR JANUARY.

THE out-door garden being practically closed to gardening operations, for the soil is so thoroughly saturated with moisture, that getting on it is likely to do it much more harm than good, the greenhouses and pits afford many little matters of occupation for the lover of flowers.

The Cold Greenhouse: If this be a house without means of artificial heating, the plants in it cannot well be kept too dry during the prevalence of so much moist, dull, mild weather. Some persons have an idea that plants of a tender character cannot be wintered in a cold house, but experience proves that many things can be wintered unharmed, if but a few precautions be taken. Such plants as *Cinerarias*, *Calceolarias*, *Pelargoniums*, both of the show and zonal sections; *Mimulus*, *Azaleas*, *Herbaceous Begonias*, *Fuchsias*, and others of which these may be taken as fair representatives, can be successfully wintered in such a house, if so be they receive some attention. All these plants are, more or less, at a state of rest at this time of year, and those that may be said to be growing, of which the *Cineraria*, *Calceolaria*, and *Pelargoniums* are the best representatives, only require just sufficient moisture at the roots to keep the plants from flagging. Many and many an effort is put forth to winter a few plants, and if failure comes, it comes through damp rather than frost and cold. Now, but little water should be given, and in giving it care should be taken that none of it falls on the leaves, or any drips from the plants on to the leaves of plants below them. If the shelves and the soil of the plants be dry when frost comes, then the possibility of harm is reduced to a minimum. A strong paraffin lamp will keep out much frost, and the plants can be made additionally secure by placing a few newspapers over them. This is a capital plan. Give a little air, except when the wind blows cold, and even then a little air can be given on the side of the house opposite to the quarter from which the wind is blowing.

The Warm Greenhouse: By this is meant a house heated by means of hot-water pipes or a brick flue; and here many tender plants can be wintered, and by means of a few winter-flowering plants, such as *Cyclamens*, *Bouvardias*, *Zonal Pelargoniums*, *Hyacinths*, &c., a pleasing display of bloom can be had. The common fault of amateur gardeners is that they fire-up too much, and by doing so, get the house filled with a dry atmosphere in a greater degree than is really re-

quired. During the weather that now prevails, no fire-heat is required by day, but a little may be put on by night, and only enough to make the temperature agreeable,—a genial, temperate warmth of from 50° to 55° . Advantage may be taken of a sunny day to give a gentle syringing with tepid water, and plants must not be suffered to want for water; at the same time, only what is absolutely necessary is really required, and as much as can be given. Green-fly will put in an appearance in both houses, and they are partial to the buds of *Cyclamens*, and to *Cinerarias*, and the young points of show-*Pelargoniums*. Fumigate the house with tobacco-smoke, or if the vermin are not in sufficient force, wash the few plants affected with Fowler's gardeners' insecticide, or soft-soap and sulphur dissolved in warm water.

Frames: Many persons are found gallantly fighting against many difficulties in their desire to winter a few choice plants in a cold frame. Here also, as in the case of the cold greenhouse, the great enemy is damp. Too often the frame is set down in a low damp spot, where there is little or no natural drainage, and no attempt made to secure it. It is almost impossible that plants can do well, for while the frame may be covered to exclude frost, it will not exclude damp. The drier the soil is kept about the roots of the plants the better will be the chance of wintering them in safety; and the more air that can be given in favourable weather the better for the plants. If the soil be wet on which they are placed, it is a good plan to raise the pots above it by standing them on other pots inverted, or by raising them on bricks, pieces of timber, or anything else available for the purpose. All decaying leaves need removal, as damp hangs about them, and by this means spreads to others.

Vegetable Garden: As soon as the weather breaks to drier times, all pieces of ground from which crops have been removed should be half-trenched or deeply dug over. It will be sufficient to simply dig light soil, going down to the depth of a good spit, bringing up the lowermost soil to the surface. In the case of retentive soils, trenching is to be recommended, and it should be set about by taking out a trench across the piece of ground at one end, either throwing it back or wheeling it to the other end, and then take out another trench three spits wide, throwing the surface-soil to the bottom of the trench first opened, and bringing up the second spit to the surface, going on thus till the ground is finished. The heavier the ground, the greater the necessity for laying it up rough in ridges, so that frost and wind can act upon it. If it has not been previously worked, too much of the lower stratum should not be brought up at one time, but the bottom should be broken up and left in the trench.

There are many small gardens, round London, for instance, in which yellow clay prevails to a great extent, and the London clay is a stubborn material to bring into subjection. Almost anything mixed with it makes it more open and workable. A good dressing of mortar-rubbish from an old building, decaying vegetable refuse of any kind, the ashes from burnt heaps of rubbish, and cinder-ashes, are all good. The contents of many an ash-hole would be of great value

if, instead of being carted away by the dustman, it were worked into the ground at this season of the year. It is not required on light soils, but it greatly tends to make heavy and retentive soils more workable.—D.

GARDEN GOSSIP.

WE are pleased to find that the efforts being made to secure a *Southern Show of the National Auricula Society*, are likely to lead to a successful issue. A conference of gentlemen interested in the advancement of Floriculture was held as already announced at South Kensington,

on November 8, when the following resolutions amongst others were unanimously agreed to:—"That the invitation to hold an exhibition of Auriculas in London in 1877 be accepted, and that the gentlemen present do form a Committee, with power to add to their number, to carry out the same. That Francis Whitbourn, Esq., Loxford Hall, be requested to be President; that Mr. Charles Turner be Vice-President; and Mr. Dodwell be Hon. Secretary. That a subscription list be opened for the purpose of obtaining the funds needed (from £50 to £70), to ensure the display which it is desired to produce. At a subsequent meeting held on December 6, the Hon. Secretary reported that Mr. Whitbourn had kindly accepted the office of President, and promised a donation of £5 to the prize fund. Mr. Turner reported that the Crystal Palace authorities would make arrangements to hold the Show on Tuesday, April 24, and offered a donation of £10 to the prize fund, which offers were accepted. At the same meeting Mr. Turner, Mr. Douglas, and Mr. Dodwell were appointed a Sub-Committee, to draft a schedule of prizes to be submitted to a future meeting of the Committee, and were instructed to provide therein certain prizes for Polyanthuses. The list of subscriptions promised already amounts to upwards of £56.

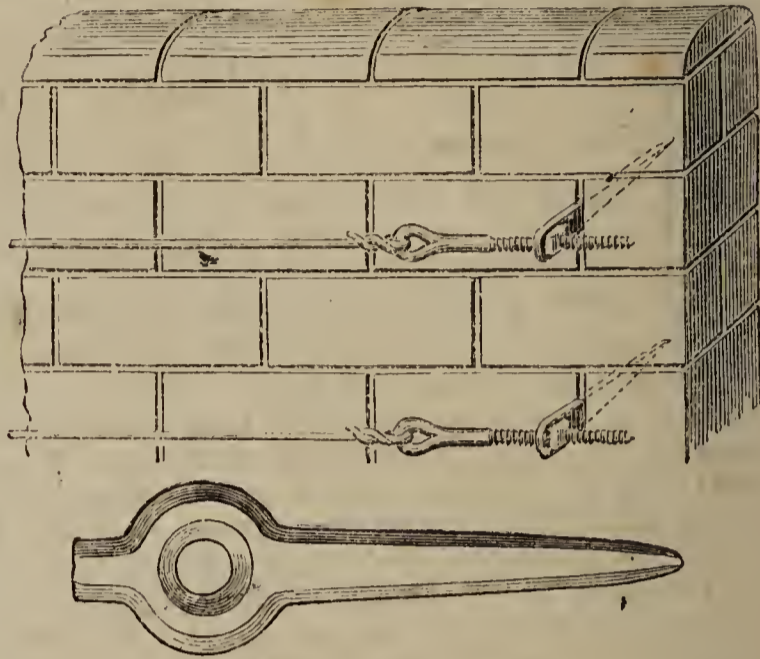
— **M**R. BURBIDGE announces the speedy publication of a new book specially devoted to propagation and hybridism in plants, under the title of *Cultivated Plants, their Propagation and Improvement*. Amongst the subjects to be treated on are Natural Propagation; Hints on the Improvement of Fruits, Vegetables, and Flowers; Propagating-Houses, Pits, Frames, &c.; Seed-Saving and Seed-Sowing; Transmission of Seeds, Plants, Cuttings, and Pollen from Abroad; Artificial Propagation; Hybridising and Cross-Breeding; Bud Variation or Sports; Notes on the Parentage of Existing Hybrids; and a Propagator's Calendar. The work thus seems to be a popular *vade-mecum* on all the many interesting points connected with the hybridisation, propagation, and improvement of plants.

— **I**N the greenhouse, *Maréchal Niel Rose*, planted out, will now (January) be bursting its buds freely, and it should be smoked before the shoots grow much. The plant should be provided with free and liberal doses of manure-water, and if practical, a top-dressing of rotten dung and soil mixed, and if plants have to stand on the bed in which they are grown, this top-dressing may be again covered with gravel or river-sand. This Rose, Mr. Knight observes, is really worth a house to itself, for with liberal treatment it may be more or less in flower half the year. There are few places where it gets enough room to develop itself.

— **A**T the meeting of the *National Carnation and Picotee Society*, held in Leeds on the 15th ult., it was unanimously resolved to hold two exhibitions in the northern districts during 1877, one at Manchester, and the other either at Leeds or Bradford, as may be locally arranged. A liberal subscription was commenced as a nucleus of the necessary prizes. It was further unanimously resolved that the schedule of prizes shall be founded on the suggestion of the President, as given in a recent paper in the *FLORIST AND POMOLOGIST*, and that in the classes for single specimens there shall be no restriction as to the number of times a variety should win. A proposal for a third show of the society, to be held in London, making three in the season, mooted in some correspondence read by Mr. Dodwell, was received with acclamation by the meeting, and it was understood would be pressed forward so soon as the arrangements for the National Auricula Society's

Southern show was complete. The meeting was especially interesting for its unanimity, warmth, and fervour.

— THE use of *Wires for training Fruit-trees on Walls*, instead of nails and shreds, is becoming more common; and so long as the wires are kept close in, so as to avoid draughts, they are doubtless as congenial to the tree as the older and more tedious method. The wires and eyes, both galvanised, are now to be obtained readily, but there are various modes adopted for tightening the wires. One of the simplest and most effective plans we have seen is that of Messrs. Reynolds and Co., of Soho Square, and which consists simply of a screw provided with a loop at the one end and a nut at the other. The screw end is passed through the eye, and by turning the nut, which is done with a spanner provided for the purpose, the wires can be promptly and with little effort drawn up as tight as may be required.



— THE *Gardeners' Year-Book and Almanack*, for 1877, comes again as a welcome reminder of many things one is apt to forget. The tabular information is ample, and of a practically useful character; and the notes on New Flowers, Fruits, and Vegetables, form a fairly complete register of the novelties of the year. One of the special features of this issue of the Almanack is the reproduction of some of the Chiswick trial reports.

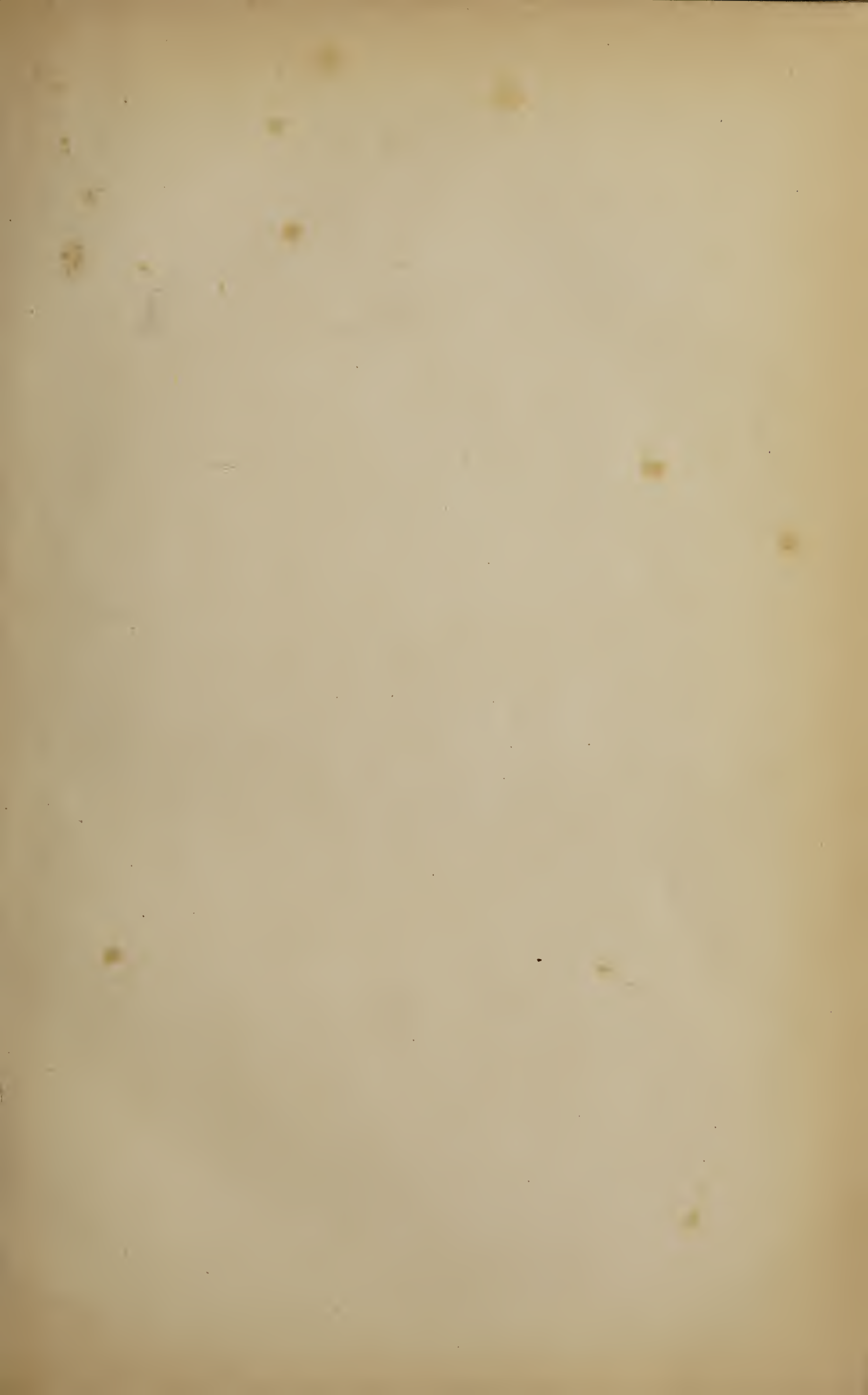
— IN *Sutton's Amateurs' Guide in Horticulture*, we have an elegantly got-up quarto brochure, intended as a drawing-room book of reference for amateurs. It is handsomely printed, profusely illustrated, and prefaced by a faithful and well-executed large group of flowers done in colours, and forming a folding introductory plate. The contents consist of paragraphs on the culture of the different vegetables and flowers, similar to those usually given under the several subjects in the seed catalogue, but here associated with the illustrations in a separate book. It contains 220 engravings, and the coloured plate represents 25 choice flowers.

Obituary.

— MR. JOHN INGRAM, of Huntingdon, died on December 10, aged 54 years. He was a partner in the much respected firm of Wood and Ingram, nurserymen, Huntingdon, of which town he last year filled the office of Mayor.

— HENRY STEWARD, Esq., of York, died on December 15. Mr. Steward, who took an active part in municipal life, having been Lord Mayor of York in 1873, was an active and ardent florist, and had been for upwards of 40 years a member of the committee of an ancient society of florists of that city, founded in 1760, and now in a flourishing condition. Auriculas, Tulips, Carnations, and Picotees alike shared his regard, and as an exhibitor of show Pelargoniums, he frequently carried off the highest honours at the York Horticultural Galas, of which also he had been for several years chairman of committee. The memory of Mr. Steward will be affectionately cherished by all florists who had the pleasure to know him.

— MR. WILLIAM INGLE died at Birch Hall, Colchester, on December 13, aged 52, having been for 30 years gardener and steward to the late C. G. Round, Esq., and his family. He was a frequent and successful exhibitor of roses.





J.L. Macfarlane del.

Belle Impériale Peach.

BELLE IMPÉRIALE PEACH.

WITH AN ILLUSTRATION.

THIS is a late variety of Peach, well deserving to be better known and more extensively cultivated. It ripens about the same time as the Late Admirable, and is often highly coloured, like the Bellegarde. The sample from which our figure was made ripened about the middle of September, and having been grown under glass, is consequently somewhat deficient in colour.

The fruit is large, somewhat ovate, being taller than broad and rather smaller upwards, marked with a shallow suture, and having a slight terminal depression. The skin is finely downy, of a pale greenish-yellow, more or less marbled with rosy crimson on the sunny side. The flesh is pale greenish white, very juicy and tender, deeply stained with red at the stone, from which it freely parts; it has a pleasant and refreshing flavour, fully equal to that of the best late varieties in cultivation. The leaves are crenate at the margins, and furnished with roundish reniform glands at their base.

Mr. Scott, in the *Orchardist*, describes it as of the first size and quality, ripening in September, and he gives *Admirable de Septembre* as a synonym. He further states it is "a variety of the Peach Bon Ouvrier, which it much resembles; skin pale yellow, with a bright purple flush on the sunny side; flesh vinous, sugary, rich, melting, and excellent. Introduced by me from Paris, 1867."—T. MOORE.

THE PEAR SEASON OF 1876.

IT is extremely difficult to name the correct time when Pears should ripen, for much depends upon the season, and the soil in which they grow. The flavour of some Pears is likewise determined by the seasons, and in the exceptional one of 1876, there has been a great difference both in ripening and flavour of some of the varieties grown here compared with other years. The soil of the kitchen garden here is of a stiff, adhesive nature, with the sub-soil of strong red clay, but well drained, and in dry, warm summers the Pear generally grows the strongest and shows the finest fruit. The spring of 1876 was not, however, favourable for Pears setting their fruit well, especially on standards, and the crop was below the average.

Of the earliest ripening section, *Doyenné d'Été*, *Citron des Carmes*, *Beurre Giffard*, and *Clapp's Favorite*, grown as bushes on the quince stock, and ripening as they did during the warm months of July and August, were excellent in flavour. Some trees of the *Jargonelle*, double worked on the *Beurré d'Amanlis* as the stock, ripened their fruit juicier and of higher flavour than wall-grown fruit. In September, *Louise Bonne of Jersey*, *Souvenir du Congrès*, *Williams' Bon Chrétien*, *Beurré Superfin*, and *Beurré Bosc*, were the best-flavoured of the varieties grown here; and all are on the quince stock, and grown as bushes or pyramids.

The principal collection of the mid-season and late Pears is grown here on a wire-trellised arcade, and they are mostly on the Pear stock. *Comte de Lamy*,

Marie Louise, Huyshe's Victoria, Gratiola of Jersey, Gansel's Bergamot, Fondante d'Automne, and *Thompson's* ripened average crops, and the flavour of the fruit was excellent. The fine old variety, *Glou Morceau*, I never saw clearer in the skin than it was this year, and the flavour was exquisite. In most seasons, this variety, grown on standards, shows the fruit cracked and variable in size, but the dry and almost tropical heat in August seemed to suit it.

Of the very late varieties of Pears grown on this trellis, *Winter Nelis* does not yield so fine fruit as on the walls, but it is nevertheless one of the best late sorts grown for flavour. *Knight's Monarch, Nouvelle Fulvie, Huyshe's Prince of Wales, Joséphine de Malines, Easter Beurré, Ne Plus Meuris, Beurré de Rance, Bergamotte d'Esperen, Madame Millet*, and *Doyenné d'Alençon*, all ripened crops of average-sized fruits, which are keeping well. *Hacon's Incomparable*, a large round-fruited sort, like *Easter Beurré* in flavour, always grows well on the strong soil here, and keeps till June.

Of stewing Pears, *Catillac* and *St. Lézin* always bear well on this trellis, and I find no other varieties are wanted, for they keep well all the season through, and cannot be surpassed for baking or stewing purposes.—WILLIAM TILLEY, *Welbeck*.

ODONTOGLOSSUM PULCHELLUM GRANDIFLORUM.

FEW if any Orchids are more chaste and beautiful than this lovely, white, sweet-scented species. It is a very easily grown plant, and may be ranked amongst the cool kinds. It should be potted in very lumpy fibry peat, silver-sand, and small crocks, and not raised too much above the rim of the pot, as it likes a good share of water when growing. It begins to flower at this season, and each spike on well-grown plants bears from twelve to twenty flowers. We had a plant here, which, until it was broken down, carried every year some two dozen spikes. The flowers of this lovely orchid are about the size of a shilling, with the perfume of the Lily of the Valley. Those who have not got it, will be always satisfied if they purchase a plant or two, for it is most commendable.—HENRY KNIGHT, *Floors Castle*.

WINTER-FLOWERING EUPATORIUMS.

IAM much pleased to learn that there is a probability of the confounding multiplicity of names by which these most useful and deliciously fragrant evergreen greenhouse shrubs have hitherto been known, being at last definitely rectified, and that henceforward we may know their authentic designations. The accompanying woodcut will greatly facilitate the recognition of them. Of this interesting group there are three which have a natural tendency to bloom during the winter months, when flowers are most prized, and which, as they yield a succession of fragrant blossoms without forcing, are acceptable additions to our winter-flowering plants, commending themselves to notice, moreover, as they do by their easy culture, and by producing their clusters of elegant white flowers in the greatest profusion.

In offering a few remarks upon their cultivation, I shall take them in the order of their blooming. *Eupatorium Berlandieri*, which is the first to bloom in autumn, has a somewhat slender habit of growth, with thin, heart-shaped, slightly serrated leaves, requiring a little more care in cultivation and general management than either of the others herein referred to. Any extra care is, however, amply rewarded by the extreme fragrance of the abundant flowers, which is so powerful as to be at once manifest even when a couple of plants only are present in a large conservatory. This plant flourishes best during the blooming period in a warm



FIG. 1. EUPATORIUM BERLANDIERI; 2. E. LIGUSTRINUM.

greenhouse temperature, which insures more perfect development, as it is somewhat liable to lose a portion of its wiry shoots when subjected during dull weather to the atmosphere of a cool greenhouse.

A suitable soil in which to grow this *Eupatorium* may consist of two parts turfy loam to one of peat and leaf-mould, adding sand and charcoal to secure porosity. To obtain good-sized flowering plants the first year, cuttings should be struck as early in the season as possible, and pushed forward in a brisk grow-

ing temperature. If potted-on as the roots extend, they will make rapid progress, and will require to be shifted into 6, 7, or 8-in. pots during May. In order to insure a neat, compact habit of growth, it is very important that they should be fully exposed to light, and kept near to the glass, pinching back the shoots repeatedly, which is the only means to insure density of habit. When the young growth is somewhat advanced under glass and judiciously hardened, which will be after midsummer, remove the plants to a sheltered situation—yet fully exposed—out of doors; and from this time discontinue the stopping of the shoots, more particularly of such as are required to bloom very early. To obtain larger plants a portion of the one-year-old plants should be cut closely back after flowering, and as soon as the buds have pushed, repotted, reducing the balls and roots, and afterwards encouraging active growth. As this plant blooms so early in the season, I prefer to grow the earliest batch in pots. They, however, grow freely planted out upon a warm garden-border, and may be taken up and potted during September. [This, the most highly-scented of the species, long known in gardens as *E. gracile odoratum*, has been identified with *E. Berlandieri*, by Mr. Baker.]

Eupatorium ligustrinum, alias *E. Weinmannianum*, *E. odoratum*, &c., has the great merit of hardness of constitution, which enables it to stand unaffected in a comparatively cold atmosphere. It is, moreover, a free-growing, dense-habited shrub, clothed with bright glossy leaves, and furnished during mid-winter in the greatest profusion with its fragrant blossoms, which have the additional property of standing for a length of time in perfection. As to treatment, it may accord very much with that of the preceding variety in the younger stages of growth, but being more robust in constitution, it will luxuriate in a richer soil, and being so thoroughly hardy, immense plants may be produced, where space is no object, by planting out the one-year-old plants, and repotting them again during September, placing them in a shady situation until established. This is an excellent companion for the former species, and is certain to please all who may essay its culture. It is an old acquaintance, which I have known during the last twenty-eight years, and has been brought again into prominent notice by the large and growing demand for winter-blooming subjects. This plant has been mentioned by Mr. Green, of the Botanic Nursery, Reigate, as standing out unprotected, and producing flowers for several winters, in Sussex (*Gard. Chron.*, n.s., v. 115). This is, no doubt, quite correct, as I have known it to stand occasionally unprotected in favoured situations during mild winters. At the same time, the blossoms do not expand fully or with any amount of freedom; therefore, excepting in highly-favoured localities and situations, I look upon *E. ligustrinum* as a worthless plant for the open border. There are two varieties of this under cultivation, but so closely related as to differ merely in the more upright lax habit of the one as compared with the other, the flower-clusters being exactly alike, whilst the growing plants in general aspect are certainly distinct.

The *Eupatorium riparium* very fitly succeeds *E. ligustrinum* as to time of

flowering. This is a free-habited sort, which quickly forms handsome compact bushes, clothed with glossy willow-shaped dentated leaves, and producing in the greatest abundance its silvery blossoms, which issue from the axil of every leaf; it is indispensable for decorative purposes. These showy and serviceable plants cannot be too strongly recommended, as they come into flower naturally, without forcing, and are so easily cultivated that all having the advantage of a greenhouse may enjoy them.—GEO. WESTLAND, *Witley Court*.

THE AURICULA.

CHAPTER X.—WORK FOR THE MONTH.—TOP-DRESSING.—SELF ALPINES.—SUMMARY, &c.—CONCLUSION OF ELECTION LISTS.

THE number lengthens on the heading of these chapters, as on the milestones of a journey, and our round of a year with the Auricula will soon complete its circle. Here is the tenth stage of its appointed twelve; but along the remainder of the way lie the loveliest scenes of all, the spring life, and the flowering of the plant we have had before us.

The Auricula could not have bloomed at a happier period for itself and us than early spring. It comes while there are no intensely gayer flowers against it, to put it out of countenance in the way that the sun outshines the morning brightness of the waning winter moon; while its richest foliage is developed in those yet early days when every springing leaf, like the dove's green olive-branch of old, is a sight to gladden waiting eyes.

Auriculas in the course of this month begin to unfold their hearts, with an exquisite freshness about all young growth, a snowy whiteness in the mealed varieties and on the tender leaves of some green-foliaged ones a sprinkling of a yellow meal that stands beaded on the curly edges like a dew of gold dust. Gradually, as the plants awake, they may receive a little more water, unless the weather be frosty, but should not be kept wetter yet than the compost was at repotting time. Afford the plants plenty of fresh air whenever the weather permits, avoiding any exposure of young growth to cutting winds, violent rains, or such a murderous thing as hail.

The special work for February among Auriculas is *top-dressing*, an operation which cultivators have always thought one of great importance. It consists in a surface-enrichment of the soil, and the materials for it vary among growers, even as their composts do.

For my own plants I have used various mixtures, but generally one part rich unctuous loam, one part leaf-mould, and two parts decayed sheep or cow-manure mellowed under shelter. To make room for the top-dressing, the surface soil is removed for an inch or so, very great care being taken not to break any roots. The fibres are soon sensible of the new soil, and indeed will ascend perpendicularly into it, and run along the top. Many offsets and suckers, which were not ready for removal in the autumn, will be found to have prepared themselves during winter, while apparently doing even less than nothing by losing size. Rooted or

not, take them off, if they have a neck. They may be struck readily in pots not filled with earth within an inch or two of the rim, and covered with a piece of glass. I use no sand about them, and do not like sand; where any quantity of it lies together in the soil, it seems to have a way of being closer and wetter than the surrounding earth; and I do not think Auriculas, at any rate, care for it under such conditions.

The presence of air in the soil is conducive to root-action, and indeed vital to root-life. Hence how roots will revel in the open crack-work in the bottom of the pots! How they rise to the surface of well-stirred soil! How they flourish round the sides of clean, porous pots! How they bristle with white fur as they strike across some hollow space within!—it may be where a wooden label has been removed. In days when I was collecting Auriculas—and I am a collector still, though it is mainly from among seedlings now—how well I remember noticing the underground differences between plants from various growers! Here, for instance, would be a stuffy, pounded compost, a mere mincemeat, and not lacking sand. Roots would not stay in the ball, but struggling to the sides, wound round and round, lean white wanderers after something lacking. Other plants would come with roots so matted into every cubic inch of compost that the fibres were like those of grass for multitude and intricacy. It was a great lesson.

I see that in the last number of the FLORIST, my friend Mr. Dean, whose heart is with all manner of Primulas, from a Primrose on the river's brim to Smiling Beauty at the National Auricula Show, is at my side, with a strange thing in Auriculas, the unshaded or "Self Alpine." With genuine admiration of the flower, and touch of pleading in his words, he asks us what we think of THIS, and he introduces it as a claimant for rank and title among Alpine Auriculas. The flower comes before us with a broad enough distinction, but it is a rather awkward one, for it makes the flower an Alpine, with the very first and prettiest property of the Alpine left out. For it is not a mere benighted Northern idea that the "Alpine" shall be a flower of shaded ground-colours, but it is a leading property universally recognised among florists. So is the Golden Eye, and flowers possessing these properties will always take high precedence of those with pale eyes, or those nondescript new comers the Self Alpines. Beautiful they are, and cannot fail to be; but to me, they have the look of dark piercing eyes, of an intensity that is almost fierce; and I see no such loveliness in them as I find in the true Alpine, with all its tender, sweet expressiveness of softly-shaded petal, and the beauty of the golden centre. This class in its strict integrity forms a very lovely contrast to the Self proper, the consort of the edged classes. The Self, with its densely-mealed centre, must not trespass upon the shadings of the Alpine, nor the Alpine appropriate the pure ground-colours of the Self. Intermixture and confusion among them, in so far as they are florist flowers, are to be deprecated. If there be Self Alpines, why not also Alpine Selves, and a host of perplexing half-breeds? Were I a grower of Alpines, I would admit none to the

rank of show varieties but the one legitimate and not necessarily limited class of golden centres and heavily-shaded petals.

With the close of the election lists is given below a summary of votes that each variety has received.—F. D. HORNER, *Kirkby Malzeard, Ripon.*

Mr. J. COCKROFT, Ovenden, Halifax.

<i>Green-edged.</i>	Headly's Geo. Lightbody.	Redmayne's Metropolitan.
Leigh's Colonel Taylor.	Sykes' Complete.	Whitaker's True Blue.
Booth's Freedom.	Fletcher's Ne Plus Ultra.	Pohlman's Garibaldi.
Litton's Imperator.	<i>White-edged.</i>	Lightbody's Meteor Flag.
Page's Champion.	Ashworth's Regular.	<i>Alpines.</i>
Pollitt's Standard of Eng-land.	Heap's Smiling Beauty.	Fair Rosamond.
Moor's Jubilee.	Hepworth's True Briton.	Conspicua.
<i>Grey-edged.</i>	Summerscales' Catharina.	King of the Alps.
Kay's Alex. Meiklejohn.	Taylor's Favourite.	Favourite.
Lancashire's Lancashire Hero.	<i>Selfs.</i>	Fair Ellen.
Kenyon's Ringleader.	Netherwood's Othello.	Rising Sun.
	Pohlman's Ellen Lancaster.	

Mr. WILLIAM TAYLOR, Middleton, Manchester.

<i>Green-edged.</i>	Walker's Geo. Levick.	Taylor's Favourite.
Leigh's Colonel Taylor.	Kay's Alex. Meiklejohn.	Lord Chancellor.
Booth's Freedom.	Lightbody's R. Trail.	<i>Selfs.</i>
Litton's Imperator.	Sykes' Complete.	Hay's Apollo.
Ashton's Prince of Wales.	<i>White-edged.</i>	Lightbody's Lord Clyde.
Beeston's Apollo.	Heap's Smiling Beauty.	Pohlman's Garibaldi.
Oliver's Lady Wilbraham.	Hepworth's True Briton.	Lightbody's Meteor Flag.
<i>Grey-edged.</i>	Ashworth's Regular.	Clegg's Blue Bonnet.
Headly's Geo. Lightbody.	Lee's Bright Venus.	Campbell's Lord of Lorne.
Lancashire's Lancashire Hero.		

The subjoined list shows the number of votes given to each variety in the 26 lists published in Chapter VIII. (1876, p. 274), Chapter IX. (1877, p. 10), and Chapter X. (1877, p. 31):—

WHITE-EDGED.				SELFS.			
		Votes.				Votes.	
Heap's Smiling Beauty	...	26	Netherwood's Othello	...	...	19	
Hepworth's True Briton	...	23	Campbell's Pizarro	...	...	18	
Ashworth's Regular	...	17	Spalding's Blackbird	...	...	15	
Taylor's Glory	...	15	Pohlman's Garibaldi	...	...	14	
Summerscales' Catharina	...	14	Turner's Charles J. Perry	...	...	13	
Lee's Bright Venus	...	14	Lightbody's Meteor Flag	...	...	12	
Taylor's Favourite	...	9	Martin's Mrs. Sturrock	...	...	9	
Cheetham's Countess of Wilton	...	5	Pohlman's Ellen Lancaster	...	...	9	
Smith's Ne Plus Ultra	...	5	Kay's Topsy	...	...	6	
Smith's Anne Smith	...	5	Campbell's Duke of Argyll	...	...	6	
Lee's Earl Grosvenor	...	4	Campbell's Lord of Lorne	...	...	6	
Walker's John Simonite	...	3	Lightbody's Lord Clyde	...	...	6	
Wright's Emma	...	2	Spalding's Metropolitan	...	...	5	
Campbell's Robert Burns	...	2	Whitaker's True Blue	...	...	4	
Ashton's Bonnie Lass	...	2	Lightbody's William Lightbody	...	...	3	
Headly's Arabella	...	2	Headly's Petronella	...	...	2	
Trail's Beauty	...	1	Kay's Jupiter	...	...	2	
Lightbody's Sophia Dumaresque	...	1	Hay's Apollo	...	...	2	
Lightbody's Miss Lightbody	...	1	Berry's Lord Primate	...	...	1	
Lightbody's Robert Trail	...	1	Smith's Garland	...	...	1	
Trail's White Rival	...	1	Smith's Formosa	...	...	1	
Turner's Omoga	...	1	Clegg's Blue Bonnet	...	...	1	
Lord Chancellor	...	1	Redmayne's Metropolitan	...	...	1	

GREEN-EDGED.			Votes.	GREY-EDGED.			Votes.
Leigh's Colonel Taylor	...	...	26	Headly's George Lightbody	..	...	26
Booth's Freedom	...	...	22	Lancashire's Lancashire Hero	...	...	26
Litton's Emperor	...	...	19	Sykes' Complete	...	...	18
Ashton's Prince of Wales...	...	...	14	Kay's Alexander Meiklejohn	...	...	16
Trail's Anna	...	...	14	Walker's George Levick	...	...	10
Trail's Prince of Greens	...	...	13	Headly's Alderman Charles E. Brown	...	...	9
Page's Champion	...	...	13	Kenyon's Ringleader	...	...	9
Beeston's Apollo	...	...	9	Lightbody's Robert Trail	...	...	8
Headly's Alderman Wisbey	...	...	5	Smith's General Bolivar	...	...	5
Oliver's Lovely Ann	...	...	3	Cunningham's John Waterston	...	...	4
Campbell's Lord Palmerston	...	...	3	Waterhouse's Conqueror of Europe	...	...	4
Howard's Lord Nelson	...	...	2	Lightbody's Richard Headly	...	...	4
Hepworth's Robin Hood	...	...	2	Read's Czar*	...	...	3
Trail's General Neill	...	...	2	Read's Dr. Horner	...	...	3
Pollitt's Standard of England	...	...	2	Grimes' Privateer...	...	...	3
Hudson's Apollo	...	...	1	Fletcher's Ne Plus Ultra...	...	...	2
Campbell's Admiral Napier	...	...	1	Headly's Stapleford Hero	...	...	1
Pollitt's Highland Boy	...	...	1	Lightbody's Unique	...	...	1
Dickson's Duke of Wellington	...	...	1	Jeffreys' Sir H. Havelock	...	...	1
Smith's Lycurgus...	...	...	1	Lightbody's Sir W. Peel	...	...	1
Oliver's Lady Wilbraham	...	...	1	Dickson's Duke of Cambridge	...	...	1
Moore's Jubilee	...	...	1	Fletcher's Mary Ann	...	...	1

FIGS—NEGRO LARGO AND LAMBTON SEEDLING.

I CAN fully endorse and confirm all that Mr. Rust says at page 8 as to the excellence of the Negro Largo Fig, when cultivated in a small state, either in pots or planted out, having tried it both ways for the last two years.

Along with the Negro Largo I last year grew several plants of a seedling Fig I got from Mr. Hunter, of Lambton Castle, two or three years ago; and now having grown it by the side of the Negro Largo, I have no hesitation in saying that, to my mind, the seedling is the best fig of the two. Many gentlemen saw it growing here last summer, and some who had resided in Italy, and were well acquainted with Figs, tasted it, and pronounced it delicious in flavour, and as compared with Negro Largo, superior. I hope, if spared, to send samples to some of the Royal Horticultural Society's meetings during the coming season, and I trust that Mr. Hunter will soon be able to give it to the public, and put it into the hands of Fig-growers generally, who I am sure will find it as great a boon as was the Negro Largo, of which I have not one word to say in disparagement.—

JOHN CLARK, *Studley Royal.*

THE CULTURE OF WALL FRUITS.

CHAPTER VIII.—THE PEACH AND NECTARINE (*Continued*).

THE stage at which we have now arrived in the education of these trees, is that in which they should begin to give a fair return for the time and labour expended on them, by a liberal supply of fruit. When I say liberal, I mean, however, that the supply must be proportioned to the strength of

* Read's "Dr. Horner" and "Czar" are in these lists, I believe, one and the same flower, viz., "Dr. Horner." Confusion has arisen through a plant of "Dr. Horner" being exhibited by pure accident under the name "Czar," which belongs to a different seedling.—F. D. H.

the tree, for as I have already hinted, the operator has in the regulation of the fruit-crop a powerful means of regulating the healthy performance of all the functions of the trees. Thus, supposing a tree at this stage, or a year or two further advanced, to be of a very vigorous habit, and to show a tendency to strong development of growth, more than double the number of fruit may be taken from it than from a tree of weaker constitution and more limited growth. But unfortunately these strong-growing specimens do not always set and carry on a sufficient amount of fruit to act as a sufficient check upon the growth, and hence the only natural resort is root-pruning. Years ago, but it is hoped not now, the check necessary to induce fertility was sought in the free use of the knife—in cutting out, that is, all luxuriant wood at the winter pruning. A greater mistake could not be made, as experience teaches that in the case of healthy trees a strong development of luxuriant growth invariably follows a too free use of the knife. This remark applies equally to all wall fruit-trees in common; but the Peach and Nectarine especially should be subjected as little as possible to the action of the knife, as they are very impatient of it, and wherever it is necessary to remove a branch of any size, it should be done during the dormant season, and the cut made clean and painted over with white-lead.

Now, the prevention of the necessity for this extreme knife-work is the great object of what we generally style summer pinching-back and summer pruning. This is mostly done with the finger and thumb, and, therefore, as our trees advance in growth, and the fruit-crop is not sufficient to produce the necessary check upon the growth, all luxuriant shoots which commence early to indicate their unfruitful nature by a free development of lateral shoots, should be at once stopped at one of the lowest laterals, and the lateral shoot trained on as a continuation of the main shoot. These shoots, which generally perfect their growth during the best part of our seasons, are often more healthy than, and equally fruitful with, those shoots which, starting early, did not develop laterals; but this must not be construed too literally, because later on in years, as the trees become more developed in size, it often becomes necessary to cut many of them out altogether, and if this is done during the growing season, no injury will result, but the sap which they would have attracted to themselves by their free growth, will thus be diverted to the weaker bearing shoots.

The suggestion which I made when treating of the early training of young trees, to train out all side-shoots from the main radiating stems on the upper side of the branches, cannot always be rigidly adhered to when the trees have advanced in the season's growth, because unavoidable vacancies will often occur; but in the early part of the growing season, when disbudding commences, the operator may often by foresight anticipate such vacancies, and train-in extra shoots from the lower side of the main branches in order to supply them. At the same time, the principle of confining the shoots laid in to the upper side of the branches is a good one, and will be found to greatly facilitate an operation which, in progress of time, becomes unavoidable. There is a tendency in the lowest branches

to die off, or to become so weakly as to be useless for fruit-bearing purposes ; and in such cases the removal of these branches becomes a matter of necessity, and their place must be kept furnished by an annual lowering of the upper ones, so as always to keep the centre of the tree open. This is imperative, for if the centre shoots, to which all the strength of the trees naturally tend, are not kept in check, the lower shoots will inevitably perish sooner than they otherwise need do ; and this is far better and more efficiently prevented by lowering the branches from the centre, than by a too free use of the knife in the centre of the trees, which is sometimes resorted to as a remedy. Merely pinching back the strong growth during the growing season, is not enough in this advanced stage, owing to the tendency of the sap to flow most freely into the more vertical shoots, and hence the necessary restriction is best attained by frequently lowering the branches in training, for so long as the tree maintains a reasonable degree of vitality, it will always make its strongest growth at the centre, thus furnishing a continuation of branches to be brought down to take the place of the lower worn-out and *effete* branches, which have lost the power of attracting a sufficient amount of sap to preserve themselves in a profitable, fruit-bearing condition.

This process, when carefully carried out, will not materially interfere with the symmetrical proportions of the tree for some years ; but even if it did, symmetry, after all, is not the great desideratum ; but a reasonable quantity of fruit, not all crowded together on a few branches at the upper part of the walls, but equally distributed as far as may be possible over most of the surface. In old trees, symmetrical training must be made subservient to utility.—JOHN COX, *Redleaf*.

CYCAS NORMANBYANA.

IN this new Australian Cycad we have a welcome addition to a group of exceedingly interesting plants, which as yet scarcely enjoy the popularity to which their variety, their beauty, and the remarkable persistency of their leaves entitle them. The present subject is fitted for greenhouse cultivation.

The leaves are pinnately divided, with a dorsally compressed petiole, having both faces angular, and these covered with furfuraceous down, a prominent ridge being carried up the face of the furfuraceous rachis. The outline of the lamina is oblong-ovate, the segments numerous, contiguous, linear, about 6 in. long and $\frac{1}{4}$ in. wide, very sharp-pointed, almost spiny, slightly narrowed and decurrent at the base, glabrous on the upper surface. It has been recently imported from New South Wales by Mr. Bull, and Dr. Mueller is sponsor for the name. Our figure (see opposite page) is from Mr. Bull's *Catalogue*.—T. MOORE.

ALPINE AURICULAS.

THE Alpine Auriculas are deserving of every encouragement, for they are very beautiful objects in the spring-time, and even when they are out of flower, their distinct, white-powdered leaves form a beautiful edging. We have a long edging here, 9 in. wide and some 150 ft. long, at the back of



CYCAS NORMANBYANA.

our Apple cordon border, and it is always very much admired when in flower. The variety is a very dark one having a yellowish centre, and is very distinct-looking, which is owing, perhaps, chiefly to the large quantity of one kind. It is very hardy, and has stood in the same place for six years. It gets an occasional top-dressing with ashes, for along-side of it runs a little alley which is ashed every year.

I have often wondered why these hardy Auriculas are not more grown. No doubt they like a heavy soil, which it seems we have, to their heart's content, for it would be impossible to see a row of Auriculas more healthy and happy-like. All success to the Auricula revival.—H. KNIGHT, *Floors Castle*.

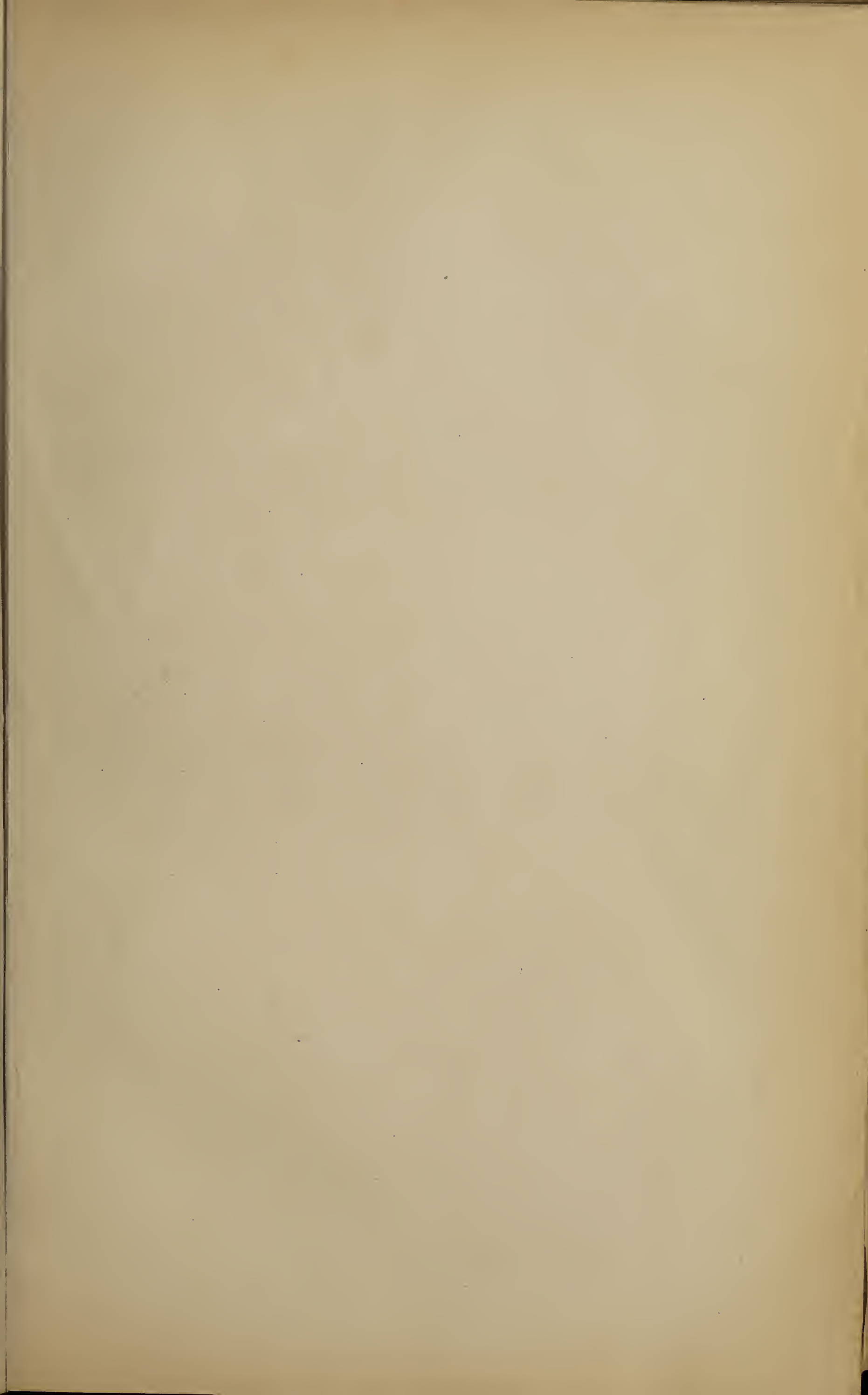
NEW FORMS OF PRIMULA CORTUSOIDES AMÆNA.

(PRIMULA SIEBOLDII OF MORREN).

THOUGH there are many beautiful forms of hardy *Primula*, yet I think *P. cortusoides amæna* excels them all; it is so free and so bright, so elegant in character, and on the whole, so easily managed. It is not, therefore, to be greatly wondered at that it should be so much sought after for house and garden decoration. The charming variety called *lilacina* has so much individuality of character, and such delicate beauty, as to give its difference from *amæna* almost a specific value. The white *grandiflora*, with its snowy disc and rosy reverse, is quite distinct; while the pure white self-form *alba* is also distinct, but as yet sadly in need of substance.

I have often wondered that more has not been done in the way of crossing these beautiful forms. With the exception of *lilacina* and *grandiflora*, they seed very sparingly, but three years ago I was led to think something might be done in the way of fertilising the flowers with a view of securing seed, and with the ulterior aim of gaining new varieties. It is worthy of remark that Mr. James Allen, of Shepton Mallet, a well-known amateur florist, quite unknown to me, also engaged in the same work, about the same time, and we were both successful in raising a batch of seedlings showing considerable diversity of character. From an inspection of flowers sent to me on two or three occasions by Mr. Allen, I have been led to think he has secured some most desirable varieties; but owing to domestic affliction, and the constant demands of a large business, he has not been able to give his interesting progeny all the attention they deserve.

In regard to my own seedlings, which received good attention, I am bound to observe that though I obtained several of the type of *lilacina*, I have not yet obtained one better than it; but as far as *amæna* is concerned, I had seedlings certainly deeper in colour, one of them of a very rich hue, and with the segments handsomely fringed; this was awarded a first-class certificate of merit by the Floral Committee of the Royal Horticultural Society, under the name of *laciniata*. This is the only one of the type that came fine in character the first time of flowering, but some others are very promising, and may be finer when they come to bloom this coming spring. A fine variety, named *grandiflora maxima*, also received a first-class certificate at one of the exhibitions of the Royal Aquarium at Westminster, because of its large size and fine substance. Some seedling flowers of this character had pretty, fimbriated edges, but the blossoms were under-sized. They may, perhaps, come larger with another season's growth. I am also hopeful that this next spring will show improvements on *alba*, not so much in the direction of a greater purity of colour or larger size,





J. L. Macfarlane del

Onion : Trébons .

as in the important point of substance ; this is a great desideratum, for the somewhat loose and flabby character of the flowers of *alba*, greatly detracts from its value.

Last season I effected crosses with some of the best of the new types, but probably owing to the dry season, but little seed was secured. I hope, however, to be more successful by-and-by, for I made a selection of twelve of the most promising forms, including the two already named, and when they are in flower it is my intention to submit them to the notice of the Royal Horticultural Society, exhibiting at the same time illustrations of the four original types.—
RICHARD DEAN, *Ealing, W.*

THE TREBONS ONION.

WITH AN ILLUSTRATION.

“**T**RÈS-BON?” Yes, certainly! This is the very best of Onions for certain purposes, and so is rightly named “Très-bon.” It is a French Onion—not a new variety, but one which is little known or grown in this country. The seed is often singularly scarce and difficult to procure: this implying a somewhat tender or peculiar constitution. A little more notice may, however, conduce to more attention being paid to seed-saving, and in this way to its becoming more plentiful. As a variety for sowing in autumn and transplanting in spring, it is superior to all others. So treated, the bulbs attain a very large size, and ripen-off well, rivalling in size and greatly resembling in appearance the imported Spanish Onions of the shops. It is not a late or sound-keeping variety, seldom lasting much beyond Christmas; but in its season, there is no Onion of better quality, or any half so handsome. It may be described thus:—Plant of free growth, bulbs very large, from 13 in. to 15 in. in circumference, and from 3 in. to 3½ in. deep; the shape obovate, the base broad and flat, so tapering to the neck; skin pale straw-colour, peeling off readily, exposing the flesh, which is pale and somewhat soft, the coatings thick and fleshy, and of very mild and excellent quality.

SALVIA SPLENDENS.

FOR autumn decoration this fine old showy and neglected plant is well worthy of cultivation. Nicely-grown plants in flower are exceedingly effective during the winter season, and the plant has much to recommend it besides. It is free-growing and soft-wooded, and propagates readily by means of cuttings, planted in the usual way, and placed in a little bottom-heat. To grow and flower it well, it should have a light rich soil, such as a compost of equal parts of loam, peat, and dung, with a little sand intermixed. Cuttings of the the young wood put in during May and June will make nice flowering plants by the autumn, but if large plants are required the cuttings should be inserted in April. As soon as the cuttings are rooted, they should be potted off, put into a frame, and kept rather close until they begin to make fresh roots, when air should be

given freely. About the end of June they may be set out of doors—the earlier-struck cuttings sooner—in a sheltered situation, where they will get a few hours' afternoon sun daily. To grow large specimens, the plants must have two or three shifts into larger-sized pots, using a richer compost at each shift. Small plants will only require shifts into moderate-sized pots. On no account should the plants be allowed to get pot-bound or suffer for want of water, as in that case red-spider, to which they are subject, will attack them, and the foliage once spoiled, the beauty of the plant is gone.

As the plants advance in growth, they should be kept neatly tied to stakes. They will do well out of doors until September, when they should be housed before they get injured by frost. In a few weeks they will present a gay and showy appearance, well worth the little trouble bestowed on them. We have had here some plants treated as above, which were found very useful.

S. patens also does well under the same treatment, but does not continue so long in flower as *S. splendens*. Plants of *Salvia splendens* lifted carefully out of the borders early in September, potted, and put into frames, will continue in flower a long time, but they are not quite equal to plants grown specially in pots for autumn flowering.—M. SAUL, *Stourton*.

EUPHORBIA JACQUINLÆFLORA.

IN the FLORIST, some months ago, Mr. Earley, when writing about this charming plant, threw out the hint that he possessed a secret concerning its culture worth one's birthright, but he did not mention what it was on that occasion, and I and doubtless other readers have looked anxiously for this information. For the benefit of the craft, I now beg to ask Mr. Earley to enlighten us, as anything which may lead to the more successful cultivation of such a beautiful and useful winter-blooming plant, cannot fail to be acceptable. Undoubtedly the best mode of growing it for furnishing cut blooms, is to plant it out in a suitable structure, as the racemes are considerably larger than those produced by plants cultivated in pots. Some few years ago, when passing Mr. Weatherill's market-growing establishment at Finchley, I noticed a quantity in a span-roofed house covered with bloom; and no doubt so successful a grower found it useful.

Now is the time to propagate a stock for next winter's display. The tips of the young shoots strike readily in a good bottom-heat; and they should be potted off singly when rooted, and shifted on as required. During the summer months they will do best in a close pit, syringing them morning and evening, and slightly shading them during the middle of the day, when the sun is very powerful. Stop them occasionally. As to soil, I think fibry loam, peat, and leaf-mould, with a good sprinkling of silver-sand and effective drainage, will answer admirably. Mr. Earley is ever ready to impart his knowledge to his brethren of the craft, so I hope he will excuse me for asking this question.—GEORGE POTTS, Jun., *Sundridge Park Gardens, Bromley, Kent*.



ARAUCARIA GOLDIEANA.

THIS fine greenhouse evergreen requires to be better known before its merits can be fully appreciated. That it is a distinct-looking and ornamental plant there can be no doubt. Mr. Williams, by whom it is offered for sale, and in compliment to whose collector, Mr. Goldie, it has been named, states

that it has the majestic habit of *Araucaria Rulei*, while the foliage is of the awl-shaped character seen in that of *A. elegans* and *A. Cookii*; in short, it is described by him as being intermediate in character between *A. Rulei* and *A. elegans*, but having pendulous branches. Some idea of the aspect of young plants may be formed from the accompanying figure. It is said to come from New Caledonia, but was, we believe, procured by Mr. Goldie from a nurseryman in New Zealand.—T. MOORE.

THE CARNATION AND PICOTEE.

CHAPTER XIV.—DESCRIPTIONS OF THE BEST VARIETIES, OLD AND NEW (*continued*).

IN continuation of the descriptive list of the best varieties of Carnations and Picotees, commenced at p. 16, I now come to the class of

CRIMSON BIZARRE CARNATIONS

ALBION'S PRIDE, GEM, and MARSHAL NEY are varieties raised by the late Mr. Richard Headly, of Stapleford, near Cambridge, who was in life the very type of the fine old English gentleman, and ardent florist; and whose loss will long be mourned by those who had the privilege of his intimacy. Each of these varieties is distinct in character, from the varying tints of colour and modes of distribution, but they possess in common the good properties of symmetrical form, stout substance, well-defined markings, and rich quality. They are also good growers, and deserve a place in the most select collections.

BLACK DIAMOND.—Raised by the late Mr. John Haines, of Tipton, from Ely's William Caxton. First bloomed in 1848. "A strikingly fine variety, rich in texture and colours, good white, petal very smooth and well-shaped. I think it quite equal to Lord Milton, which it much resembles, as, brother-like, it should. A healthy grower." This was my description in 1853, and despite some slight evidence of the effects of time, I am gratified to say it yet deserves, and will well repay, the attentions of the diligent cultivator.

CAPTAIN STOTT (Jackson).—One of the later productions of the late Mr. Jonathan Jackson, of Deighton, near Huddersfield. Evidently, I should say, a seedling from Warrior (Slater), which it much resembles in its sluggish growth and general character, but a better flower, having a broader petal, and, therefore, a finer form. It also is somewhat earlier in flower, Warrior being late. When caught in its best dress it is not easily to be surpassed. Like all the varieties of harder growths and later habit of bloom, it should not be overpotted, and will be greatly advantaged by the shelter of a frame or other means of warding-off heavy drenching rains or cutting winds, in early spring.

ECCENTRIC JACK, GRACELESS TOM, PHIDIAS, RIFLEMAN, and THE LAMPLIGHTER.—Five varieties, the production of Mr. Edmund Wood, of York, now for some time past lost to floriculture, but who, many years since, was my own well-beloved disciple. Each possesses properties of a very high order, and deserves the widest cultivation. Regarded as a whole, Eccentric Jack may perhaps be the better variety of the five, Lamplighter (because of its greater number and narrower centre petals) the worse, more especially as the latter is late in bloom; but despite the high standard, even almost, as I have sometimes been told, to fastidiousness, of my requirements, I could not banish one from my collection.

GRAND MASTER (Schofield).—Described in the catalogues as "beautifully marked; very fine;" and from what I saw of it last season, I think the description well deserved.

ISAAC WILKINSON (Turner).—"A flower of the largest size, smooth and well-marked with bright colours; white good, and guard-petals broad and well-shaped. Unfortunately, the centre petals are narrow, and thus without the aid of a skilful dresser the flowers appear confused. When exhibited by Mr. Turner in 1872, it was regarded as the best of its class, and obtained a First-class Certificate from the Royal Horticultural Society, but it is now beaten undoubtedly by Mr. Simonite's J. D. Hextall and John Simonite." I am indebted to my friend, Mr. Douglas, of Loxford Hall Gardens, for the above description, not having *grown* this variety last season. A seedling, apparently from its grass, from South London (Wood),—a variety remarkable for its spindling growth, and its pale green colour.

JENNY LIND (Puxley).—Taken all in all, this probably was the very best variety of this celebrated raiser, now with so many of the friends of my younger floral days, gone to his rest. In 1853 I wrote of it:—"The queen of the class. A flower more rich in its colours, and more distinct in its style of marking than any other grown. Added to this, it has a fine, broad, gently cupped petal, a good white, a smooth edge, and extra substance. One only

drawback exists,—it is late. It is a stout grower, but very impatient of wet during the winter and spring months. Sent out in 1850." Jenny has suffered from the effects of age, and does not now give to us the rich lustrous white which distinguished her in days of yore, but even yet she well deserves the little attentions, which, whether applied to or by the fairer part of the genus *homo*, or to lovely flowers, give grace to beauty, and an additional zest to attraction. As an illustration of what may be done to bring forward a late variety, Mr. Rudd writes me, "I planted it (Jenny Lind) a fortnight before the general stock last season, giving it the advantage of a cold frame, and covering when the weather was cold and rough, with the result that I had flowers on the 4th of August, quite a week before the general stock."

JOHN HARLAND (Adams).*—A fine flower, petal broad and smooth, outline good, and white extra. Short only of bizarre. Requires good generous growth, and to be freely disbudded.

JOHN SIMONITE (Simonite).—One of the grand productions of my old pupil and dear brother florist, Mr. Benjamin Simonite, of Sheffield. A Jenny Lind, from which it was a seedling, in her best dress, without the "one only drawback," as it comes in, in the very height of the blooming season. Sent out last autumn.

J. D. HEXTALL (Simonite).—Another of the grand productions of my friend, named after the late Mr. Hextall, of Ashby de la Zouch, supposed to have been originated (as the mother-plant) from Jackson's Captain Stott, set with pollen from an unnamed seedling. With me the finest C.B. in my collection last season. For form, substance, shape, and smoothness of petal, pure white, and rich definite markings, impossible to be surpassed. But that I have had some experience of the marvellous diversity of nature, and have implicit confidence in the carefulness of my friend, I should not have attributed its origin to Captain Stott, the grass and mode of growth being so singularly different. But seedling-raising is an admirable school for teaching humility, and opening the mind and heart to the limitless powers of the Infinite.

LORD GODERICH (Gill).—A very sweet variety. Not very large, but very refined, and admirably marked. The colours are very rich, though the bizarre is not so dark as in Lord Milton and others in the class. It is also very distinct. Being late in blooming, it should have the advantage of a frame or the warmest situation in the garden to bring it forward for the general bloom. Habit of grass dwarf. Raised by Mr. Holmes, parish clerk of Wakefield, from seed taken from Lord Pollington (Ely), S.B., and by him presented to Mr. Gill. Sent out in 1855.

LORD MILTON (Ely).—Raised from William Caxton C.B., and sent out in 1836. This is one of the oldest flowers of this list, and one of the best varieties of, in his day, a very celebrated raiser. For many years this variety held an undisputed pre-eminence in the Midlands and the South, though, for reasons unknown to me, it was scarcely regarded with such favour in the North. Now, however, Lord Milton has many rivals and some superiors, though even yet he deserves the widest cultivation, despite an inclination to "sport," which age seems in no way to check. In its best character, indeed, Lord Milton leaves very little to desire, save it be size and a few more petals. It has a finely-shaped petal, which is gently cupped, of good substance, with smooth edges; the white is good and clear, and the colours rich and refined, distributed in distinct and bold stripes. Habit compact. A good grower. Crude stimulants should be kept from this, and, in fact, from almost every Carnation grown.

LORD RAGLAN (Bower).—Raised by Mr. Thomas Bower, of Bradford, from mixed seed, and sent out in 1864. An extra fine variety. Full sized, and full of rich, dense, well-distributed colours, with a good white and admirably-shaped petal, stout substance, and smooth edges, it will be a favourite wherever grown. Being so high in colour, it must not be subjected to forcing growth, as like all varieties redolent of colour, it is liable to "run." Habit of grass dwarf and compact, but a free grower when once the spring start has been made. Mr. Rudd writes:—"It is best grown in small pots in pure turfy loam, with the addition of a small quantity of charcoal and leaf-mould. Also protect from heavy rains."

WARRIOR (Slater).—A fine old variety, raised by Mr. John Slater, of Cheetham Hill, and sent out by the late Mr. James Schofield, of Mossley—who bought the stock to save it from destruction—in 1852. In good character, save only an additional breadth to the petal, this variety leaves little to be desired; but it is one which requires the whole art of the florist, as it is a very sluggish grower, and late in its period of bloom. But grown in a frame in the early spring months, kept from heavy rains and crude stimulating diet, and not over-potted, it will well repay the attention. Colours rich and deep, well-defined, and plenty of them.

WILLIAM MURRAY (Adams).*—A full-sized flower, with a broad, smooth petal, and plenty of colour; the best of the Newcastle crimson bizarres. Must not have a stimulating compost. Will carry three blooms.

PINK AND PURPLE BIZARRE CARNATIONS.

FALCONBRIDGE (May).—"The best flower of its class. Large in size, of good form, smooth, and good substance. Colours rich, regularly distributed and strongly contrasted. White, very pure. First bloomed in 1848, sent out in 1851. A good grower." This was my description in 1853, and though I had to remark upon its loss of brilliancy in 1875, then due, as I believe, to the thinness and poverty of my soil, another season's experience warrants my return to the opinion originally expressed.

FANNY (Dodwell).—A pretty variety, noticeable for its excellent habit, and finely formed petal. Colours light, but distinct, and well distributed. First bloomed in 1853. Fanny shows now the effects of age in a diminished stamina, but is yet worthy of a place in even a small collection.

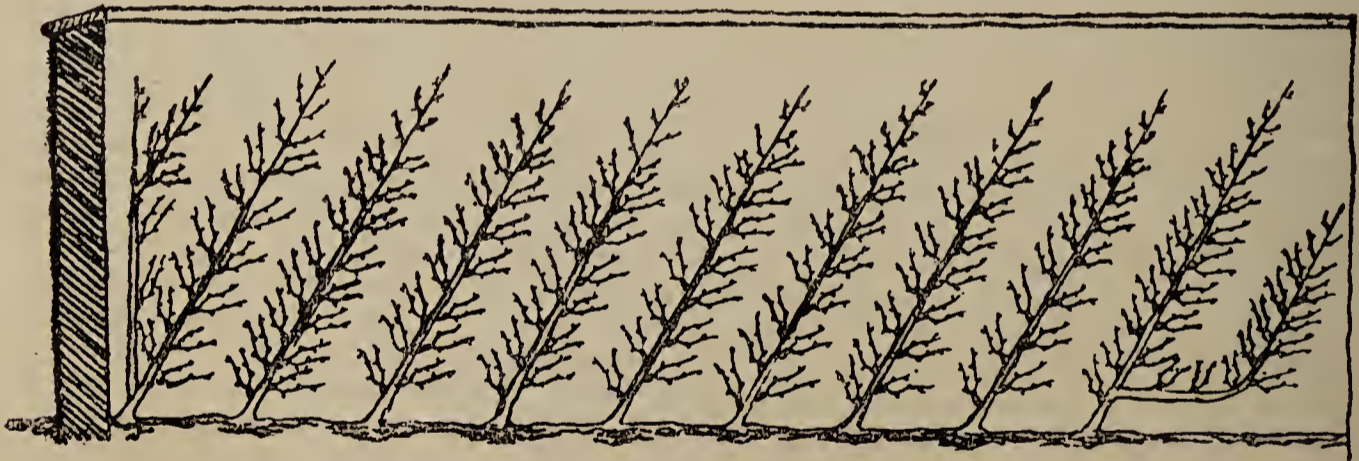
JAMES TAYLOR (Gibbons).—A newly-introduced variety, raised in the neighbourhood of Nottingham, and I assume from Taylor's Princess, which it much resembles in habit of flower and grass. Has a well-shaped, broad petal, continued to the crown; plenty of colour, of a peculiar pink or salmon tint, well contrasted with the bizarre, and regular in its delineation. White clear, substance fair, with smooth edges. The habit is not to be compared with the variety above described, as the petal is flat, not gently cupped.

SARAH PAYNE (Ward).—"Well-named after a lady, for it is, indeed, delicacy itself. For refined texture and colour it leaves nothing to be desired. Well done, and at its best, it would grace the finest stand of flowers imagination could paint. The petal is of medium breadth, very smooth, and gently cupped; colours delicate, sometimes deficient of bizarre, but always rich; white exquisite. Rather a delicate grower. Originated at Woolwich, by its raiser, a well-known veteran florist, from Puxley's Prince Albert, crossed with Count Pauline. First bloomed in 1845, sent out in 1847." This was my description of 1853, and it is pleasant to know, though its raiser has long gone to his rest, the variety yet lives, and fully supports its old renown. In its way, I believe it will never be surpassed.

SATISFACTION (Bower).*—Pale in its colours, but in form, habit, and rich lustrous white, a perfect gem. Worthy a place in any collection. A fine grower. Not yet sent out.—

E. S. DODWELL.

ERRATUM.—Page 17. In the description of Lord Napier S.B., the raiser is stated to have been the late Mr. James Taylor, of Sneinton. I find this is an error, as it was raised by Mr. William Taylor, of Middleton, Lancashire.—E. S. D.



CORDON TRAINING OF WALL FRUIT-TREES.

IN planting Fruit-trees against a wall, the first question to be decided should be how the largest amount of fruit can be procured in a given space,—*i.e.*, how the wall can be covered with fruit-bearing wood in the shortest time. I am of opinion that the mode of training represented in the accompanying sketch is calculated to produce that result much sooner than the mode of training generally adopted in our gardens. It is no new system, having been practised by our neighbours in France for perhaps centuries. In 1856 I saw a wall covered with Peach and Nectarine trees trained in this way in the gardens of

Baron Rothschild, at Ferrières; these had been planted only a few years previously—three or four years at the most—and quite covered the wall; they were also carrying a much heavier crop of fruit than I have ever seen, in the same space, from trees trained upon the fan system.

Moreover, trees trained in this way may be planted at 3 ft. apart, which will admit of a much larger number, and consequently greater variety, in a given space. In this way, now that we have several good early and late Peaches and Nectarines added to our lists, the season of these fruits may be considerably prolonged, which is one object of considerable importance. In addition to the greater variety to be thus secured, the wall may be covered in half the time it would take upon the old system, which, in very many cases, is an advantage scarcely to be overrated, as all new gardens must of necessity be deficient for the first two or three years of a supply of fruit for the dessert. Any other kinds of fruit-trees may, no doubt, be trained in this manner with like favourable results.

This mode of planting facilitates the registration of the names of the varieties grown, as a running list is all that is necessary; and being planted at short, regular intervals, any blanks would be at once detected, which might not be so easily done in the cases of trees occupying greater space. The plan has been adopted at the Royal Horticultural Society's Gardens at Chiswick, both under glass, and against the outside walls. The former lot was planted several years since; the latter only about three years, and the wall is now nearly covered with good fruit-bearing trees.—GEORGE EYLES, 44 *Eardley Crescent, South Kensington.*

POLYGONUM CUSPIDATUM AS A TOWN PLANT.

IN the preface to many a small treatise, the author states that "a great want has long been felt" for the article which he, in his benevolence, has at length provided; and following this precedent, I cannot do better than introduce *Polygonum cuspidatum*, alias *P. Sieboldii*, as a plant to fill a gap of no ordinary dimensions. The plant belongs to a family of troublesome weeds, of which the Fat Hen (used as a spinach) is a notable member; and from a certain family likeness, this plant, like the Fat Hen, may perhaps some day do duty as a vegetable at the board of the poor man. Its chief merits at present, however, consist in its being, like Jonah's Gourd, a plant of rapid growth, and in its taking kindly to town life. It grows at least 10 ft. high, and the rapidity with which it runs up may be seen, when I state that one recently planted against a cottage in a narrow street in Manchester, attained from 6 ft. to 7 ft. in height; and being a bold herbaceous plant, with a branching stem spotted with purple, and well furnished with leaves all the way up, it has no mean or common aspect. When rising in spring, which it does in May, the succulent shoots are crisp and tender, and rather larger than fair-sized Asparagus. The leaf is heart-shaped, with a narrowed point and truncate base, and handsome. It is thoroughly hardy, and one of its peculiarities is that its underground stems spread widely in search

of fresh pasture. I saw it putting in an appearance in a garden adjoining the one in which it was planted, having travelled by the wall and under a flag-stone 3 ft. wide, thereby showing its aptitude for town-life; and whilst the London Nettle [*Coleus*] requires to be kept indoors in the dingy windows of the City, this *Polygonum* will do the work of the Nettle without any protection.

In a box or barrel containing half a cubic foot of earth, placed against a wall, or planted out in the paved yard, it will live and do well; and as it dies down every year, it escapes half the dirt that would have fallen upon its foliage had it been an evergreen shrub. It is, moreover, strong enough to stand alone, and does not need the town-ladder nor even a stake to keep it upright.

The *Lupinus polyphyllus* is one of our earliest spring plants, and has been extensively cultivated for agricultural purposes. Who knows but that this fast-growing, early herb may some day rival the Lupine as early food for ewes and lambs. As a weed, it has much of the character of colt's-foot and couch-grass, and therefore had better be cautiously let into possession, lest it might be difficult to get it out root and branch, for it pushes its underground stems in all directions.

Whilst the rich can carry their love of grass and flowers from the country into town-life, and be able to maintain parks and squares where their children can walk under shady trees, and disport themselves on the green sward, the poor people are not deficient in taste for the same luxuries, and would gladly hail a hardy perennial herbaceous plant that would take up its abode with them, and thrive among bricks and mortar, and every year get abler for its work. The *Polygonum cuspidatum* will do all this, and thereby supply a want that has long been felt.—A. FORSYTH, *Salford*.

VILLA GARDENING FOR FEBRUARY.

STRENGTHENING days and finer weather, with the same mildness of character that has hitherto prevailed, are leading on to a state of activity in the garden which for several reasons we could wish was less apparent. Wintry weather will surely come, and the young growths can scarcely escape being cut back.

The Cold Greenhouse: Hitherto frost has not given any uneasiness to the gardener, but there is a peculiar danger attending on the mild weather; it tends to excite many of the plants too quickly into growth. Large-flowered *Pelargoniums* cut back in September have been growing rapidly all the winter, and in some cases are already showing their blooming-buds; it is well to pinch them back, and then keep the plants rather dry at the roots till they start into growth again; they could thus be kept quiet for a month to come. *Fuchsias* are pushing into growth also, therefore keep them as dry as possible. When *Cinerarias* are getting affected with green-fly, wash them over on a fine day with Fowler's Insecticide. Give plenty of air; a dry, cool atmosphere will keep things in their places, for we may get severe weather in February and March. Pick off all decaying leaves, and water carefully, and as sparingly as possible.

The Warm Greenhouse: This should now be getting gay, but fire-heat should be applied only very sparingly. Make the most of the solar-heat, by shutting up the house between three and four o'clock, putting on a little fire-heat at seven

or eight o'clock, when it threatens to be frosty or cold. A gentle syringing may be given at midday, when it is sunny. It is a great mistake to keep the atmosphere of a plant-house too arid and dry; at the same time, syringing must not be resorted to when frost impends. Such plants as *Azaleas*, *Hyacinths*, *Camellias*, *Cinerarias*, &c., coming into flower may have a little weak manure-water twice or thrice a week, or some guano-water, at the rate of about one ounce to a gallon of water. Occasional fumigations with tobacco-smoke or washings with soft-soap and warm water will be required to keep down greenfly, especially on *Cinerarias*, *Mimulus*, *Pelargoniums*, &c. Any soft-wooded plants of which it may be desirable to obtain an increase by cuttings, such as *Fuchsias*, *Petunias*, *Verbenas*, and *Heliotropes*, should be placed in the warmest part of the greenhouse towards the end of the month to encourage the production of young growths suitable for making cuttings from.

Frames: Give plenty of air on all favourable occasions, but close the frames before it gets dark, as fog and mist generate damp, and the plants need to be kept as dry as possible. Many hardy plants, such as *Violets*, *Polyanthuses*, *Primroses*, *Hepaticas*, *Anemone fulgens*, *Scillas*, &c., are now coming into flower, and they need to be carefully watered early in the day in fine weather, and have plenty of air. A mild, gentle shower or genial rain will do them good, but not enough to damage the flowers. Single and double *Primroses* are charming objects when in flower in pots, protected in a cold frame. *Carnations*, *Picotees*, *Pinks*, and *Cloves* in pots, waiting to be planted out in spring, are benefited by gently stirring the surface-soil, and cutting away decaying leaves.

Kitchen Garden: *Fruit-trees* should now be pruned, and *Wall-trees* trained and the shoots nailed in position. The blossom-buds are fast beginning to swell, and the work should be put in hand at once. *Currants* and *Gooseberries*, as well as *Raspberries*, may be pruned, and the soil about them dug and made neat for spring. There are signs that the rainy season is changing to finer weather, and thus sowing claims attention. As soon as possible, *Early Peas*, *Longpod Beans*, *Radishes*, and *Onions* may be sown. A little discretion is necessary in selecting the varieties, for in a small garden dwarf-growing types only should be grown. *Radishes* (Wood's Early Frame) should be sown on a warm border, and the seed covered with a little litter as a protection from birds till it begins to grow; then the litter should be taken off by day, and put on again at night. Seeds of *Onions* should be sown earlier than is generally the case; the plants get well started into growth before drought sets in. *Rhubarb* and *Seakale* can be blanched or forced by putting pots or any such things over the roots, and covering them with a coating of dung. If *Rhubarb*-roots be lifted and placed under a greenhouse stage, with some soil and litter about them, gatherings can be had much earlier than from the open ground.

Flower Garden: Shrubby-borders should be dug over, and a neat appearance given to them. Garden-edgings, such as *Box*, *Thrift*, *Grass*, *Daisies*, &c., should be trimmed, and mended where there are vacancies. This work should be done as soon as it can be taken in hand. Shrubs should be pruned, and climbers made neat by cutting away all decaying growths, and thinning the leading shoots. Thorn and privet-hedges should be clipped. The Herbaceous mixed border should be carefully forked over, and a top-dressing of leaf-mould and dung applied. The dung and leaves required for making-up a warm bed for a frame should now be got together, and well shaken-up, ready for use in the early part of March. Such a bed is most useful; it comes in handy for raising tender annuals and bedding plants from seed; for hardening off young-struck cuttings of *Fuchsias*, *Dahlias*, *Heliotropes*, &c.; and finally, makes a summer cucumber or melon-bed. Beds of spring-flowering plants should have the surface stirred, and

empty beds should be dug over and the soil thrown up rough, till the time for planting comes round.—D.

GARDEN GOSSIP.

THE proposal to hold a *Southern Show* of the *National Auricula Society*, to which we briefly alluded on a former occasion, is being freely responded to, and upwards of £60 has been promised towards the necessary prizes and expenses. A slight further augmentation of this amount is needed to permit of the work being efficiently done, and it is to be hoped that some admirers of the Auricula who have not yet subscribed may be induced to do so by the prospect of an attractive show. The sub-committee, consisting of Messrs. C. Turner, J. Douglas, and E. S. Dodwell, appointed to draft a schedule of prizes, has completed its work, and the prize list was to be submitted on the 31st ult. to the general committee for approval. The prizes will, we believe, amount to not less than sixty guineas, and will include classes for collections of fifties, twelves, sixes, fours, and pairs, with a long list for single specimens in classes, and in addition, prizes for Polyanthus. The show will be held at the Crystal Palace on April 24, and as the northern show of the society is to be held at Manchester on the 27th of the same month, there is every reason to expect a display of these flowers such as old florists even have rarely, if ever, known. As we have already stated, the honorary secretary is Mr. E. S. Dodwell, 11 Chatham Terrace, Larkhall Rise, Clapham, S.W., who will be glad to hear at an early date from intending exhibitors or subscribers.

— THE year 1876 was not very prolific in new kinds of vegetables, the principal additions being among *Peas* and *Potatos*. It is as well always to order a few of the new kinds for trial, especially of *Potatos*, and then one can judge for oneself which kinds are best adapted for the particular locality. Mr. Powell recommends the following as a few good old things, that should not be overlooked when the seed-list is made up:—Of Early *Potatos*, *Lee's Improved Ashleaf* and *Myatt's Ashleaf*, which can be depended on. *Sangster's No. 1* and *Early Emperor* are among the best early white *Peas*, with *Little Gem* as an early marrow, *Dr. Maclean*, *Advancer*, and *Champion of England* will always keep their place for the main crops. In Cauliflowers, *Lenormand's*, *Erfurt*, *Walcheren*, and *Veitch's Autumn* are all good kinds. Among Celery, *Incomparable Dwarf White* and *Manchester Red* are among the best. The *Goutte* Lettuce is a nice little hardy variety, of good flavour, and suitable for either winter or summer use; and the old *Brown* and *White Cos* should not be forgotten.

— THE summer shade afforded by *Street Avenues* is most grateful, and the aspect of thoroughfares thus furnished most picturesque. Wherever practicable they should be introduced, and no planting season should be passed without some progress being made in this respect. They should everywhere be encouraged, but it should always be under careful supervision, so that proper trees may be selected, and proper means taken to ensure their success. The trees found most suitable for London are the Plane, the Lombardy Poplar, the new Canadian Poplar, the Sycamore, &c., the Plane (*Platanus acerifolia*) being by far the best, though it is less suitable in the north. In some towns the Siberian Elm does well; in Birmingham the new fast-growing form of Canadian Poplar, *Populus canadensis nova*, is found to do well—all which shows that observation and forethought are required before making a choice. In all cases a mixture of trees should be avoided. In America, where street planting is almost universal, and where every person is free to follow his own inclinations, this liberty, it appears, is sometimes asserted in the selection and planting of the wayside trees, and while one person plants one kind, his neighbour will plant another, till the whole becomes a heterogeneous assemblage of trees, instead of a stately avenue. The rule of uniformity as to the kind of tree planted, should be enforced, at least so far as any one street, or of corresponding lines of trees are concerned.

— THE beautiful Maple called in gardens *Acer colchicum rubrum*, has been determined to be identical with the *A. latum* of Meyer, from the Caucasus, and the *A. pictum* of Thunberg, from Japan, which latter name takes precedence. Professor Karl Koch adopts this view, which is confirmed by Mr. Hiern in Dr. Hooker's *Flora*

of *British India* (p. 696). *Acer pictum* has therefore naturally a wide range, extending from the Caucasus, through Persia and Kashmir to Bhotan, and thence eastward to China and Japan.

— THE *Album Benary* (Ernst Benary, Erfurt) is a very useful series of coloured figures of vegetables, issued as a means of identifying the different varieties. The Album, which we presume is to be continued, consists of four numbers small folio size, each containing four chromo-lithographed plates, which are remarkably well done by M. Severeys, of Brussels. On each plate is a series of figures, reduced in size, but large enough for identification; each is accompanied by a leaf of text, giving the names in English, German, French, and Russian. The first plate is devoted to Cabbages, one-seventh the natural size, the varieties being large blood-red Dutch, earliest solid blood-red Erfurt, very large early Schweinfurt, small early solid white Erfurt, white (sugar-loaf) Winnigstadt, and largest white Brunswick. Then follow savoys, kales, carrots, cabbage-lettuces, cucumbers, French beans, radishes, beets, various culinary roots, sugar-beets, mangolds, gourds, and onions. The plates will be very useful to seedsmen as illustrations of the seeds they sell, and to others, as a means of identifying the sorts they purchase.

— THE *Fertilisation of Plants*, recently treated on by Mr. Darwin, in a volume published by Mr. Murray, is a subject of the highest interest for cultivators; and every one who can obtain the book should read Mr. Darwin's account of his experiments, and of the inferences to be drawn from them. The work consists of twelve chapters, of which the first half form a record of experiments with different orders of plants, and the remainder treat on the means and effects of cross-fertilisation, and the habits of insects in relation thereto; the concluding one giving the general results of the author's observations, one of the most important of which is, that "the mere act of crossing by itself does no good; the good depends upon the individuals which are crossed differing slightly in constitution, owing to their progenitors having been subjected, during several generations, to slightly different conditions, or to what we may call, in our ignorance, spontaneous variation." The book will well repay the most careful study.

— ONE of the most charming of all the Spruces is the *Abies Menziesii Parryana*, from the Colorado Mountains, of which some small examples may be seen in Mr. A. Waterer's nursery at Knap Hill. Two very beautiful selected trees of this new Fir are growing in the garden of Professor C. S. Sargent, at Brookline, near Boston. These trees are from 7 to 8 feet in height, with the symmetrical growth of typical *A. Menziesii*, but specially remarkable for the bright blue glaucous hue of the entire plant, which as a blue is as bright and striking as is the green of the Knap Hill Cypress. The tree is, indeed, on account of its very pronounced glaucous hue, and its naturally symmetrical habit, one of the most lovely conifers that can be imagined.

— THE first number of the *Journal des Roses* (Paris: Goin), founded by M. S. Cochet, and edited by M. Camille Bernardin, is before us. It is to be issued monthly, each part illustrated by a coloured plate, that given with the January number being the Belle Lyonnaise—a tea rose of *premier mérite*—from one of Mr. Macfarlane's admirable drawings. The text consists of an address to rose-growers, and a chronicle of rose-gossip, followed by articles on the Knight of the Rose, the new roses of 1876, the rose-tree of a thousand years—a historical legend on the *Rosa canina*, a rose-fête at Grisy-Suisnes, the rose Belle Lyonnaise, the false roses, and a chronicle of general horticulture. We look to its continuation with much interest, as it is a genuine Rose Journal.

— OUR old correspondent, Mr. Wighton, the gardener at Cossey Park, has lately been presented with a valuable purse of money by his employer, Lord Stafford, as a testimonial of respect for long service in his lordship's family. It is always pleasing to hear of such good-feeling existing between masters and servants, and we congratulate our correspondent on his having for so long a period given satisfaction to so kind-hearted and appreciative an employer.

— AMONG the *Special Exhibitions of the Royal Botanic Society* during the present spring, are included Messrs. Jackman and Son's show of Clematises, com-

mencing on May 2nd; Mr. Anthony Waterer's show of Rhododendrons and American plants, commencing on June 1; and Messrs. Carter and Co.'s show of Flowering and Fine-foliage Plants, extending from June 27 to July 12.

— It is well known that in some old garden soils *Carrots* cannot be grown successfully, on account of the presence of the wireworm. The *Gardener* mentions a case of this sort, in which part of the land was watered before sowing with diluted paraffin oil—two wine-glasses full of the oil to four gallons of water—and on this portion a luxuriant crop of carrots was secured, whilst those sown on the unwatered portion failed as usual. This hint may be turned to account before cropping time.

— THE Belgians have raised a new white double-flowered variety of the Sweet Violet, called *Alba fragrantissima plena*, which is described as excelling all previously raised varieties of the double class, since the flowers are pure white, very double, and equally fragrant with those of the common sweet violet, and the plant blooms profusely, and forces well. It was raised from seed a few years ago in the neighbourhood of Ghent.

— WHEN the *Cooking of Beet-root* is unskilfully done, it often happens that the colour is lost or spoiled, and this is generally thought to be due to the roots having been either cut or bruised before they are put into the water. This, however, is not so, for if the roots are dropped into boiling water, all their beautiful colour will be retained, whether the skin be broken or not. This fact has been abundantly proved, and is one which housewives should make a note of.

— OF the now well-known *Horticultural Directory* (171 Fleet Street), the edition for 1877 has recently been issued. The utility of such a desk-book, when kept fairly posted-up, as this is, is indisputable.

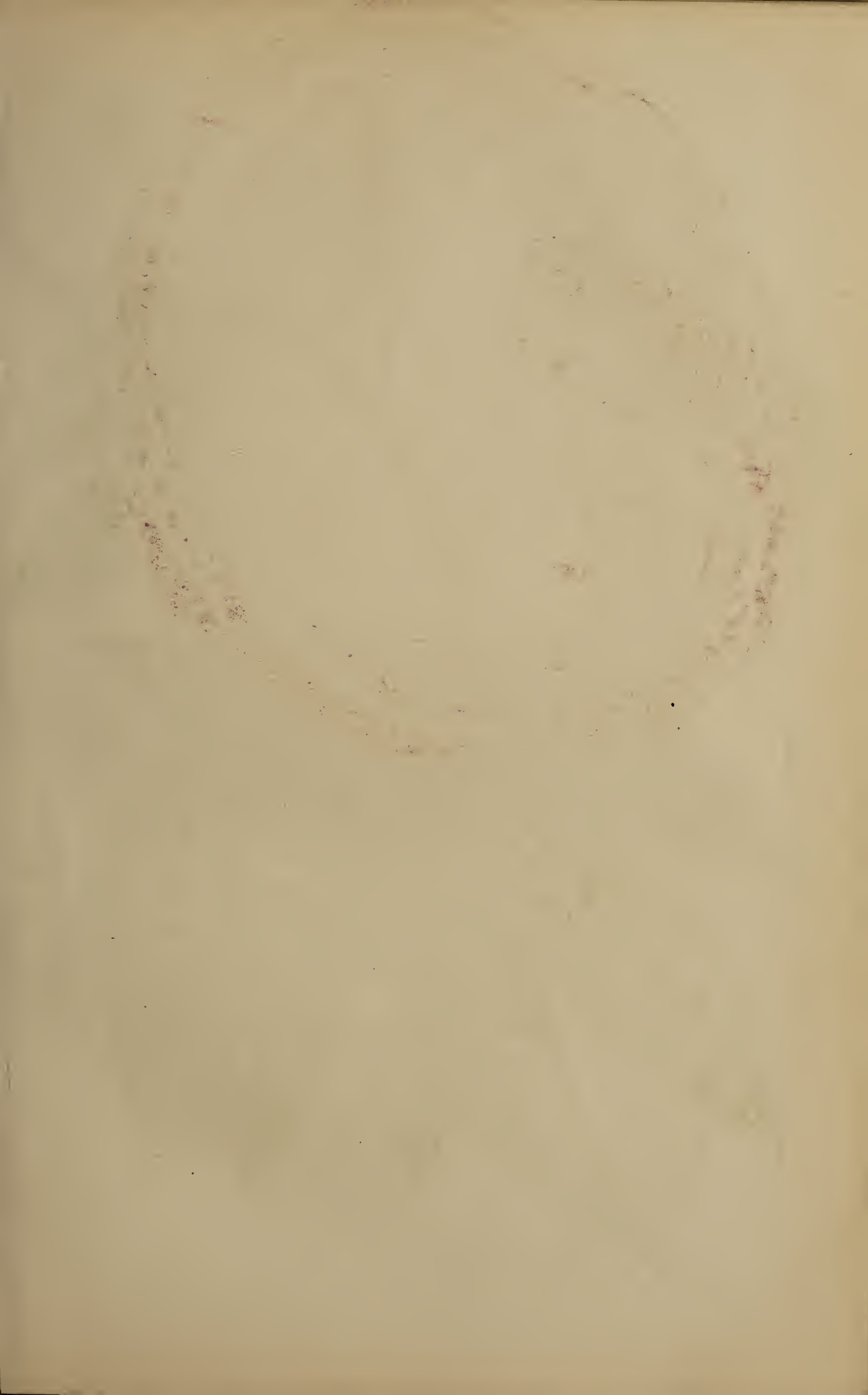
Obituary.

— J. G. WILKINS, Esq., of the Poplars, Leyton, died on December 9, aged 39 years, after having been in ill-health since August last. He was a great supporter of flower-shows, by reason of his love for plants, as his contributions to and prize-taking at all the leading Metropolitan exhibitions during the last ten years give evidence. His collection of plants, which ultimately became so famous under the experienced management of Mr. Ward, was begun some thirteen years since.

— MR. JAMES ANDREWS, the well-known floral artist, died on December 17, aged 75 years. For many years, commencing in 1849, Mr. Andrews's talents as an artist were successfully engaged in the illustration of the *FLORIST*.

— MR. PETER STEWART, gardener at the Glen, Peeblesshire, died at Lugton, near Dalkeith, on December 22, at the early age of 33, leaving a widow and young family. He was a native of Dalkeith, and served in the Duke of Buccleuch's gardens there for about twelve years. His career has been a comparatively short one, but few young gardeners have displayed more energy and ability, or been more successful, for under his able management the gardens at the Glen have become one of the most noteworthy places in the south of Scotland.

— ALFRED SMEE, Esq., F.R.S., died on January 11. He was a keen horticulturist, and his garden at Wallington was a perfect epitome of all departments, useful and ornamental; his collection of hardy fruit-trees was one of the largest of any private collector in this country; and his garden experience was manifested in his richly illustrated work, entitled "My Garden"—a treasure-house of information for amateur gardeners. Mr. Smeë was for some time chairman of the Fruit Committee of the Royal Horticultural Society, and also a member of Council.





Rosenberg 11

Rose Magna Charta.

Chromo. Devereys. Br.

ROSE MAGNA CHARTA.

WITH AN ILLUSTRATION.

THIS is a new English-raised Rose, possessing all the qualities essential to an exhibition flower of the first rank. Being at the same time remarkably free in growth, hardy in constitution, and prolific of blossoms, the subject of the present illustration must be regarded as a most valuable addition to that class of Roses which will thrive and give abundance of flowers under circumstances adverse to Rose-culture, and can hardly fail to become a favourite with all growers of Roses. Indeed, it cannot be too highly recommended to the rose-lovers who reside in the neighbourhood of large towns, or in bleak or otherwise unfavourable situations.

Mr. Paul describes the colour of the flowers as a clear pink suffused with carmine, very bright and striking; and they are of immense size, full, and of finely cupped form. The habit is erect, and the foliage is of a deep glossy green, very large, and forming a beautiful contrast with the flowers.

This variety was raised from seed at the Waltham Cross Nurseries, whence it was introduced to the public by Messrs. William Paul and Son in the spring of 1876. It has received the award of a First-class Certificate both from the Royal Horticultural Society and the Royal Botanic Society, and is in every way a most charming and effective flower.—M.

CULTURE OF DOUBLE PRIMULAS.

CONSIDERABLE difficulty is often experienced in the propagation and culture of the forms of Double *Primula sinensis*, and hence the few remarks which follow may prove of interest to some of your readers.

In the first place, I have found these plants to root readily at any time during the spring, by taking off with each small crown, a heel or piece of the old stem, potting them singly and rather firmly in small pots (60s) in a light porous soil, and giving a gentle watering to settle the soil, being careful not to let any get into the heart of the cuttings. Thus prepared, they are plunged under a hand-light in a bottom-heat of from 70° to 75°, shaded from the sun and kept close, excepting so far as giving a little ventilation to the hand-light, but closing again before the house is opened to admit the external air. When they have made a few roots, gradually harden them off; and they are then ready for shifting into 48-size pots, using in the compost rather more than half of fibrous loam, the remainder being leaf-soil, with a good dash of sharp sand, and good drainage being given. Pot the plants rather firmly, keeping the bottom leaves on a level with the surface of the soil. Then remove them to a cold frame with a north aspect, as they delight in a cool shady position, and give abundance of air both night and day, shifting them into larger pots as may be required.

About the beginning of October they should be removed into their winter quarters, placing them on a stage, so as to get a circulation of air between them.

As the days shorten give a little fire-heat, so as to keep the temperature at 50° at night, with a rise of about 5° during the day. When they begin to bloom (which they will do early in November), give weak manure-water at every alternate watering, being careful to keep the heart of the plants dry. When there is a great demand for flowers, it is best to keep the bloom off some of the plants, and give them an extra shift. By this means, they can readily be had in bloom for six months.

The reader should be reminded that when any of the leaves show signs of decay, it is much the best way to get hold of the leaf-stalk close to the stem and take it clean off; for if it is picked, as is usually the case, the part left will damp back to the stem, and soon affect the whole plant, which will gradually lose its fresh appearance and go off at the collar.—D. BURKE, *The Kitchen Gardens, Burleigh*.

* * * Mr. Gilbert adds in a note:—"The above is from the pen of one of the young gardeners here, who has grown Double Primulas, from what were single crowns last spring, to what are now plants three feet across." Some blooms sent at the same time were first-rate in quality, of full size, as double as balsams, and finely fimbriated at the edge.

VINES AND VINE-CULTURE.

CHAPTER XII.—DISEASES AND INJURIES, AND THEIR REMEDIES (*continued*).

FUNGUS *on the Roots*.—This is not of very frequent occurrence, yet it is of very serious import where it does find a footing, and should be carefully guarded against. The difficulty of dealing with it is the want of knowledge of its existence until the vines are perhaps killed through its effects. The healthy vines of one season may in the next, *when in the fullest vigour*, suddenly droop and flag and die, when upon examination of the roots it is found that they are completely covered with small white threads, these being the mycelium, or spawn of some fungus which has generated from decaying vegetable matter that has got into the border. The most fertile agents are bits of wood, or the broken stems or branches of trees, or it may be the stump of a vine that has been cut down and left in the border. Therefore, these should all be rigidly excluded in the formation of vine-borders. If once fungus is introduced, its growth is very swift, and the fine threads of the mycelium will soon permeate the whole border, and choke the action of the roots. Fungoid growth may also be introduced into the border through heavy top-dressings of leaves or stable-manure. Where its presence is detected, every bit of soil in the least affected should be taken out, and the roots of the vines washed, sprinkling the remainder with quick-lime, so as to destroy every vestige of its existence.

Mildew.—This is a fungoid growth upon the young leaves and fruit of the Vine, and was not known in this country until the year 1847, when an account of it was given by Mr. Tucker, of Margate, where it was first observed. Hence it received the name *Oidium Tuckeri*. In America, however, it had been known

to exist for many years previously, although, singularly enough, the American varieties of Grapes are but little affected by it. In this country, it has caused great destruction amongst Grapes, both in vineries and in the open air, and in Vine-growing countries the entire season's crop is frequently destroyed by its agency.

This mildew appears to the naked eye like a little white powder only, resting on the leaves, &c. ; but by the aid of the magnifying-glass, it is seen to be a true vegetable parasitical growth, as we see it represented by the accompanying figure. It is a most insidious enemy, and requires extreme watchfulness, so as to observe its very earliest appearance, in order to check its progress. It vegetates very rapidly ; from a small speck, it will in the course of a few days spread over an entire house, and if not arrested in its growth, its roots will have penetrated



MILDEW OF GRAPES AND OIDIUM TUCKERI, WITH CONIDIA GERMINATING ($\times 200$ dia.).

so deeply into the tissues of the affected parts as completely to destroy them. The mildew itself may be arrested and killed, but its effects are left, the skin or cuticle of the berry being blackened and injured beyond recovery. It seems to render the berry incapable of distending further, so that it soon splits open, and is of course ruined. The tissues of the leaves are also injured in much the same way.

As to the causes of the Vine mildew, they are, as in most other diseases, very difficult to trace. It is sufficient that it *does* exist. Certain atmospherical conditions are favourable to its development, as to that of all fungoid growth. There is no more fertile source than cold, damp, sunless weather, with a stagnant atmosphere, and especially if this is succeeded by bright sunshine. On Vines grown in the open air, there is seldom a season that they are not affected to some extent, but frequently it occurs so late in the season as practically to do but little harm.

The prevention of mildew ought, if it be possible, to be the chief endeavour of all Vine-growers ; and in houses or vineries it may be almost prevented. In the open air, it is much more difficult to grapple with. As a stagnant atmosphere

is favourable to its development, it naturally follows that one of the surest preventives is *air*—plenty of sweet fresh air—and this can be secured to a great extent by proper ventilation, and a judicious use of the heating apparatus to set the air in motion. Where this is not available, a drier atmosphere should be maintained in the house during cold damp weather, avoiding all unnecessary syringing or damping.

To arrest or destroy the mildew where it has once obtained a footing many and varied means have been adopted and recommended. The most effective, indeed the only truly effective agent, is sulphur, or certain compounds of which sulphur forms the major part. It is chiefly in regard to the method of application that the distinction between the various agents is made. Firstly, let it be noted that *the sulphur must not be ignited in any way*, that would to a certainty not only destroy the mildew, but also the vines themselves. We have seen vines so treated and so destroyed. As a preventive or safeguard, it is not a bad method to give the hot-water pipes—not a flue—a washing or coating over with the flowers of sulphur mixed with water, the gentle sulphurous fumes thereby arising being destructive to the mildew. Another very effectual method is to throw sulphur on lumps of freshly slaked lime, which will have a like result. The most effectual and simplest remedy of all is to dust flowers of sulphur all over the vines. This will, in the course of a few days, destroy it, when the sulphur should be immediately washed off by a forcible syringing with clear rain-water, otherwise the grapes, being covered with the sulphur, would be spoiled. Many varieties of sulphurators for the application of this sulphur have been introduced, but the simplest of all is the ordinary penny pepper-box.

Various liquid compositions, which are applied with the syringe, have also been introduced, and are effectual in its destruction, such as the Gishurst compound, and others, but as these frequently contain a proportion of oleaginous matter, their use for the destruction of mildew on grapes is not to be recommended. Quite recently, a very effectual and excellent liquid application for its destruction has been introduced by Mr. Speed, of Chatsworth, which is stated to be altogether innocuous, and immediate in its effects. It is applied with the syringe, and immediately washed off.—A. F. BARRON.

WIRING GARDEN WALLS.

YOUR recommendation of screws, as described at page 24, is not, I suppose, intended as introducing anything new, but merely as a notice of a neat and useful contrivance for the purpose. No doubt need be entertained on this matter. They have been in use on walls and otherwise for peaches, climbers, vines, &c., under glass before I was a cultivator; I therefore do not know how long they may have been acting as wire-tighteners. I have used them here, as well as raidisseurs, for that purpose; but those I have known in years gone by, were always liable to become rusted, so that the threads gave way. [The screws in question are galvanised, and should therefore last for a considerable

time.—ED.] If those which you recommend are proof against this evil, there can be no doubt of their value as being neater and more efficient than most other “wire-tighteners” which I have seen in use.—M. TEMPLE, *Impney Hall*.

ALPINE AURICULAS.

AS a grower of Alpine Auriculas for a period longer than I have grown their refined sisters, I have been interested in the remarks made about them in recent numbers of the *FLORIST*. It was not until last year that I was made aware that such flowers as those of which *Mercury* (Turner) is the type, would be subject to disqualification if exhibited at a show held by the National Auricula Society. It may be a fact that to the eye of a trained florist—that is, one who has been educated to require certain properties, and who looks for them in a flower that has received its most perfect development, to the exclusion of other properties that would perhaps be more admired by the ordinary amateur—the shaded Alpines are the most beautiful, and that this shading is the “first and prettiest property of the Alpine,” but I demur to the statement “that shaded ground-colours is a leading property universally recognised among florists.”

It is a fact that by far the largest proportion of flowers shown in London are Sels. Nearly all of them have been raised and sent out by Mr. C. Turner, of Slough; and it follows naturally that if shaded flowers had been most admired, they would have been raised and sent out. Our great nurserymen and florists know what the public are most likely to purchase, and will invest their money and talents in that which will give the best return. I certainly consider it a national misfortune or calamity that the National Society should disqualify Self Alpines. At the London exhibitions the Self Alpines have been admired by many of our best amateurs and gardeners, and many of them have preferred these flowers to the very best green, grey, or white-edged Auriculas. I do not say they were right, but I could prove what I say, if necessary, by referring to the pages of our leading gardening papers. One whose name I could mention, and who stands very high as an editor and horticulturist, pointing to a Self Alpine in my own collection, said, “How much more beautiful is that flower than these monstrosities, the green-edged Auriculas.” So much for being educated up to recognise certain properties.

Alpine Auriculas still admit of much improvement, and as Mr. E. S. Dodwell truly says in the *FLORIST* (p. 41), “seedling-raising is an admirable school for teaching humility, and opening the mind and heart to the limitless powers of the Infinite.” Why should we puny creatures limit that power by drawing narrow lines of demarcation? I like freedom of action, and would not consent to be bound by prejudice, either northern or southern.

All the Alpines I have as yet seen have green foliage, without any white powder, but here comes Mr. Knight, of Floors Castle (p. 34), with a row of one sort beautiful at all seasons by its mealy leaves, the flowers “very dark,” with a yellow centre. Evidently, Mr. Knight requires educating in Auriculas; he must

have here a Self of the true Auricula, hardy enough for a very cold district in the south of Scotland, and judging by the description, I think it is the same that used to be grown at Ednam (about two miles from Mr. Knight's), when I was a boy, under the name of *Dusty Miller*. I have seen clumps of it at least a couple of yards in circumference. We used to part the clumps in the spring by cutting through them with a spade, and the divided portions grew luxuriantly in rich garden soil, and were very pretty when in flower.

The great Auricula Show to be held at the Crystal Palace will be the means of eliciting some useful discussion on these and other matters. Shaded and self flowers will be shown side by side, for as the schedule admits both classes, they will each have to stand on their own merits; and it will be very strange if both fanciers and the general public do not learn a useful lesson by the arrangement. It must be very gratifying to all true florists, north, south, east, and west, to see such a wide-spread interest in what one of our best professional gardeners called "these grand old flowers." In the days of pack-horses and stage coaches, there were great jealousies and much bitterness existing between the Northern and Southern growers, through a difference of opinion on some points. That is all over now, and whatever differences may exist, they are caused only by a desire to learn and to search for the truth.—J. DOUGLAS, *Loxford Hall, Ilford, E.*

THE CARNATION AND PICOTEE.

CHAPTER XV.—DESCRIPTIONS OF THE BEST VARIETIES, OLD AND NEW (*continued*).

STILL going forward with our descriptions of the best varieties of these flowers, we now come to the group called

PURPLE FLAKE CARNATIONS.

AJAX (Hextall).—Origin unknown. First bloomed in 1870. Sent out in 1874. A large, full flower, with a well-marked and broad petal; useful for the back row of the home stage, but rarely sufficiently refined for the purpose of the exhibitor. A good grower.

DR. FOSTER (Foster).—Raised at Todmorden, from a fine old useful variety (Jackson's Squire Trow), which it follows, with some slight variations, in its habit of growth and colour, but is incomparably better in its white ground, which is perfection itself. Petal broad and smooth, slightly cupped (unlike the parent, which has a tendency to reflex), of full size, and a fine grower, it would be at the head of its class, but for one unfortunate defect,—its generally insufficient marking. Nevertheless, and despite this serious drawback, it is a variety of great excellence, and such as will please a taste refined to fastidiousness. Early in bloom.

EARL OF STAMFORD (Addis).—Raised at Wolverhampton, from the same parent as the above, it is yet very distinct in its character, generally coming with plenty of colour and very fairly distributed, but is rarely seen with the fine quality and white ground of Dr. Foster. It is, however, a good, useful variety, a good grower, and well deserves a place in the best collections. Sent out in 1856. An early bloomer.

ESTHER (Dodwell).—A sport from Fanny, P.P.B.—that variety again being a seedling from a purple flake of the Squire Trow family. For some years after the sport, this variety well maintained the high place it took in its class, but now, like Fanny, shows palpable signs of diminished stamina. It yet, however, deserves cultivation, for its fine form, finely formed petal, good white and rich distinct markings. Being, like all seedlings of the Squire Trow breed, open and succulent in its habit of grass, it is especially liable to the attacks of green-fly, and must be watched to guard against the evils certain to result if such attacks be not promptly repelled.

EARL OF WILTON (Holland).—Another variety, unquestionably of the same family, but generally rather too full of colour, therefore should never be subjected to stimulating growth.

Possesses a well-shaped petal, good form, and is fairly smooth. It also is a good grower. In cultivation, I believe, about twenty years.

JUNO (Baildon).—Yet another of the same family, as clearly indicated by its habit, and open, flowing, succulent grass, though possibly not directly seeded from Squire Trow. A fine variety, having a well-formed petal with a clear, rich white, and well-defined and well-distributed markings of bright purple. A good grower and early in bloom, therefore needs no hastening. Raised at Halifax. Sent out in 1858.

JAMES DOUGLAS (Simonite).—One of the fine seedlings sent out last autumn by Mr. Simonite, of Sheffield. Raised from an unnamed seedling and Mayor of Nottingham, it combines the characteristics of that variety and Juno, above described. Like all Mr. Simonite's varieties, it is especially distinguished for its high quality, and I have little doubt will be found a great acquisition.

LORD DERBY (Fletcher).—Good grower; good form; good petal, of fair substance, and smooth, this variety wants only a little more refinement to be very desirable, but wanting that, I must say of it, as of Ajax,—useful only for the home stage. Raised at North Brierly, near Bradford.

MAYOR OF NOTTINGHAM (Taylor).—Sent to me by the late Mr. James Taylor, of Sneinton, near Nottingham, in the autumn of 1857, as a seedling, then first bloomed, for trial. Mr. Taylor was not certain of its origin, but I have little doubt it was a cross between Lord Byron (Taylor) and Squire Meynell, or some one of the varieties originated from Meynell. As a seedling it was superb, leaving little to be attained, fine in form, stout in substance, distinct in the character of its markings, good white, good petal, and a good grower. Age has somewhat dimmed its beauties, judging from my experience of last season; but it is yet one of the best six P.F.'s, and indispensable to the cultivator.

PREMIER (Milwood).—Raised at Derby by my old gardener, Milwood, some time before he became my gardener. Said to be from a Scarlet Bizarre, and first bloomed in 1837. "A very great favourite of mine, as I consider its *habit* superior to any other of its class, being gently cupped and compact, moderately full, without being confused, and of fair size. When opening, the white appears clouded, but clears up as the bloom matures, when it well contrasts with its lively and regular lilac-purple markings. It is an early bloomer, but remains a long time in flower. I have repeatedly shown blooms fourteen, sixteen, and eighteen days after showing colour. The petal is broad, of good substance, and very smooth. Habit of grass narrow, reflexed and flowing, and of a very light green colour. Grows freely, though the grass is small, and enjoys a rich soil." This was my description of 1853, and Premier yet deserves all then said.

SQUIRE MEYNELL (Brabbin).—"Raised at Yoxall Wood Lane, in the neighbourhood of Burton-on-Trent, and first bloomed and shown (then as a seedling) twenty or twenty-one years since, it is a fine old variety, and worthy of cultivation everywhere where the Carnation is admired. It is still a very vigorous grower, rises to a good height, is full, of good size, first-rate in its white and regularity of colour—a dense purple when first opened, but changing as it ages to a beautifully clear lilac,—with a well-shaped broad and smooth petal; such characteristics go a long way towards the realisation of the A 1 of the class, yet with all these merits, I can scarcely assign it that place. Wanting the 'gently cupped' petal, it must assuredly be less graceful than those rejoicing in that property. I long to see a flower which shall have the habit of Premier, with the rich colour and pure white of Meynell. If, too, their periods of flowering were blended, it would advantage both, one being an early variety and the other full late." Again, I repeat my description of 1853, and again with the satisfaction of saying it is yet well deserved. I find, however, that Squire Trow, a variety to be next described, is doing duty extensively for Meynell in the North, plants of that variety having been sent to me by no less than three friends, as Meynell.

SQUIRE TROW (Jackson).—Raised at Stakenbridge from Elliott's British Queen, P.F., and sent out in 1847. A very delightful flower; white and colour especially lively, cheerful, and well contrasted; the petal broad, smooth and well shaped, stout, and continued to the crown, giving it, for a reflexed or flat-petalled flower, a fine form. Sometimes a little more colour would be desirable, and of course the habit described is not to be put into comparison with a duly cupped flower; yet, nevertheless, it will not merely attract attention, but win regard wherever well grown. Grass short, a pale white-green, but grows freely.

SPORTING LASS.—A sport from Ward's Sarah Payne, P.P.B., sent to me by my friend Mr. George Rudd, and described as possessing all the good qualities of that fine old variety, save only that it is a purple flake.

TRUE BLUE (Taylor).—Another variety raised by the late Mr. James Taylor, of Sneinton, and a most desirable sort. Habit and form of petal and flower, white, colour and character of marking, very similar to Premier, a variety from which, during the summer months, I inferred it to have been originated, but my autumnal observation, and the longer acquaintance

thus obtained of its habit of growth and grass, incline me to the opinion that Lord Byron, P.F., a famous variety of the same raiser's some twenty-five years ago, was its parent. Early in bloom, a good grower, and wants no forcing. A liberal use of small knobs of charcoal in the compost will no doubt be beneficial. First bloomed in 1865; sent out in 1868.

—E. S. DODWELL.

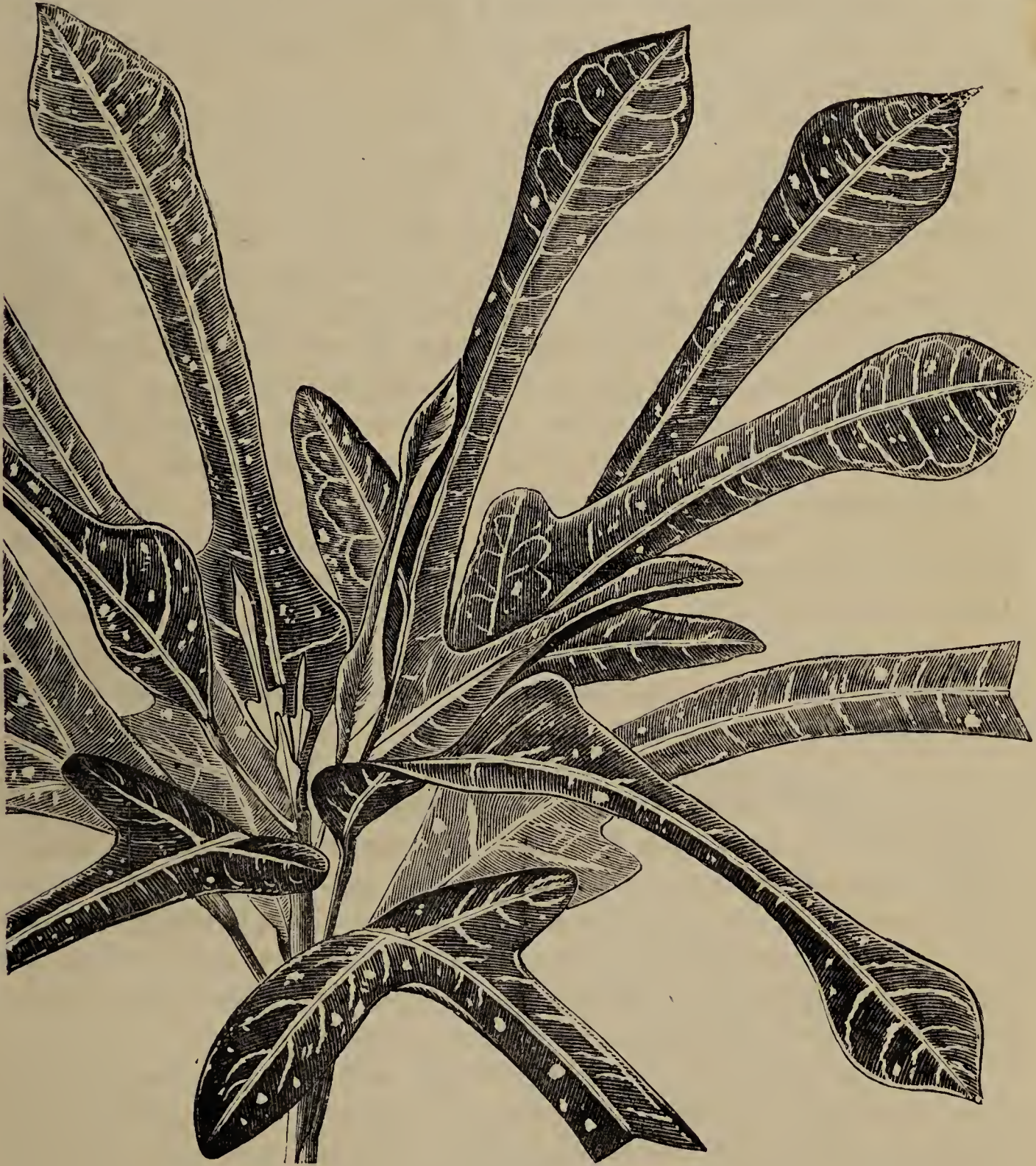


CROTON TRILOBUS.

CROTON TRILOBUS AND ITS ALLIES.

A YEAR or two since the horticultural world was startled by the appearance of a distinct type of *Croton*—more correctly *Codiaeum variegatum*—having three-lobed or hastiform leaves. There is perhaps no one amongst our favourite cultivated plants which varies to so great an extent as the *Croton*, the leaf-form and leaf-colouring to be found amongst them being almost endless, but the existence of so markedly distinct a form as that now referred to was not suspected.

C. trilobus may be taken as a type of the series, the peculiar feature of which is that the leaves form, more or less constantly, a pair of basal lobes, not always equally developed, and thus become divided into three parts. The leaves are of considerable length—1 ft. to 2 ft. long—with a wedge-shaped base, above which are two short lateral lobes, varying in length as well as in form, while the middle



CROTON LORD CAIRNS.

lobe is much longer, narrowed in the lower portion and widening near the acute point. The colour is a deep green, spotted with yellow, the costa and some of the principal veins being of a deep golden-yellow. We are indebted to Mr. Bull, by whom it was sent out, for the accompanying figure.

C. Disraeli belongs to the same group. The foliage is of the same three-lobed character, and "the colouring is rich and varied. In the newer leaves

the midrib and margin are of a light-yellow, with the light-green blade blotched with the same colour. As the foliage becomes older, the yellow subsides to a bright orange-yellow, the marginal line becoming more defined, and the markings enlarged. In the mature leaves the margin is a bright scarlet, and the midrib is striped by a band of the same bright colour between two lines of a deep golden yellow, and the blotchings and markings a rich orange-yellow upon a deep green ground." Messrs. Veitch and Sons state that they received it from A. H. C. Macafee, Esq., of Sydney, N.S.W.

C. Lord Cairns is another of the same type, in which the leaves are of the same three-lobed form. It is said to be dwarfer in habit than the *C. Disraeli*. "The colour is a bright but deep green, the midribs of the leaves a light yellow, the blades blotched and spotted with the same colour, the spots and blotches being irregularly scattered over the surface, and sometimes clustered towards the point of the leaf." The accompanying figure of this variety is from the new Plant Catalogue of Messrs. Veitch and Sons, by whom this variety was sent out.

C. Alberti is of the same group. "The middle and lateral veins are yellow, while a few yellow dots are scattered aberrantly here and there over the surface—this yellow colouring passing to red as it acquires age and exposure." Another slightly different form is called *C. trilobus Traveller*.

C. Bismarcki, though approaching this hastiferous group, is yet distinct. The leaves are almost panduriform or fiddle-shaped, with the broad end towards the base. "The colour is a deep green, with a broad band of golden yellow along the costa, and yellow markings indicating the course of the lateral veins, in addition to which, a few slight yellow blotches are scattered over the surface." —T. MOORE.

WINTER-FLOWERING EUPATORIUMS.

HAVING for some years recognised these useful winter-flowering plants as among the specialities which are so much valued at a season when the demand for cut flowers, as well as flowering-plants, is very great, I can heartily endorse the statements at page 26. Those who are hard pressed in the way of variety for decorative purposes, especially if with limited means to meet the demand, will find these plants true gardeners' friends.

Eupatorium riparium I have not cultivated until this season, but from what I see of it, I have no doubt of its value. I purchased a dozen plants in the autumn, which were pot-bound, but healthy. One-half of these I had shifted into larger pots with rich soil, and the other lot I left as they came from the nursery, giving liquid manure occasionally. The latter are, however, in general appearance, far short of those which were shifted, and which, having made plenty of fresh roots into the new soil, produce much larger flower-heads.

E. ligustrinum has flowered freely since October, giving large supplies of cut flowers. A short time ago I counted the flower-heads open on some of the plants, and found that they numbered from 190 to over 200. They are pyra-

midal in form, not more than two and a half feet high, and are allowed to hang over the pots, flowering to the base. These plants had very indifferent treatment last spring, having lain some weeks behind a shed among cast-off Chrysanthemums. They were shaken out of the soil they were in, potted along with the Chrysanthemums very firmly, and otherwise treated like the latter. When they were taken under glass a good surfacing of horse-manure and loam was given. A number of young plants are now (February 7) coming into flower, and will make a good succession to the larger ones, which still promise to be useful for weeks to come.—M. TEMPLE, *Impney Hall*.

PLUMS IN SUCCESSION FROM JULY TO NOVEMBER.

HAVING had the good-luck to be able to supply a large establishment with Plums successively, without the aid of glass, and that for three months, with scarcely a blank for either dessert or culinary purposes, during the last three seasons, I have thought that a description of the different sorts, with their situations on the walls, or as standards, might prove interesting to some of your readers.

It will, no doubt, appear strange to those who live much farther south, and in what may be thought a more suitable climate, that fruit of this description should succeed and ripen so far north as lat. 57°40', and that "even" on a wall with a north aspect, while many sorts fruit freely on standards. I may, however, state that the situation is a sheltered one on the southern shores of the Moray Firth, about four miles from it as the crow flies, and about 80 feet above sea-level. The soil consists of a deep, black, sandy loam, resting on a bluish sandy clay. The garden site is well above hoar-frost level. These are favourable points, to begin with. But much of my success is attributable to root-lifting and keeping these organs near the surface, which enables the fruit to ripen with higher flavour, and the wood and buds with greater certainty.

The first in importance for its early ripening is *Rivers's Early Purple*, a round, small-sized Plum, which, when grown on a wall and well ripened, carries a bloom upon it like a well-finished Black Hamburgh Grape. It is commonly ripe here about the first week of August, on a wall with an eastern aspect. Although it is regarded as a kitchen fruit only, it nevertheless makes a good appearance on the table, and when perfectly ripe is a fair dessert fruit. Next in appearance and early ripening is *Early Prolific*. This very much resembles the former sort, in time of ripening, size, and colour; it is, however, very distinct from its relative, being a poor and scrubby-growing tree, and a bad bearer. These two sorts are said to have been raised from the Early Orleans. A rather remarkable result occurred with me in raising seedlings which I may here relate. A double-kerneled stone of the Early Purple Plum produced two healthy plants, which were both grown and fruited. One of these very much resembles its parent, the Early Purple, in all its stages; while the other partakes more of the character of the Early Prolific in leaf and growth, the fruit, however, having more the appearance

as to colour and shape of the Orleans, and being about as late in ripening. There was no attempt in this instance at fertilisation, and it serves to show the tendency that Plums have to sport back to sorts they originally sprang from.

I am, however, digressing, and resume by naming *Columbia* as a third, in succession amongst the early-ripening fruits. This is an American sort of large size, not unlike Pond's seedling, not so high in colour and inferior in quality, valuable, however, on account of its time of ripening, and as a culinary fruit. It has, moreover, the good quality of being a free bearer. These three sorts are on east aspects. There are several trees of the Early Purple as standards, and the fruit of these is ripe by the time that on the wall is over.

Next in succession comes the *Orleans*, on walls of east and west aspects, with several of the same as espaliers and standards, and there are some trees on walls of north aspect, which, however do not ripen until the end of October. Those above named have been sufficient to keep up a supply of fruit in the situations in which they are grown, until the *Green Gage* is ripe, and at that stage the difficulty is over for a time, as other varieties follow in quick succession. *Drop d'Or*, a small-fruited Green Gage, is the first ripe; and is followed by the common sort on south walls; and these, again, by those on walls of east and west aspect, of which there are eighteen large trees.

The following sorts are grown against walls with the aspects marked, and ripen here much in the order in which they are named:—*Cloth of Gold*, E.; *Jefferson*, S., E., and W. aspects; *Kirke's*, S.; *Goliath*, W.; *Violette Hâtive*, espaliers; *Washington*, espaliers; *Jefferson*, espaliers and standards; *Victoria*, E. and W., and standards; *Guthrie's Gage*, standards and espaliers; *Coe's Golden Drop*, E. and W. aspects; *White Magnum Bonum*, S. and E. aspects, and as standards; *Mitchelson's*, standards; *Shropshire Damson*, standards; *White Bullace*, standards; *Royal Hâtive*, W.; *Late Blue Gage*, E.; *Fotheringham*, E.; *Gisborne's Seedling*, standards; *Caledonia*, standards; *St. Martin's Quetsche*, E.; *Ickworth Impératrice*, W.; *Webster's Golden Gage*, E. and W. aspects; *Reine Claude de Bavay*, S.; and *Gordon Castle Green Gage*, three weeks later than the common sort, on S. and E. aspects and standards.

In addition to the above-named sorts, there are about two dozen seedling Plums, ripening through the different seasons, and several as late as the end of October and beginning of November; also a number of sorts, seedlings of my own, and carefully fertilised, which have not yet been thoroughly proved.—J. WEBSTER, *The Gardens, Gordon Castle*.

CHIMONANTHUS FRAGRANS AND JASMINUM NUDIFLORUM.

THE past mild and very wet winter seems to have suited these plants well. They are in great beauty at present. They should be grown everywhere in company, as Jasmine suggests sweetness, and the *Jasminum nudiflorum* is scentless, while the *Chimonanthus* has fragrance enough for itself and the





Pears :

1. Amiral Cécile. 2. Beurré de Jonghe.

Jasmine also. In cutting the Jasmine for using in vases, &c., a few sprigs or even single flowers of the *Chimonanthus* mixed in with it sweetens an entire room, however large. In every garden, large or small, room should be found for one or more of each of these early-flowering, most useful plants. They do well and flower profusely backed up against stables, piggeries, or other outbuildings, or against cottage or other walls; and the best mode of treating them, so as to make a fine display when in flower, and also afford plenty of branchlets for cuttings, is to train on the leading shoots, and allow a full crop of laterals to depend from them, until after they have flowered, when they may be closely cut off, thus pruning the plant and procuring the flowers at the same time.—D. T. FISH.

PEARS: AMIRAL CÉCILE AND BEURRÉ DE JONGHE.

WITH AN ILLUSTRATION.

OUR plate represents two little-known winter pears, of excellent quality—so good indeed, that they may, with propriety, be added to any collection in which they do not already exist.

Fig. 1, AMIRAL CÉCILE (Boisbunel).—This fine Pear, which is of Continental origin, and is comparatively new, fruited for the first time some five years ago in the gardens of the Royal Horticultural Society, at Chiswick, where it is much esteemed. It begins to ripen shortly after Christmas, and continues in use until the end of January. For a Pear ripening at that season there are few to equal it, the flesh being as melting and juicy as any Pear in the month of October, and of an exceedingly rich and luscious character. It may be thus described:—Fruit rather below medium-size, roundish or oblate, a good deal flattened at the eye, which is wide and open. The skin is dull green, changing to a reddish-lemon colour as it ripens, with patches of russet round the eye and stalk. The stalk is short, the flesh is very buttery and melting, slightly tinged with pink, extremely rich and luscious. The tree forms naturally a handsome pyramid; it succeeds well on the quince, and is an abundant bearer.

Fig. 2, BEURRÉ DE JONGHE (Gambier).—This is another comparatively new pear, dedicated to M. de Jonghe, of Brussels: a late one also, and one of very great excellence. The Rev. G. Kemp first submitted examples of it to the Fruit Committee in 1875, when it was unanimously awarded a first-class certificate. It is a pear that seems well suited to the climate of this country, which very many of the Belgian pears are not. The fruit is of medium size, of a true pyriform shape, very regular and even, tapering to the stalk, which is short and fleshy, inserted a little on one side, and always having the appearance of having been broken off. The eye is small and open, nearly level with the surface of the fruit. The flesh is greenish yellow, very buttery and melting, with a fine rich flavour, and slightly perfumed. This fine Pear ripens during the month of January, and is equal in flavour to the best of the earlier varieties. It is a valuable acquisition, and ought to be in every collection.—B.

THE PHYLLOXERA AND ITS DESTRUCTION.

ACCORDING to the published reports, it is to M. Dumas, the permanent secretary of the French Academy of Sciences, that the credit is due for suggesting the employment of the alkaline sulpho-carbonates of potassium and sodium and those of barium and calcium, other remedies which had been tried were either without effect on the *Phylloxera*, or in destroying it also destroyed or damaged the Vine.

The sulpho-carbonates, which were carefully studied by the great Swedish chemist Berzelius, are obtained by combining the alkaline monosulphides with the bisulphide of carbon, are either liquid or solid, and emit a powerful odour of sulphuretted hydrogen and bisulphide of carbon. The alkaline sulpho-carbonates in the solid state are of a beautiful reddish-yellow colour and deliquescent, but are not easily obtainable in that condition; the sulpho-carbonate of barium can be easily procured, however, in a solid state, and presents the appearance of a yellow powder, but little soluble in water. The sulpho-carbonates decompose under the influence of carbonic acid, forming a carbonate, and evolving sulphuretted hydrogen and bisulphide of carbon. These two latter substances are gradually liberated, and as they have a very powerful effect on the *Phylloxera*, one can understand that the sulpho-carbonate, placed in the ground, may prove, by its slow decomposition, a powerful insecticide. In the case of the sulpho-carbonate of potassium, over and above its toxic effect, it has a direct invigorating influence upon the Vine, as the carbonate of potassium is an excellent manure.

The employment of the sulpho-carbonates as a means for the destruction of the *Phylloxera* was suggested to M. Dumas by the clearly-recognised need that there was of some substance that would evaporate less quickly than the bisulphide of carbon; he saw that it was desirable to apply the insecticides in some combination which would fix them and only allow them to evaporate gradually, so that their action might continue long enough in any one place to infect with their vapours all the surrounding soil.

But the task of eradicating the *Phylloxera* has by no means been accomplished by the mere discovery of the value for the purpose of these substances; there is the further difficulty of applying them to the Vine in cultivation. One thing seems very certain, that in order to render the sulpho-carbonates practically efficacious in killing the insect, it is necessary to use water as the vehicle by which they may be brought to all the underground parts of the plant, and that the best time of year for their application is the winter or early spring, when the earth is still moist and the quantity of water necessary to be brought on to the ground by artificial means is consequently less. Mixed with lime in the proportion of two to one, these sulpho-carbonates give a powder which can be spread over the ground before the heavy rains,—that is, between October and March, and which will probably prove itself very efficacious.

The conclusion arrived at is that the efficacy of the sulpho-carbonates is

proved, and all that is necessary is to bring to perfection their employment in agriculture, which can only be accomplished by the intelligence and practical knowledge of the vine-grower.

Mr. W. Thomson has suggested that as some of the American foxy Vines are said to resist the attacks of the insect, it would, if this could be verified, be worth while to grow such Vines as *Vitis Labrusca*, *V. rotundifolia*, or any other that might be found to be proof against the attacks of the pest, and inarch our own Vines on them. One certain way of getting at the truth, he remarks, would be to plant a Vine infested with the insect in a box, or pot, with one or other of these American Vines, and in the course of one season the proof either way would be absolute.

As one means of doing battle with the *Phylloxera*, M. Sabaté has devised, and exhibited before the Horticultural Society of France, a gauntlet of chain armour to be used for removing the bark of the Vines, and with it the winter eggs of the pest. Though the sulpho-carbonates have proved useful when applied to the roots, it is necessary to attack the enemy in the cracks of the bark also, and for this purpose the rods are drawn through the gloved hand, with the result of removing the old bark and the insects. The glove might also be used for the removal of moss from the bark of trees, and for other purposes.

THE AURICULA.

CHAPTER XI.—THE RISING BLOOM.—SPRING TREATMENT OF OLD PLANTS AND SEEDLINGS.

WHEN I was a boy (which begins to look something like “Auld lang syne,” now that I have hardly a birthday left on the green and sunny side of “forty year”), it was a pleasant illusion to turn pocket-money into exceeding small change. There was so much of it—quite a fortune if you only went by weight, and did not think of the colour.

But there is much that we do not care to have in a diffused and voluminous form. As horticulturists, we have not enjoyed our winter, with so very much water in it. We should have liked it stiffer, with here and there a spell of silvery frost, instead of that heavy equivalent, that “small change” in wind and water, which has proved so bulky and incommodious.

Only once in this almost frostless winter have I seen the Auriculas frozen in their pots, and that but slightly for a day or two while they were fast asleep. The weather ever since has left it perfectly open to them to begin their spring life at any time, and of course, they have taken the very earliest opportunity, and are now decidedly forward. An early start is everything for the later sorts, among which many of our best Auriculas are to be found. If stiff-petalled and slowly-opening varieties, which *George Lightbody* and *Lancashire Hero* may represent, are long held back by a cold season, they will have a short and hurried bloom that shows signs of having missed the height of the season.

As “the cuckoo in June is out of tune,” so Auriculas in May make a poor

display : March and April are their best months. This plant, however, is not one to lose any of spring's delights by any inattention of its own. When the days lengthen, by the time there is half an hour's more daylight in the sky, the sensitive, expectant Auriculas have found it out. In growth grave, deliberate, and slow all the summer, brisker for a while in autumn, and all but suspended in winter, their spring life is in liveliest contrast to all the rest, so quick, intense, and powerful. It is an ever-fresh surprise, even to an old florist ; and must be a delight indeed to the beginner, who has wisely got his plants together at a quiet time, and brought them into bloom by his own management. There is far more real enjoyment in thus commencing the culture of a plant, than there can be in cheaply buying it in flower, when all the skill and credit—*honours not transferable*—remain another's.

Auriculas are rapidly increasing every day in interest and beauty. The thick-set winter habit is all laid by, and the rich young foliage, as it spreads, shows the full distinctiveness of character in each variety. In many plants the trusses will be rising up, and every day will disclose the floral secret of some full heart which we have been longing to know. Our fair favourite is a plant with an extensive wardrobe. It has a separate leafy dress for all the seasons, and the loveliest and richest is that for spring. Every adornment which the plant possesses is put forth to honour and grace the bloom ; and as if in delicate acknowledgment of how much its other beauties set off this, the Auricula is never shown as a cut flower.

Even varieties in which Nature has denied the gift of meal (and meal is to the Auricula what "moss" is to the Rose) contrive to powder their flower stems and buds, and to dash a spray of meal upon their "guard-leaves," *i.e.*, the leaf, that rises with the pips, bending tenderly over them in their infancy, as with the nurture of a folded wing, and afterwards heightening the beauty of the expanded bloom by standing up behind it.

Much of the work with Auriculas in March consists in taking proper care, one way and another, of the foliage. It must be kept in the brightest health, or flowers in abundance, and of high quality, cannot be produced. Do not let it get drawn for want of light, or for want of air. Do not let it flag for want of water ; and here I may say, the plants may have sufficient to keep the soil quite moist, but never sodden. No nearer rule can be laid down. The plants must be watched. Every pot will have its own time, regulated by weather, soil, porosity, and the evaporative surfaces of the plant. A large, elephant-eared plant of *Othello* will take several waterings to one that a plant of dry habit like *George Levick* will require.

If a plant, certainly wet enough, should droop in foliage as if wanting water, more water will only hasten its death. It must be turned out of the soil, when the neck will be found almost rotted through. Cut back to a sound place (if there is one), and strike under glass. In this way I have saved the veriest heads, with hardly a ring of neck to them.

The succulent foliage is very liable to snap, and therefore exposure to high winds would now do serious injury to it, and through it to the constitution of the plant. Neither the Auricula nor the Polyanthus can bear to have their leaves broken and twisted in the wind, wherefore this danger must be well guarded against in a month wherein it may blow equinoctial gales.

Those who, like myself, grow Auriculas in the sweet country, and have them just now in a house glazed with large clear glass, will in March begin to find the sun too powerful for the foliage. I do not like to see it much distressed by hot sun, though it will stiffen up again at night. I have therefore a light shading ready to roll down over the glass, if necessary. Without shutting out the sunshine, it tempers it and breaks it, as the budding twigs do in the woods, as they weave their lacework of light shadows over the primroses below. If, however, Auriculas have perfect ventilation given them, they will bear uninjured an intensity of sunshine that would burn them if they were so shut up under it that no current of fresh air could pass over them. I know my friend, Mr. Simonite, of Sheffield, lets the sun of all the year beat upon his Auriculas under ventilation. But then, what a sorry lukewarm sun it is that lights up Sheffield! and what a durable and inexpensive shading material deposits itself upon Sheffield glass!—a foul precipitate of all the nuisances, seen and unseen, that are poured into the mysterious Sheffield air.

Any treatment for March beyond what I have given, will consist in little acts of kindness to the plants, which a watchful interest in them will prompt and carry out. In a word, it may be called *handling*. The freeing of a truss entangled by its guard-leaves in the heart, the removal of an ugly pip, the brushing-away of an early aphid, the earthing-up to any new root striking out above the soil, the turning the plants round to have their growth on all sides equal, a watchful eye for things that might ruin bright hopes in a night, and a quick eye and relief for a plant beginning to go wrong by lagging behind—these little matters, and others of small detail that would be tedious to name, weigh much on the whole. High culture and finish are attained by constant and delicate touches, and not by rough and far-between spasmodic efforts.

Seedlings, especially of the smaller sizes, should have close attention now. Top-dress the large ones like old plants, and let the soil come up to the base of the leaves. They root very vigorously from that part, and even through the foliage itself. In all seedlings under blooming size, the object is to get them to root strongly, for they will never go along till this is attained. A pot of neglected Auricula seedlings will be found to be a very melancholy and slow concern.

Where seed was sown as soon as ripe, two distinct crops of seedlings will be now obtained. Those that appeared in autumn and were pricked out, are now nice little plants with quite a circle of leaves. Some of these will be strong enough to send up a pip in September. When their soil is at all crusted or mossy, they should be pricked out afresh. In the seed-pots, gather off all which have a well developed seed-leaf, and prick them out. They are so small to handle,

that I use my carnation-dressers for moving them about. Keep the seed-pots damp and close, and there will soon be a green crop of seedlings on them again—that is, if there has been plenty of seed to sow.

When I write again, the plants will be coming into bloom, and I wish instead of writing about it, I could have the pleasure of showing the living sight to patient readers who have taken an interest in these papers on a favourite plant.

Poor Artemus Ward, when lecturing on his humorous panorama, used to say to his audience, “I wish you were nearer to it, so you could see it better.” “I wish I could take it to your residences, and let you see it by daylight! Some of the greatest artists in London come with lanterns to look at it before daylight! They say they never saw anything like it before, and they hope they never shall again!”

Few would say *all* that of a collection of Auriculas in full bloom. Yet I did overhear at the National Show one year a fair visitor exclaim, “They may call these Auriculas curious, but they are not pretty!”—F. D. HORNER, *Kirkby-Malzeard, Ripon.*

THE PITH OF VINES.

THAT good timber in grape-growing mostly results in fine fruit has passed almost into an axiom, and deservedly so. As to what constitutes good timber among grape-vines there is also almost an unanimity of opinion. The wood must be hard and solid, almost as heart of oak or as horn. Size is of less moment, though when associated with hardness and solidity, size of wood is closely linked to largeness of bunch.

It will be found on examination that the most uncertain factor in the wood of the vine is the pith. The pith is also, to a very large extent, the dominating factor. Is the pith good and compressed into small compass? Then, as a rule, the wood is also good; and fine fruit follows from good wood, almost as a matter of course, provided, however, that the treatment is fairly good also.

If, then, it may be accepted as something like absolute truth, that as is the pith, so is the vine-wood, and the produce of the vine, it follows that the key to success in vine-culture may be hidden, as it were, in the pith. The question therefore is,—Can cultivators by any special treatment affect the size or determine the quality of the pith in vines? The question may, no doubt, be answered, at least in part, in the affirmative. An excess of water, food, or heat, for instance, may all add to the amount and lower the quality of the pith, provided always, however, that the natural result of such excess is not neutralised or turned to good account by the abnormal activity of the vital functions, and the more intense influence of stronger light. Thus it is no easy matter to estimate beforehand what will form pith in excess or otherwise. Still, upon the whole, there can be no question that all so-called forcing treatment, such as leads to the production of gross growth, is likely to end in an excess of pith. Too much pith is, no doubt, often the necessary product of the unequal balance between

accretion and elaboration. When these work into each other, like the opposite teeth of the cog-wheels driving machinery, then the proportion of pith to wood is mostly correct in regard to quantity, and of the highest quality; but let more food be absorbed than is or can be elaborated, and an excess of pith is one of the immediate results of the upset of the constitutional balance between these two workers. If this be so, may not the incessant removal of growing shoots and leaves have a good deal to do with the growth of too much pith in grape-vines? Growth is an expending function; it takes of things provided by the roots, and converts them into wood, leaves, tendrils, and fruit. In our anxiety to force all the strength of food, about to be used up and exhausted on new or more wood, into the fruit, may we not weaken the vine, and outwit ourselves, by forcing an undue development of pith?

But then it would also seem that the growth of pith is partly constitutional, geographical, geological, and climatical. As to the first, experience can almost authenticate the fact that each Vine has its specific amount of pith. The relative ratio of pith to wood varies in Hamburgs, Muscadines, Muscats, Syrians, Alicantes, Trebbianos, Lady Downe's, &c. Not only the amount of pith, but its quality, and even colour, seem slightly to vary in each variety.

Again, the same Vines from different districts, counties, countries, differ in the relative proportion of pith to wood. It is needful to adopt this exact formula, because merely to say that Vines grown over a wide geographical area differed in the amount of their pith might mean anything or nothing—as, for instance, that the size or specific gravity of the wood of the Vine varied in different countries. But it will be observed by those experienced in vine-wood, that the pith varies relatively to the size of the wood, and in different varieties, in a very marked manner, within distances of comparatively few miles.

Geological formations affect the pith of Vines, even more than geographical distances. Of course, the two are also often found acting together. But perhaps the soil is the most potential influence in determining the amount and quality of the pith of Vines. I hope my friends Mr. Ingram, of Belvoir, Mr. Tillery, of Welbeck, Mr. Cramb, of Tortworth—who have made this matter an especial study, as far as the influence of lime on Vines is concerned—and other experienced vine-growers may give their experience on this point, namely, the effect of geological strata, or of surface-soils, or of both, on the pith of the grape-vine.

The effects of climate on pith must of course be close and potential, if the supposition be true that an excess of pith may be largely owing to a disarranged balance between absorption and elaboration: or in other words, the absorption of food and its conversion into plant-substance or products. Light, and to a lesser extent, heat, being the chief transforming agents, of course the respective amounts of hard wood, soft pith, good fruit, or plump buds produced in a given time or season, must ever be of variable quality and quantity, as the active agents in their production are strong or weak, unobstructed by cloud or vapour, or otherwise. Climatic changes resolve themselves chiefly into differences of temperature, light,

and moisture. The influence of the latter on the pith of Vines can hardly be over-estimated, for water is not only plant-food, but the great liberator and preparer of nearly all other sorts of aliment for plants. It also controls, moderates, or retards the processes of converting that food into produce. In excess it lowers the temperature of plants, probably obstructs the entry of light, and may thus, directly or indirectly, lead to the formation of an excess of pith. For the amount of light that is utilised by plants is assuredly the measure of their effective work, and governs the character of their products; while an excess of water within plants, or any portion of them, puts the drag on work, and hence, to a large extent, the influence of climate on the growth and character of all vegetable products.

But these suggestions are offered, and I trust will also be accepted as mere guesses at truth, in a region in which our ignorance is dense, and our certain light *nil*, or almost so. Hence, if they do not reach the pith of the matter, I hope they may nevertheless prove useful in enabling us to discover, perhaps, in the future, with more practical advantage than we have been able to do in the past, what is the matter with the pith, when that seems faulty or in excess. For it is highly probable that many cases of shanking and of failure, may have their cause in the pith of the Vine; and if so, we must look for means of improving the pith as nearly as possible out of the Vine, as the likeliest way to a cure, for it will be generally accepted as an axiom that the less pith the better.—
D. T. FISH, *Hardwicke*.

VILLA GARDENING FOR MARCH.

A HUNDRED activities are now at work in the garden, and signs of movement abound on every hand. The old proverb tells us that "As the days lengthen, the cold strengthens," and there are signs abroad that a spell of cold, perhaps severe, weather is at hand. The gardener must, therefore, be watchful, for things are getting very forward, and protection will be necessary if frost sets in.

The Cold Greenhouse: Let us look round, and note what we have in bloom. There are Primroses, Polyanthuses, *Triteleia uniflora*, *Leucojum vernum*, *Myosotis dissitiflora*, *Aloe variegata*, Hyacinths, *Scilla bifolia*, and *S. sibirica*, *Primula denticulata*, and several varieties of *Crocus vernus*. The foregoing represent a number of subjects that can be had in flower at this season of the year in a cold greenhouse—such a house as forms a part of many villa residences. Then to succeed these there are Auriculas, various species of *Primula*, such as *P. pulcherrima*, *marginata*, *nivalis*, *intermedia*, and *amæna*; *Dodecatheon Meadia*, *Anemone fulgens*, *Tropæolum tricolorum*, and others too numerous to mention. And lest it should be thought this is a fanciful picture, let it be remarked that it is drawn from actual facts, and the enjoyment to be derived from such a floral possession is possible to many who have a fondness for flowers. A free circulation of air is necessary, and green-fly needs to be hunted out of the plants. In drying weather a supply of water is necessary, and any flowering plants should be shaded from the sun when it is warm and drying at mid-day.

The Warm Greenhouse: This should be gay with a great variety of floral expression. Hyacinths, Azaleas, Camellias, Tulips, Narcissi, Cinerarias, *Hoteia*

japonica, Ericas, Epacris, &c., should be now in full bloom, or rapidly advancing to flower. Drying influences abound, for the sun shines out warmly, and the air is at times crisp and clear, and the soil in the pots soon dries. Watering at the roots, gentle syringings overhead, a free circulation of air suited to the weather, and shading as required, will now demand close attention. A kind of frame or pit in the warmest part of the house is of very great service for propagating-purposes, and cuttings of soft-wooded plants placed in pots or pans of a light sandy soil soon take root, if kept in them close and moist. Balsams, *Primula sinensis*, Amaranths, and other tender things can be sown preparatory to a summer service. Cleanliness is all-important; nothing is so offensive in a greenhouse as plants in a filthy condition.

Cold Frames: Here, as in the greenhouse, watering needs constant attention. What ought to occupy the cold frame at this time of year? Among many useful things may be instanced Carnations, Picotees, Pinks, Phloxes, and Pentstemons, raised from cuttings the previous autumn, as well as store-plants of bedding Lobelias, Hollyhocks, Delphiniums, &c. Happy are they who wintered their Pinks in cold frames, rather than trusted them to the tender mercies of the wet winter in the open ground! There has been a terrible loss among Pinks, and some collections are nearly destroyed. It will soon be necessary to get some of the hardiest plants out into the flower-borders, to make room for such of the bedding plants that will have to occupy the frames during the hardening-process.

Flower Garden: That most interesting part of a flower garden; the mixed Border, having been cleared as recommended last month, many things, such as Pæonies, Crown Imperials, Lilies, &c., will be fast coming through the soil, and it will be well to throw a little litter over them when frost threatens. Various bulbs, such as *Bulbocodium vernum*, Grape Hyacinths, Dogtooth violets, single and double, Daffodils, and Crocuses are now in bloom; and Hepaticas, Aubrietias, Daisies, *Phlox verna* and *P. subulata*, *Saxifraga granulata flore-pleno*, &c., should be coming on to succeed them. There are a whole host of beautiful things of this kind—cheap in price, easily managed, and delightful when in bloom.

Seeds of certain things, such as Pansies, Pentstemons, Violas, Petunias, Marigolds, and anything of the kind used for the summer garden, should now be sown; among them, Wallflowers for blooming early next spring. As a general rule, Wallflowers are sown too late, and instead of March should be sown in January or February, to have flowers as soon after Christmas as possible.

Roses may now be pruned, or at least the China kinds. These require little cutting-back further than regulating and thinning the leading shoots, and cutting away weakly or stunted wood. The pruning of Hybrid Perpetual Roses should be postponed till the end of the month, or early in April, according to the weather. Clematises and other creepers should now be pruned and tidied up for the season.

Kitchen Garden: The planting and sowing of Vegetable crops must be proceeded with, as the weather proves favourable for doing so. Light soils can be worked in something like comfort, but heavy soils are still very clinging, owing to so much wet. Such soils should be broken up, so as to become dry enough for planting. Brussels Sprouts, Kales, Early Broccolis, Cabbages, Lettuces, Spinach, Parsley, and all requisite crops, with Peas and Beans for succession, should be sown as the weather serves, and the soil is got into a workable condition. The Early Pea and Bean crops will need hoeing between, as this proceeding greatly assists growth.

The pruning and nailing of wall-trees should be completed as soon as possible, as Peaches, Nectarines, Apricots, and Plums are fast coming into bloom.—D.

GARDEN GOSSIP.

THE annual general meeting of the Royal Horticultural Society was held in the Council Room, South Kensington, on the 13th ult., the President, Lord Aberdare, in the chair. The Council reported that the Scientific, the Fruit, and the Floral Committees had met during the year without intermission, and worked assiduously at their respective branches; and under their superintendence and direction, much valuable work had been done both in the garden at Chiswick, and at the meetings at South Kensington; they stated that they would continue to encourage the fortnightly meetings which form so great an attraction to all lovers of flowers, fruit, and horticulture generally, and at which may be seen all the novelties that have been collected by commercial or private enterprise. "The agreement entered into with her Majesty's Commissioners in April last authorised the Society to borrow £7,000 upon their guaranty of repayment, in case they resumed possession of the gardens. The Council have borrowed upon this security £5,000, which enabled them to pay outstanding liabilities, prizes and medals; so that on December 31 last, the Society had a balance in hand more than sufficient to pay all their outstanding liabilities. The Society may be said to have commenced this year without debt or liability (except that attaching to surplus income in respect of debentures), which has not been the case for very many years past." At the ballot which took place, the following gentlemen were elected:—Sir Charles Strickland, Mr. H. J. Elwes, and Mr. T. M. Shuttleworth, new Members of Council; Lord Aberdare, President; Mr. Henry Webb, Treasurer; Dr. Robert Hogg, Secretary; Mr. H. Champion, Mr. Henry Webb, and Mr. William Houghton, Expenses Committee-men; and Mr. J. Lee, Mr. Henry Little, and Mr. James West, Auditors.

— THE opening of the *Amsterdam International Horticultural Exhibition and Botanical Congress* is fixed for April 12. Those who intend to exhibit must notify their intention before March 1; and will have to send in before March 15, in duplicate, forms properly filled up, and which will be supplied to them. The articles must be forwarded carriage-free, and addressed to the Board of Commissioners of the International Horticultural Exhibition, Palace of Industry, Amsterdam, on April 6, 7, or 9. A jury, to consist of competent Dutch and foreign scientific gentlemen, will assemble on April 10, at 11 o'clock a.m. to award the prizes; and the exhibition will be open to the public from April 13 until May 2. The secretary is Mr. J. B. Groenewegen.

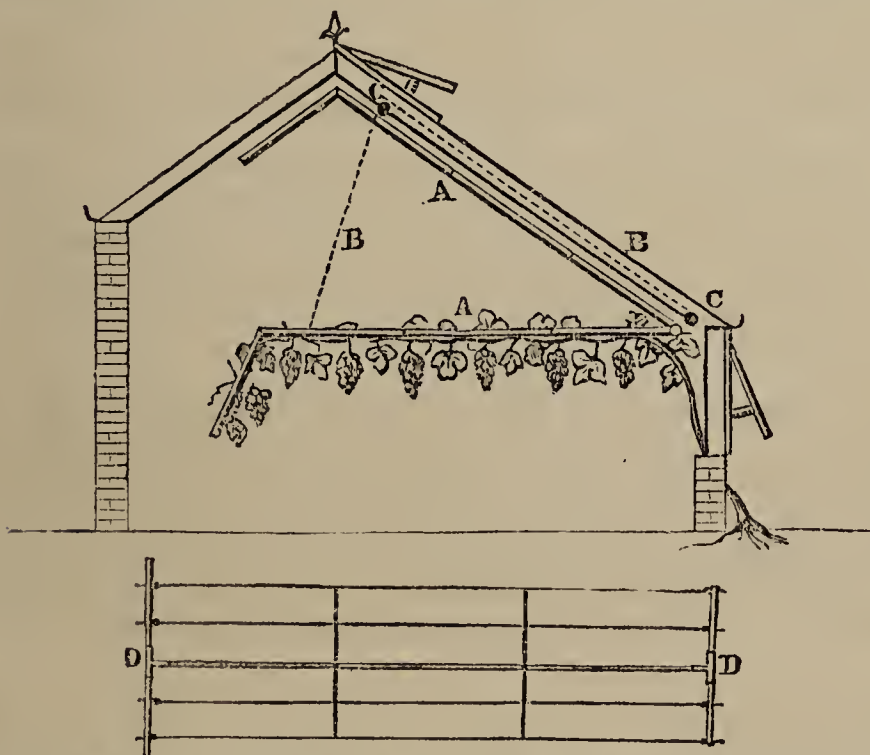
— IN *Dietz's Portable Heating Apparatus*, for warming small greenhouses, passages, &c., we appear to have got a very useful contrivance, much superior to the lamps sometimes recommended for a similar purpose. The apparatus is intended to be worked by means of paraffin oil. There is a burner in the centre near the floor, and over this a vertical tube or boiler, crossed by numerous smaller tubes; this is 3 feet high. On either side is a vertical tube of the same height, and these are connected with the boiler-tube by five horizontal tubes, making the extreme width 2 feet; at the base is another horizontal tube, the whole length forming a reservoir for the oil. The apparatus holds about 2 gallons of water, and with an inch wick burning about a quart of oil in 24 hours, this water is heated to about 200° F. in three-quarters of an hour. The escape of vapour from the heated water may be checked by a condenser, or when desired, it can be allowed to pass into the house unchecked. The apparatus is of block-tin, with ornamental cast iron feet. For garden use, in the case of the small conservatories attached to suburban residences, it seems very much to be preferred over those arrangements where the heating is effected by gas.

— THE *Cactus and other Tropical Succulents* is the name of a neat little treatise on succulent plants in general, by H. Allnutt (200 Fleet Street), which being issued at a low price, is just the thing to put into the hands of those who are commencing to grow or to study these interesting and peculiar types of vegetation. The work, which will readily drop into the pocket, consists for the most part of extracted matter, but the author honestly avows the fact, and acknowledges the source whence it is derived. In this way the writings of Loudon, Jackson, McIntosh, Thompson, McElroy, Hibberd, Grindon, and Croucher, all reliable authorities, are laid under contribution, and the latter gentleman furnishes specially for the present work some useful instructions how to destroy

the insect-pests which from time to time infest them. Amongst other things, the story is told of the monster Cactus at Kew, *Echinocactus Visnaga*, which weighed 713 lb., and measured $4\frac{1}{2}$ ft. high and $8\frac{1}{2}$ ft. in circumference.

— THE proposal to hold a *Carnation and Picotee Show in London* during the ensuing season has met with a liberal response, as did that of holding a Metropolitan Auricula Show. A preliminary meeting was held on January 31, at which G. F. Wilson, Esq., consented to act as president, and Mr. E. S. Dodwell as Hon. Secretary. At a subsequent meeting a schedule of prizes, prepared by Messrs. Turner, Dodwell, and Douglas, was adopted, and this has now been printed, and may be had of the Hon. Secretary, 11 Chatham Terrace, Larkhall Rise, Clapham. There was a fair prospect of success in this enterpriso, as no other opportunity seemed likely to be afforded for such a meeting. The schedule extends to some 10 classes, embracing ninety-one prizes, the money value being something over £54. The contributions amount to some 50 guineas, so that a further sum of from £18 to £20 is needed to meet the prize list, and necessary expenses, which it is hoped may be forthcoming shortly, so as to place the committee on safe ground.

— THE accompanying figures represent *West's Patent Adjustable Trellis*, an invention of Mr. J. F. West, of Reigate. It is a contrivance likely to be useful to amateurs, since it does away with the, to them, often inconvenient use of



ladders and steps in the manipulation of their Vines, whether it be the tying-in or adjustment of the shoots, or the tedious work of thinning the berries, by admitting of the Vines being lowered to any convenient height. The lowering of the trellis cannot in any way injure the stem of the Vine, if trained as in the drawing, the deflection being very slight. The trellis may be constructed of either iron or wood; the former is preferable in many respects, as it combines lightness of appearance with strength and durability; it can, moreover, be fitted to any shaped house. In the figure, AA shows the trellis in position and lowered; BB the chains for lowering and raising; and CC the drums and pulleys round which the chains work. DD shows the form and construction of the trellis itself."

— THE *Schedule of Prizes for the Auricula Show*, to be held on April 24 at the *Crystal Palace*, as a Southern offshoot of the National Auricula Society, is now ready, and may be obtained from the Secretary, Mr. E. S. Dodwell, 11 Chatham Terrace, Larkhall Rise, Clapham, S.W. The classes have been framed to suit growers of every grade, so that if the competition is at all what may be expected, the show will be a most interesting one for the lovers of the Auricula, much more so than any which has taken place in the South of England during the present generation at least. It has been decided to adopt as few restrictions and limitations as possible, in order to secure greater breadth of and variety in the several classes. The chief of those adopted are:—To require *dissimilar* varieties in classes containing two or more plants; to permit only one truss in Auriculas, but not to limit the trusses in the classes of Alpines; to admit shaded and unshaded varieties amongst these latter, and not to confine Polyanthus to the gold-laced types. In every class it is desired that the best should win, and so that the leading properties are not violated, no rigid or fast rules beyond those indicated above will be observed. The premier class will be that for twelve dissimilar varieties. As regards dissimilarity, it may be mentioned that although the committee does not in this case bind the exhibitors to show an equal

number of the four usual types, green, grey, and white-edged, and selfs, or even representatives of each, yet those who best illustrate these several types will assuredly come nearest to the specified limitation, that of dissimilarity. The success of this attempt to organise an Auricula show in London is very encouraging.

— AMONGST the new Potatos, *Hooper's Covent Garden Perfection* is highly spoken of. It was raised by Mr. Clarke, of Cranemoor, and is described as being of a flattish oval form, very level-eyed so as not to waste in paring, of medium and uniform size, with a rough skin, and great specific gravity. This variety, while unquestionably handsome and holding a high position as an exhibition tuber, has the more important qualification of bearing the ordeal of cooking, since it comes to table as a "ball of flour," and having that chief requisite—a good flavour.

— IT is announced that the stock of *Laxton's Seedling Pelargoniums*, including *Vesta* and *Mrs. Trevor Clarke*, which have been awarded First-class Certificates by the Floral Committee of the Royal Horticultural Society, has passed into the hands of Mr. R. Gilbert, of Burghley. His named and certificated *New Roses*, viz., *Mrs. Laxton*, *Charles Darwin*, *Emily Laxton*, *Dr. Hogg*, and *Marchioness of Exeter*, have become the property of Messrs. Paul and Son, of Cheshunt; while Mr. Turner, of Slough, has acquired all the unnamed seedling *Roses*.

— THE *hardest of the Tritomas* has been ascertained, by Messrs. Backhouse and Son, of York, to be *T. Rooperi*. It was found that while the flower-spikes of the other kinds, namely, *T. Uvaria glaucescens*, and *grandiflora*, succumbed to the first frosts, and drooped and withered at once, those of *Tritoma Rooperi* bore the same low temperature uninjured, and many plants of this species have bloomed through the winter in Messrs. Backhouse's nurseries. *T. Rooperi* is a dwarf plant, from 1½ ft. to 2 ft., well adapted for positions in groups or borders where the taller kinds might be considered *de trop*. It commences to flower later than *T. Uvaria*.

— FROM the report and balance-sheet issued by the Committee of the *Hailstorm Relief Fund*, it appears that the total amount raised for the relief of the sufferers in the neighbourhood of Tottenham was £779 18s. 7d., of which £699 15s. 8d. was distributed among forty-one persons, in sums varying from £111 4s. 10d., the highest, to £1 7s. 3d., the lowest. The total amount asked for by those who suffered damage was upwards of £2,000, but the Assessment Committee carefully investigated each case, and acted accordingly.

— THE exhibition of the *Richmond Horticultural Society* is fixed to take place in the Old Deer Park, Richmond, on the 28th of June next.

Obituary.

— MR. WILLIAM MELVILLE, of the Tyneville Vineries, Jersey, died on January 27, in the sixty-sixth year of his age. Mr. Melville was for thirty years gardener at Dalmeny Park, near Edinburgh, and retired about eight years ago on a handsome annuity from the Earl of Rosebery. He was an enthusiastic cross-breeder of plants, particularly of the Brassica tribe, and sent out, amongst others, the *Albert* and *Roseberry Sprouts*, and a very superior *Variegated Kale*. He was also the raiser of the *Muscat Champion Grape*, and in early life was one of the first to improve the *Pansy*. Of his fifteen children, six were brought up as gardeners.

— MR. JOHN HARRISON, of the North of England Rose Nurseries, Darlington, died rather suddenly, at Catterick Bridge, at the advanced age of seventy-six. As a Rose-grower he stood deservedly high, and was an efficient supporter of most of the principal exhibitions in Yorkshire and Northumberland, besides other parts of England. Two of his sons have been brought up to the nursery business.





W. & A. G. B. 1840

Chromo. Savoyne. 1840

White Calville Apple.

WHITE WINTER CALVILLE APPLE.

WITH AN ILLUSTRATION.

WE have in this one of the handsomest and best of Apples—one, moreover, which can be depended on as a valuable dessert fruit in the winter season, since it may be placed on the table in good condition from about Christmas until Easter. There is a peculiar delicacy in the tender melting flesh, and grateful aromatic lemon flavour, almost making one fancy while eating a fruit which has just arrived at a fit condition, that he is taking a lemon ice while sniffing the flowers of *Magnolia grandiflora*.

This Apple is very successfully cultivated at Trentham, by Mr. Stevens. It is grown in pots, which are stood at intervals along the long ranges of peach-cases, which cover so large a proportion of the garden-wall at that place. They have, therefore, virtually orchard-house treatment, and well they repay all the advantages which are accorded to them, as the result is a supply of fruit such as that represented in our plate, which is drawn from a specimen kindly furnished for the purpose by Mr. Stevens. One of these pot-grown trees was produced a few weeks since at South Kensington, showing the crop it had matured last season, and as an example of successful management, was voted a Cultural Commendation.

The fruit is of large size, with broad unequal ribs extending from base to apex, where they terminate in prominent ridges. The skin is of a pale delicate yellow hue, becoming when fully matured a bright golden yellow, strewed with brown dots. The eye is small and closed, with pointed segments, set in a deep-ribbed basin; the stalk is three-quarters of an inch long, slender, inserted in a deep angular cavity lined with russet. The flesh is yellowish-white, very tender and delicate, full of juice, with a lively aromatic flavouring of lemons. It is not only an excellent dessert fruit, but is also adapted for all culinary purposes.

This variety is much recommended as a cordon on the French Paradise stock, for which and for pot-culture it seems better adapted than to be grown as a standard tree.—T. MOORE.

THE AURICULA.

CHAPTER XII.—ON THE EVE OF BLOOM.—TREATMENT.—PACKING FOR EXHIBITION.

ARE there not circumstances, times, and seasons in which, though hopes and anticipations are not quite fulfilled, yet they are so in such large part as to make us feel well content? In the near grasp of the whole, we are able to bear, nay, luxuriate in that very delay which is short enough and near enough to the pleasure to belong to it, and even make it seem all the greater.

Is it not thus with the schoolboy when he has just started for the holidays, and the next station is *Home*? Is it not thus with happy lovers (N.B.—These

sort of people always *are* "happy,"—by courtesy, at any rate), when the one has, in profound meekness, put the fateful question, and the other has gently settled it? And is it not thus with the florist also, as his green buds flush with colour, and the bloom breaks gradually over the breadth of his plants, like the summer sunrise, that catches first the peaks upon the hills, but spreads and brightens by degrees, until at last the whole scene of hill and dale, and winding silver river, lies beautiful in the light of the blooming day?

Florist flowers almost put a girdle round the year. It is not a very long gap between the last Chrysanthemum and the first Auricula, or her earlier sister, the Polyanthus; while other flowers, such as the Camellia and Cineraria, possessing florist properties, in some degree, fill up various intervals.

With the Auricula, we enter upon the blooming-season that will stretch into the far summer with the Carnation and Picotee, and into the late autumn with the Dahlia and Gladiolus. There will be gayer floral scenes for us than the coming one, but nothing will overlay the fair memories of April with the Auricula, not even the witcheries of the ever-changing Rose.

As I have only one emerald-edged pip of grand old Champion (Page's) in flower as I write this, I am unable this time to describe the bloom from sight, though I might do so, after a manner, by drawing on the past, as stored in memory and notes, or by anticipating the promise in the future as folded in the buds, fast rising now upon their stems. However, I will ask the Editor, who has so long entrusted me with space within these pages, to grant me a little more. [Most gladly, ED.] I am like the boy near home. The bloom is all but in sight! Let us go slow!

With a good deal of snow, and frost enough to skate by, March has not been more like a lion than a Polar bear. The plants, however, have been growing finely through it, for I thought it well to take the chill off those few nights here, with their 12° to 18° of frost, so kept a quiet fire on, which I only use for Auriculas as an auxiliary for the outside shading, when that is not protection enough in sharp spring frosts.

The work with these plants in April is indeed welcome work, guiding them through their bloom in constant recollection that, though the plant itself is hardy enough, yet the bloom is tender and easily injured. Every grower, whether of a dozen or a thousand plants, and whether he means to exhibit or not, should be determined to take as much pains as if he did. Nothing less will make the bloom satisfactory to him. It is the poorest mistake, and the most pitiable of excuses, to say, "I do not grow them for exhibition, so they will do well enough for me." No one is fit to be trusted with a plant, any more than with a dog, if he means to ill-treat it. Like a dog, it is a good thing thrown away upon him, and the sight is grievous.

The plants may be kept pretty freely supplied with water during April. Let it be at least as warm as the air that surrounds them. They will soon be throwing out very strong new roots from the higher parts of the stem, and these

are to assist the bloom. Care must be taken to afford these important roots every advantage. See that they are not washed bare, or suffered to die back from want of earth at starting. In the Polyanthus the whole well-being of the plant depends upon the encouragement given to these neck-roots, and in the Auricula, also, they are of very great moment. The supply of air must be the freest possible, and then the quick-growing foliage, and the rapidly-rising stems will harden as they grow, and the plant will keep its natural, self-supporting habit. If in doubt about the wind, whether too rough, or cold, or not, it is best to be on the safe side, and protect the plants. Perhaps some of the ventilators open on the lee of the wind, or shading material to break the force of it can be arranged, as in my own case, to protect the openings and riddle the wind.

Another most important step towards securing a fine bloom is the timely and judicious thinning of the pips. Nearly every Auricula, large or small, will give more pips than it can properly, *i.e.*, completely and uniformly, expand. It is as unwise to leave a large truss of Auriculas unthinned as to leave every berry on a bunch of grapes. There is even no gain upon the whole in size; but much confusion and inequality. From five to eleven flat, distinct, and equal pips are a better show in every way than a crushed-up ball, where hardly a blossom stands out conspicuously as it should do, in all its outlines. Thinning-out must be a daily amusement, a gradual operation among the plants, and gradual, too, as regards each plant. There is some responsibility in choosing what pips shall stand, and the best cannot with certainty be picked out when the operation first becomes beneficial, which is as soon as the pips can easily be separated, and worked among with a pair of narrow scissors. The small central pips, and such as may be laid underneath the larger ones, will be the weakest both in size and properties.

In the edged flowers, pips thus placed will often be too heavy in body-colour, and correspondingly deficient in edge. There is also a tendency among the green-edges to throw meal on the edge of the innermost pips—a fault against one of their highest properties—purity. Innermost pips may, therefore, as a rule, be cut out. Be very certain that you have only one little neck within the clip of the scissors, or to your blank dismay, two heads may fall instead of one; a small inaccuracy may bring about this catastrophe. Pulling pips out is not always safe; if the direction of the pull is not perpendicular to the set of the pip, several buds may be torn off with it whose foot-stalks lie close by. There may be a violently disproportionate leading pip, or one with an oval turn and an inclination to corpulence, evidently more or less a double pip. Such should be removed, for the relief of the regular ones.

Even pips of every promise in the folded bud may yet prove faulty inside. There may be a hare-lipped tube, or some serious flaw in the paste. For instance, in Pizarro, richest of brown selfs, and such a round serene flower, there are often yellow round spots in the paste quite bare of meal. In Page's Champion, a most delicious emerald green-edge, there will occur rents in the paste, where the petal

segments cut into the quick. In Prince of Greens, a splendid pip or whole head, will come, with a "blanket eye," *i.e.*, hardly meal enough in the paste to cover the ground, which has thus a baldness of its own (as much as we have!). In choosing pips, therefore, all these and other contingencies are to be allowed for, in the face of which one rude, rough thinning-out would be very poor, and rueful practice.

No Auricula, however strong, should be allowed to carry more than one truss. The second would be a terrible pull upon the plant, which would have to heart past it, and would feel the effort acutely. Such pips would also be of very inferior quality, and they should be removed by cutting or rubbing off when they stand on an inch or so of stem. If the whole second head were cut short off, it would die by soft green-rot into the heart and probably cause the death of the plant.

When the bloom is opening, there is one very unwelcome visitor, and that is the bee, especially the humble, or "bumble," as he is generally called. The sight of a "bumble" upon a white-edged Auricula is a horror. Scratched by his horny legs, blurred by his humming wing, the fair flower is an irreparable ruin. I dare leave no aperture unprotected by perforated zinc-slides or shading material against the busy bee.

In this connection I will utter a warning cry against another possible intruder—the baleful cat. Who among us does not know him in the garden for an evil beast? He is a very valid reason, beyond that of untrusty April weather, for keeping the Auricula-house safely closed at night. He will otherwise regard it as a benevolent institution, erected, on the principle of a "cabmen's shelter," for the accommodation of himself and his vilely tuneful brotherhood on uncomfortable nights. He casts an admiring eye, just now, upon the newly-planted Ranunculus-bed, as being beneficently arranged for him to scratch up. He reconnoitres the freshly set-out pots of Carnations and Picotees, and discovers splendid strategic positions among them which he may utilise when on the war-path; and unless we fortify our treasured plants by screens or thorn-twigs, or something proof against him, we may find ruin wrought among them; their beauty trodden in the dust, like the purple and gold of vineyards and corn-lands on deadlier battle-fields.

Unlike the midnight cat, the florist himself is most welcome among his plants at night. He is not the man to subside too easily into the warm retirement of dressing-gown and slippers in the evening, nor to sleep heavily into broad, sunny, summer mornings. Early morning hours are golden opportunities in the garden, and so is an hour after dark. My "garden lamp," trimmed at sun-down, is an institution of the household, and I hardly miss a night the year round in looking the plants over, if I am at home. There is as little tax and trouble in it as the mother finds in quietly slipping upstairs now and then to see that the little one is asleep and safe from nightly harm. The florist, indeed, should be the glow-worm, the veritable "Jack-o'-Lantern" of his garden; and then, instead of moaning in the morning over the mischief of the night, he is often in time to

stop it. Great is his reward, as the light falls on some glistening snail nearly arrived at an Auricula-bloom. Why, the gleam from that cold slug is as rich in its way as the sparkle from a diamond, for that vagrant is "wanted," perhaps, on several charges of mischief, and watchfulness has secured him at last.

The amount of sun the plants may have until in full bloom, when they should be shaded from all, may be regulated by the amount the foliage will bear. Any intensity of sunshine that begins to take the gloss off the leaves is more than enough, but that, in the early morning and late afternoon, is safe.

Every effort will naturally be made to prolong the bloom, and yet some very awkward weather for this purpose is almost sure to occur. Days when the sun is bright and the wind is cold may perplex the beginner. If he open the house, the wind is too much for him, and if he shut it, the sun is masterful. I compromise the matter by pulling down the shading and ventilating the house under it.

A word as to a method of packing and carrying the plants for exhibition may be useful here. The trusses are first tied to a slight stick, wrapped with cotton-wool at all points of contact with the stem, so as to avoid any abrasion. Soft worsted is used for tying. The stick should reach up to the foot-stalk of the truss, on which the pips are very carefully parted, with light puffs of cotton-wool gently placed between each pip. Every one must be so embedded as to be beyond the risk of rubbing or being rubbed by its neighbours. The plant is then turned out of the pot, and any soil free of roots removed. The ball is wrapped in damp moss, and tied up securely, the label being inserted for identification, if need be. The plants are then packed side by side as closely as they may be in a box, always carried in the hand, and are then ready for their eventful journey. My boxes open down the side, and are fitted with a drawer, in which I first pack the plants, and then return the drawer with them in it to its place.

As far as exhibiting goes, the Auricula has a brilliant season before it, with the two shows of the National Auricula Society, one South and one North. May all go well with all of us, for everybody has a chance.—F. D. HORNER, *Kirkby Malzeard, Ripon.*

ABUTILON BOULE DE NEIGE.

AT no period in the history of gardening has there been such a steady, I had almost said an inordinate, demand for a continuous supply of cut flowers as at the present; and in the depth of winter it is a great advantage to have something to depend on which will flower freely and naturally, with the minimum of assistance. In the *Abutilon Boule de Neige* we have one of the most useful plants for our purpose, as it is of easy management, and a free and continuous blooming habit; it is, moreover, not liable to disease or insects, while its beautiful white crocus-like flowers are suitable for any purpose.

Cuttings struck at any time during the spring in a little heat make the most useful plants. They like a warm greenhouse treatment through the summer, and a natural rest about August and September prepares them for their winter treat

ment, which is simply to give them a moderate stove-temperature, in which they will produce a good succession of flowers. After a little exhaustion, they will, if still kept in a warm place, again give another supply, and by having a few plants introduced at intervals a good succession is secured.

I find them do well in a light loam, with a little leaf-mould and sand, but almost any soil will be found suitable. Planted out in the borders of a conservatory, and grown either as a bush or trained to the back wall, the plant grows well, but for continuance in flowering a batch grown in pots is preferable.

I may here mention another valuable plant for winter flowering, not half so much grown as it should be—*Habrothamnus fasciculatus*. Planted against the back wall of a greenhouse, and its summer shoots not stopped, it flowers profusely. the colour contrasting well with lighter subjects.—J. W. LAURENCE, *Newstead Abbey, Nottingham*.

CHAMÆPEUCE DIACANTHA HARDY IN HANTS.

THIS plant has withstood the winters of 1875-6 here, and it seeded freely last summer, from which seed we have at this time (February 26), young plants. There are also plants which were raised in the spring of 1876 which have had no protection whatever this winter, and are now healthy and strong. The winter of 1875-6 was a cold and protracted one, and the present one has been remarkable for mildness and excessive rainfall, so that this *Chamæpeuce* seems to be quite hardy, though it has been classed among plants requiring the protection of a frame in winter, or as being only a half-hardy biennial.—HENRY CHILMAN, *Somerley Gardens*.

PEACH DESSE TARDIVE.

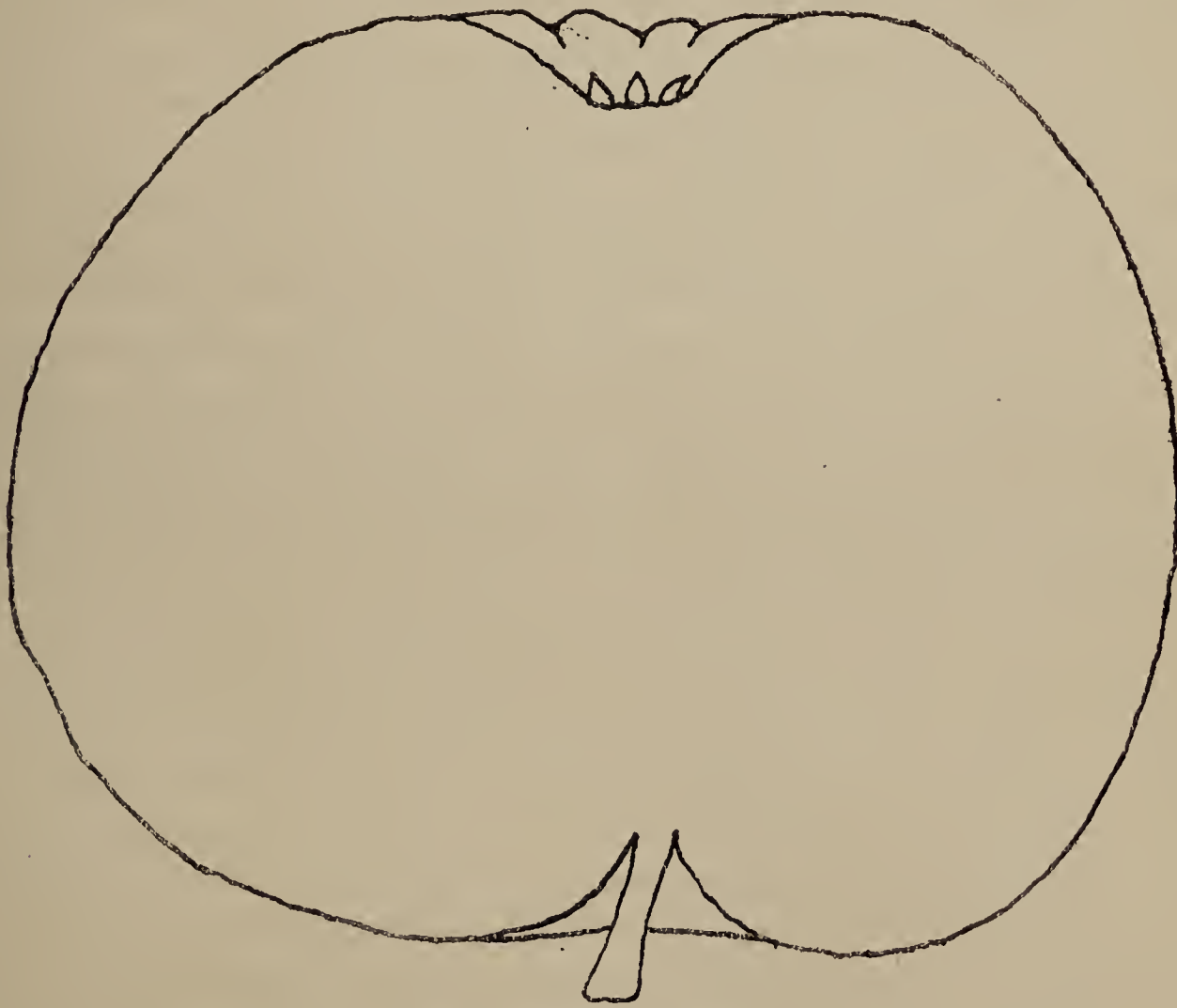
ALLOW me to recommend what is to my mind the best late Peach in cultivation—*Desse Tardive*. It is not a new variety, were it so, its sterling merits would soon become better known. I have not been able to trace its exact history: only it hails from France. Every Peach-cultivator knows the excellent qualities and fine appearance of the Bellegarde and of the Royal George. Well, this *Desse Tardive* Peach is very similar in appearance to the Bellegarde, having the same shape, with a brighter colour, and with the same texture of flesh, and the same excellent quality, but it comes into use some weeks later. It might, indeed, very appropriately be called a late Bellegarde. Now, a late Bellegarde is a great improvement—for open-wall culture especially—on the Barrington and Late Admirable, which ripen about the same time. These two latter are suitable enough, and very excellent for house-culture, but when grown on the open wall they have an ugly greenish look about them; and it is only a certain proportion of them that are of average quality. They are coarse-grained at the best. There is a wonderful drop-down both in tone and quality, from the mid-season Peaches of the Bellegarde type to the late varieties as at present cultivated. This *Desse Tardive* will carry on the good appearance, and the good quality, to the end of the Peach season—till October.

Dr. Hogg says, in the *Fruit Manual*, of the *Desse Tardive*:—"Ripe in the end of September and October." "This is one of the very best late Peaches." At Chiswick this season it fruited on the open wall, two small cordon trees producing eighteen fruits, which were gathered on September 30th. They were all large and highly coloured, and of most excellent quality.

Here is a speciality worthy of the attention of some of our enterprising nurserymen.—A. F. B.

THE STRIPED BEEFING APPLE.

THIS may be considered a Norfolk apple, the original seedling tree being first noticed in the neighbourhood of Norwich. It is a large kitchen apple, and keeps nearly as long as the *Norfolk Beefing*, but is more juicy and better suited for cooking purposes; besides, it is much larger. This may be seen by the annexed outline of a full-sized fruit.



THE STRIPED BEEFING APPLE.

I have grown the *Striped Beefing* for many years, and seldom found it fail in fruitfulness, though in general the crop has been below that of smaller kinds, but equal to that of some of the large sorts. The fruit on the sunny side is of a mahogany-colour, while the shaded side is striped with tinges of red and greenish yellow. The stalk is very short, and the eye set in a deep basin; in fact the apple somewhat resembles the *Mère de Ménage*, another large-fruited variety worthy of notice. I have mentioned the *Norfolk Beefing* in order to notice that this is

perhaps the best kind of apple for baking or drying purposes, and when of full size always fetches a good price. I have known Beefings bring 20s. a sack, while other kinds sold for 5s.

Norwich is famed for drying or preserving Beefing apples. I am not exactly acquainted with the process; still I know that the apples are picked nearly of equal size and packed on the top of each other in tin cases, and are weighed or pressed down during the process of baking, but as in many other operations, the chances of success depend upon practical experience.—J. WIGHTON, *Cossey Park*.

ROELLA CILIATA.

THIS is a pretty and distinct-looking plant, when managed with success. It is not, however, held in favour with some cultivators, in consequence of its tendency to become rusty in the foliage; but this is caused either by the plant being placed in too cold a draft, or by allowing it to become dry at the root. To begin with a young plant, it should be one not too much pot-bound. April is a good time to give a shift into a size-larger pot, using for soil good fibry peat, with one-sixth of its bulk of loam, and adding to this a liberal quantity of sharp sand. Give ample drainage, and after potting place the plant in the greenhouse near to the glass, and where it will not be subjected to cold currents of air. Slightly bedew the plant with the syringe on the afternoons of bright days, and pay careful attention to watering at all times. Take off the tops of all shoots gaining an undue lead, in order to equalise the growth of the plant. As soon as the roots have reached the sides of the pot, give another shift, and proceed to treat as before directed. If stopping is discontinued by the last week in May, the plant will bloom in July, and its pretty bell-shaped flowers will well repay the cultivator for the attention bestowed on this *Roella*.—HENRY CHILMAN, *Somerley Gardens*.

CULTURE THE CHIEF SOURCE OF IMPROVEMENT.

THE subject of the improvement of races, whether amongst animals or vegetables, is, to say the least, one of great and abiding interest. It seems to me, however, that one view of the subject has never had due weight accorded it by horticulturists. I disclaim any desire to uphold the theory of evolution beyond the limit to which the ideas herein expressed may lead. My proposition is that cultivation—cultivation pure and simple, and apart from cross-fertilisation—has a far greater influence upon the improvement of races than we are accustomed to accord to it; and that herein “cause and effect” are so intimately associated as to be inseparable, whatever hybridists and others may advance to the contrary.

That the hybridist lays far greater weight on the process of cross-fertilisation than on all the arts of culture, I need not attempt to prove, since it is well known that a successful cross is regarded by him as the only road to the attainment of his successful “breaks,” and he holds that by the aid

of this process alone he is "master of the situation." We must admit that crosses are effectual in producing variety, but I think I shall prove that without the aid of culture they are incapable of yielding more than very primary results, though as it would appear that we live in an age of results, we cannot tell what a season may bring forth.

With the battle of races in their normal forms, or of weeds in their "wilderness-homes," I have nothing here to do. There the fight is to the strongest, though it appears to be but a natural guarantee against rapid progress, that weeds, even though they be the strongest, shall so increase as to kinds, as to become themselves barriers to the improving advance of each other, and that thus the "curse" of briars and weeds is indefinitely perpetuated and upheld without any kind of extraneous aid. Cultivation alters all this. If we single out a plant and give it changed soil and situation, a marked improvement will become manifest before very many years, an improvement such as would never have taken place had it remained in its native soil, doing indefinite battle with others of its kind. Even among human beings, we find that progressive change does not go on without some kind of cultural incentive foreign to the individual. What the moral or the mental incentive is to the human being, such is the influence of culture to the plant; and it rests for ever a normal form, or changes to a better, as these are given or withheld.

In confirmation of this, I may note that we profit by taking advantage of such subjects as denote marked changes. For instance, there are the double forms of very many normal single-flowered plants, as the Daisies, Primroses, Pelargoniums, &c.; these singular sports, as beautiful as they are permanent, are begotten, as none will deny, of cultivation. Observe the old Sweet Scabious, cultivated for a century or more, and persistently constant, but it yields at last, and we now possess a lovely variety, which goes on increasing in beauty and size, now that once the normal form has been forced to develop new features by continued culture. Gradually the inner crown of florets has gained in size and consistency, until now we produce blooms of the choicest character from simple seed-sowing.

Turn to the Fuchsia. It is not many years since the first plant was bought of the sailor's wife, and fewer still since the first double form appeared, but now that constant and good culture is assured, we have "Avalanches" and similar immensities as abundant as "new moons." Again, in reference to the lovely forms of double-blossomed Pelargoniums, of the type of Bedding Pelargoniums more particularly, we all remember, a few years back, the appearance of the first double, or in other words, the first "break;" yet how numerous have they already become! Take, again, the Rose, Pyrethrum, and later still, the Portulaca; but lately the latter was constantly a single flower, yet to-day it may be found constant in many double forms. What is more, these double-flowered plants are self-seeding, and hence self-producing in endless variety. Let the mind's eye wander over the fields of Hollyhocks, Dahlias, Sunflowers (in the culture of which last the Abyssinians have gained a century on us), and the Potentillas,

Lobelias, Clarkias, and even Sweet Williams, do they not all point to "culture"—decades of culture, it may be, all-important in its ends, and in its capacity for improvement far beyond the vaunted results of hybridising. We know that persistence in seed-gathering and seed-sowing, which is but one form of asking Nature to unlock her stores of jewels, garnered of long cultivation, has given these results, but seedling manipulators have claimed them as being gained of intricate crossing, clever interbreeding, &c., though they are as far beyond their reach in a majority of cases, as they exceed their expectations. Truly in past CULTURE lies the riches of the florist, and he needs little but space of ground for seedlings, and time and means to grow and bloom them, to realise this truth.

I admit that hybridising aids materially in producing new types, by the crossing of distinct species of plants, but it is not essential, if, indeed, requisite, for either the formation of double blossoms or the enlargement and rounding of the petals of existing varieties—including the improvement of existing types; while from a floral or culinary point of view, if it has had any influence in this direction, it is not nearly to the extent which is claimed. Long-continued and good cultivation is the mainspring of two-thirds of the successes which are realised, so much so, that culture and actual improvement ought to be regarded as synonyms. That the selection of seedlings—following out the royal road of high cultivation—is necessary to insure the most rapid progress, none can doubt; for by this means culture and progression go hand-in-hand; the means are acknowledged, and the reward, that is, the improvement, is hastened.

If I have opened up a new channel of thought for young aspirants, let me also add that they can hardly hope to succeed thoroughly, unless they use judgment in the selection of subjects to operate upon—subjects that have been long under some kind of culture; but having made their choice, let them feed and maintain the seed-parents in the richest of soils, throwing all the vigour of the plant into a few seeds,—that is, adopting high-culture as the best possible method of obtaining an improved progeny.—WILLIAM EARLEY, *Valentines*.

NOTES ON MELONS AND CUCUMBERS.

IN the raising of so-called new varieties of Melons and Cucumbers, as in the making of books, there seems to be no limit. I believe, however, as regards Melons and Cucumbers, that the supply is overdone, for there is really no advance made at the present time, either as to quality or productiveness. As far back as I can remember in Melon-growing, we had the old *Egyptian Green-fleshed*, and now in the green-fleshed section there is no modern variety better flavoured, and next to it, the *Beechwood*. Amongst the scarlet-fleshed Melons, what sort excels the *Scarlet Gem* for flavour? And some others, such as *Reed's Hybrid* and *Gilbert's Victory of Bath*, have, I have no doubt, some of the same strain in them, from their excellence. The seeds of the new sorts of Melons,

which are sent out at a stiffish price, very soon get hybridised and mixed, and then disappear as distinctive kinds in collections. I find the best and safest mode in Melon culture is to keep growing only the particular varieties found suitable for early and late bearing, free in setting, and of good flavour. To keep the seed of such kinds true to name, I grow a plant of each in a pot, and when they are setting their fruit, keep them isolated from one another. It is well known that it is quite a lottery to get Melons always of good flavour, for the same sorts differ much according to the season, soil, or treatment they have received. Perhaps the best test is to cut them before being quite ripe, and use them as soon as the stalk parts freely from the fruit.

With regard to Cucumber-growing, the new varieties now sent out yearly are but little in advance of older sorts, being recommended principally by their size and shape. For show purposes, these kinds are, no doubt, desirable, but for eating or stewing, such varieties as *Rollisson's Telegraph* and those of the *Sion House* section are to be preferred. Cucumbers of from 12 in. to 15 in. in length when young are quite long enough for use, and there is no waste from seeds; and they can be grown in this section as plentifully in the winter as in summer, in a properly constructed pit or house.

Some gardeners, I have no doubt, are in the habit, like me, of raising every spring an extra supply of Cucumber-plants to replenish their neighbours' or the cottagers' frames. I find they all ask now for the prolific short-growing kinds, as they can grow more fruit from them than they used to do when they tried growing longer varieties.—WILLIAM TILLERY, *Welbeck*.

ECONOMY OF SPACE IN SMALL GARDENS.

IN large gardens, where practical men of experience conduct the business, every pole of ground is turned to the best account, some being marked for two crops a year, and all told off for one heavy return of, say, ten, twenty, or even a hundredfold. But in the artisan's small patch of garden-ground, where heavy returns are most needed, we see both time and space wasted. Eighty or ninety days after Lady Day will give a crop of table Peas, and less time will mature a crop of Cauliflowers. Early Potatos will be fit for the table long before the ninety days are come and gone. Lettuce-plants run rapidly into use; boiled Lettuce is a tender vegetable, and as the plant has only to form leaves it comes early to perfection. So much for the reckoning as to time, and now for economy in space.

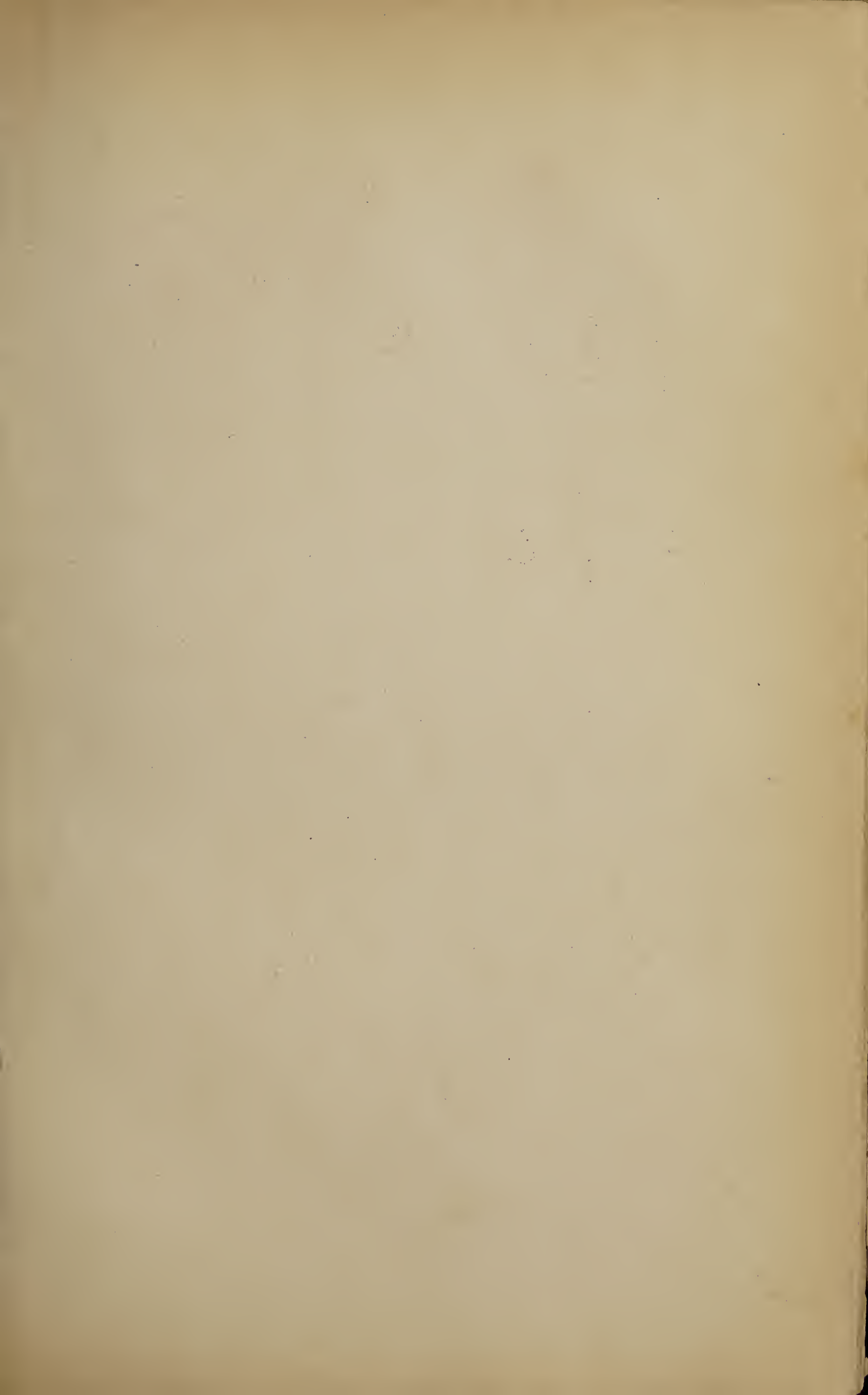
If we were to ask the farmer why he does not sow three seeds where he now sows only one, he would smile at our simplicity, and say that his crop would be less by so doing, and the quality would also be inferior. Flax is sown thick that the crop may be drawn up manifold and slender, as it is grown by the manufacturer for the fibre of its straw; but even flax has its limits, and requires a certain amount of space to develop its character. Now whilst all our kitchen-garden crops require room to grow and come to perfection, our aim should be to give

them just enough, but nothing more, and arrange if possible that one crop should come closely upon another, even if it does not lap over a little.

First, then, of the tall, cumbersome crop of Peas. These are usually separated row from row by a distance of 3 ft. or 4 ft., but by putting the rows 9 ft. apart, there is room left for a low crop between, thereby effecting a saving of at least 2 ft.; but if there be a pathway in the garden, by all means turn that to account by arching it over with pea-sticks, and then growing any of the tall-growing kinds of pea or scarlet-runner, interspersed with Nasturtiums, for by this means a beautiful vista will be obtained, as well as something more substantial for the pot. Where, however, a little expense can be gone to, I would advise the walks to be arched over, and fruit-trees and bushes to be grown. I advocated this plan many years ago, and have lived to see it carried out handsomely in high quarters, thus bringing the needful walks and paths into good service, economising space, and adding beauty to the dull kitchen-garden.

Another important item in the economy of space is deep cultivation, for next to width is depth, and mere delving a few inches deep for a crop of any importance is but a poor mockery. The roots go downward, and whatever food is to meet them should be set in their run. Trenching a foot deep and manuring well in the bottom of the trench, will give the crop a stay against changes of either wet or dry weather. In the case of Early Potatos, the season may be lengthened by forwarding the sets in flat boxes, kept in any warm room until the season admits of their being planted out. Acres are cropped in this way in Cheshire to catch the sale of new Potatos. Cabbages and Lettuces may be forwarded in little space, and gain some four or five weeks' time against seedlings. Turnips will be in good time if sown after the ground is cleared of Peas and Potatos. All the winter Broccolis are eligible for second crops, and Coleworts bring up the forlorn hope of a thick-set bed of heartless cabbage-leaves. In mild weather in autumn these will grow when most other vegetables are brought to a stand-still, and therefore seedlings should be kept in readiness to plant out wherever there is a spot unoccupied; for we shall find the land growing weeds, if we do not give it anything more profitable to do. Groundsel and chickweed flowering under a hedge in frosty weather, show the sluggard how nature pushes on the business of vegetable life under difficulties. A scarlet-runner Bean planted in a quart of good soil will run up a pack-thread against the cottage wall and flower and fruit freely; and should there be any corner not over-sweet, a plant or two of the Vegetable Marrow, whose home is on the manure-heap, will "hide the ruin that it feeds upon," climbing and holding fast to any sticks or branches, alive or dead, within its reach, and withal it will be found no mean dish for the dinner-table.

What I wish to impress upon my friends of the small holdings is to measure before-hand what time and what space each article will require, and sow or plant accordingly. If we take the case of a Drumhead Cabbage, it will take a square yard of space and a whole year of time to come to perfection; sown in August,





W.H. Fitch del.

Begonia Davisii.

planted out in the following March, it will yield the heaviest return of any crop, whether in field or garden; whereas the early garden Cabbages will do well with six plants to every nine square feet, and occupy the ground for only half the summer. Small salad, such as Mustard and Cress, may be grown in any shady nook, and be harvested half-a-dozen times in a summer. It is quite pitiful to see the square miles of moor and fell, bearing only besom-timber, that would bear trees, and might be otherwise improved to profit. There is no want of space, but the times and seasons pass over these barren wastes, and leave no blessing behind. Here and there we see some of our great landed proprietors draining a lake or reclaiming a moss to grow grain and roots, or planting a hill-side or the root of some mountain for the sake of the shelter, as well as for the trees, which always command a ready sale. The enormous amount of railway-sleepers wanted might waken those who have time and space to lay the foundations of their fortune in the Bank of Earth.—ALEX. FORSYTH, *Salford*.

BEGONIA DAVISII.

WITH AN ILLUSTRATION.

A BEAUTIFUL dwarf-growing species of *Begonia*, recently introduced by Messrs. Veitch and Sons, of Chelsea, from whose plants our illustration was prepared. It was discovered by Mr. Davis, after whom it is named, near Chupe, in Peru, at an elevation of 10,000 feet, and is, therefore, probably nearly or quite as hardy as *B. Veitchii*, which comes from the same country. Its dwarf habit and brilliant colour will render it a valuable plant for the hybridiser, and we may expect to see its blood shortly imported into the race of tuberous-rooted Begonias, which have recently become so valuable as decorative objects, both for the greenhouse and the open borders during summer. The present plant was certificated at South Kensington, when exhibited there in August last.

As will be seen from our figure, *Begonia Davisii* is a stemless plant, bearing several radical, spreading, oblique and broadly ovate-cordate leaves, glossy above, with a few hairs, and pallid ribs, deep purplish-red beneath, the margins being indistinctly lobulate and crenulate. The flowers, which are of a rich clear crimson-scarlet, are produced, three together, at the top of simple bright red, glabrous scapes, and enclosed by a pair of bluntly, oblong, concave ciliated crimson bracts, the centre flower being male, and the two lateral ones female. The male flower is somewhat the largest, and measures upwards of two inches across the face. In the centre there is in the males a tuft of eight or ten small yellow stamens, and in the females three styles with twisted horseshoe-shaped yellow stigmas. The roots are tuberous.

As a dwarf neat-habited high-coloured species of *Begonia*, this plant is one which will be welcomed in gardens where variety in the elements of floral decoration is esteemed as it ought to be; and along with the hybrids of *B. boliviensis* and allied kinds, it will, when well grown, be no unworthy summer ornament of

the greenhouse or conservatory. It will probably also prove useful for hybridising. The thanks of plant-lovers are therefore due to Messrs. Veitch for the increased pleasure this plant is capable of affording them.—T. MOORE.

THE CULTURE OF WALL FRUITS.

CHAPTER IX.—THE PEACH AND NECTARINE (*continued*).

WE have now arrived at a stage in the management of both the roots and branches beyond which all previous observations will apply for a series of years, as the only difference will consist in the natural annual extension in size; and the practice of training-in bearing wood to keep the trees well furnished must be followed up in the manner advised for younger trees. But here I must throw out an admonitory hint with regard to the cropping of the trees, as their longevity and well-doing will very greatly depend upon the manner in which this important part of fruit-tree management is regulated.

The evils attendant upon overcropping are singularly apparent in the case of the Peach and Nectarine, which at the best have only a tender constitution in this country; and being at the same time, under favourable conditions, very generous in fruit-bearing as they approach their prime, the temptation to take more fruit than is good for the continued healthy action of the growth, is very great; but it should by all means be resisted, or the foundation will be laid of a premature decay of the tree. Although we are taught by experience that, as a general rule, the Peach is not a long-lived tree in this country in the open air, even in those parts of it which are found to be most suitable for its growth, yet I have no doubt whatever that decay is very often induced and accelerated by overcropping. In the younger stages the trees are naturally very vigorous in growth, and what at an advanced age we should call overcropping, is at that time, one of those restrictive means at our command by which we are enabled to maintain some degree of control over the vigour of the trees; but there comes a time when the situation is reversed, and the tree, instead of being over-vigorous, will only throw out smaller but very fruitful wood. This is the time when it becomes dangerous to take too much fruit, and hence the necessity for encouraging the growth of the wood becomes obvious, and by a parity of reasoning the necessity for greatly reducing the amount of fruit taken from them. This, as I conceive, is what is intended by practical cultivators when they inculcate the necessity for maintaining the balance of the trees, which cannot be maintained if either fruit is taken in excess or a vigorous growth allowed to remain unchecked.

As a further inducement to avoid overcropping, we should take into consideration another fact connected with the subject. Our great object in all the manipulations which we have heretofore had under consideration terminates at one point, viz., the production of a fair supply of fruit, and it would be a matter for regret if, after the expenditure of so much time and labour, that fruit should not be the best of its kind. Yet how often do we see that such is not the case,

for fruits deficient both in size and flavour are too frequently met with; and if such instances could be traced to their course, I feel no manner of doubt but that it would be found that quality has been sacrificed to quantity. When I read accounts of the many dozens of fruits which have been taken from one tree, I feel almost to pity the generous tree, and feel convinced that the cultivator would have had more satisfaction in taking only half the quantity, which would probably have made all the difference between perfection and mediocrity in the fruit itself—besides its influence on the tree—either giving it a good lift towards extinction, or enabling it for many years to yield a sufficiently abundant produce. Let us remember that trees which have arrived at a healthy and well-developed prime are far more easy and satisfactory in their management, for they seem, as it were, to settle down to their work, and having thrown off the superabundant vigour of youth, to commence that generous return of fruit which is the ultimate object of their existence; and it is by economising the strength which is necessary for its production, that they may be made to continue to yield a fair supply for many years.

But simultaneously with all the foregoing operations connected with the training and manipulation of the roots and branches, there are several others which are equally important to the well-doing of the trees and the perfection of the fruit, and to which a due share of attention must be paid during the whole of the time they have been in progress, and to them I will advert in my next chapter.—JOHN COX, *Redleaf*.

THE CARNATION AND PICOTEE.

CHAPTER XVI.—DESCRIPTIONS OF THE BEST VARIETIES, OLD AND NEW (*continued*).

THE next in order are the brilliant

SCARLET FLAKE CARNATIONS.

ANNIHILATOR (Jackson).—A seedling evidently from Admiral Curzon, S.B., which it closely follows in its habit of growth and flower, save that it has no bizarre. It is a fine variety, and well deserving wide cultivation. I see, however, no warrant in its properties for its fearfully bellicose name, for certainly it in no point transcends Sportsman or John Bayley, both which were in cultivation when Annihilator was originated. Florists, as a body, are gentle and placable men, and though warm upholders of their various favourites, are little given to exterminations or annihilations, except as applied to the pests of the garden. We must assume, therefore, some distemper of our late friend's imagination when he adopted such an unwholesome designation. A good grower, but should on no account be highly stimulated. Medium early in bloom. First bloomed in 1865; sent out in 1867.

CLIPPER (Fletcher).—Raised at North Brierley, near Bradford, from seed taken from John Bayley, this variety closely follows its parent in habit of flower, though slightly different in its habit of growth, being freer, narrower, and more elongated in its grass. A very fine sort. Sent out in 1873. Mr. Rudd says of it:—"With me it has constantly been the best Scarlet Flake in my collection." It has a fine broad, smooth petal, well continued to the crown, fine white, and very brilliant scarlet; will carry two, sometimes three, flowers to a plant. Being very high in colour, it should not be strongly stimulated, but growing freely, it must not be cramped for room in its blooming quarters. Medium early in bloom.

JAMES CHEETHAM (Chadwick).—Raised from mixed seed by the late Mr. William Chadwick, of Dukinfield, and first bloomed in 1859, when also it was sent out, I have little doubt it springs from Sportsman, or Curzon, the parent of Sportsman, which it closely follows in its habit of flower, and much resembles in its grass. It is, however, very distinct, having a rich dense scarlet, in place of the bright scarlet of Sportsman. Petal broad, smooth,

and of great substance, white extra, markings dense and well defined, it is one of the best S.F.'s in cultivation, beautiful alike on the home stage and exhibition-table. A good grower.

JOHN BAYLEY (Dodwell).—“A seedling from Admiral Curzon, S.B.; it closely follows the habit of that superb variety, whilst it vies with it in its rich quality, pure white, brilliant scarlet, smoothness, and substance. It is remarkably constant, and has a fine habit of growth. Grown against every first-class variety known to E. S. D., including Sportsman; it has fairly surpassed all, being brighter and purer in the white than even that celebrated sort.” This was my description in 1857, when it was placed, as our French friends say, “in commerce,” and the description was approved by its subsequent attainments on the exhibition-table. Twenty years have, however, somewhat dimmed its lustre and diminished its stamina, and now I should certainly say Sportsman is the better variety.

ILLUMINATOR (Puxley).—One of the later varieties of this celebrated raiser, and worth cultivation, having a good broad petal, good habit, good white, and brilliant colour. It also is a good grower, yet not quite first-class, wanting the refinement of Clipper, James Cheetham, John Bayley, Sportsman, and Superb, the two latter to be presently described.

MR. BATTERSBY (Gibbons).—Raised by the late Mr. Thomas Gibbons, of Bramcote, near Nottingham, and named after the late Mr. Battersby, of Mansfield. Has a beautiful white ground, and very distinct though narrow markings of light scarlet, but the petal is scarcely so broad as is desirable. Habit of grass stout and broad, though, with me, by no means a robust grower.

SPORTSMAN (Hedderley).—A sport from Admiral Curzon; originated in 1855 in the collection of Mr. John Hedderley, then of Sneinton, Notts; like its parent, it went at one bound to the head of its class, taking the whole of the prizes in its class at the exhibition of the National Carnation and Picotee Society the following year at Birmingham, and the lion's share during the same season at provincial exhibitions of note. Differing from its parent only that it is without bizarre, it should have the same treatment both for its growth and in its blooming, and wherever this is intelligently given, the result will leave little to be desired. Though getting well into years as the years of a Carnation go, it is yet hale and robust, and shows no sign of waning powers. It is needless to say no collection can be complete without it.

SUPERB (Ingram).—Raised by the late Mr. Ingram (of Wood and Ingram, of Huntingdon), from mixed seed. First bloomed in 1870, sent out in 1874. Obtained First-class Certificate at the Royal Horticultural Society in 1872, which it well deserved. Fine petal, fine form and habit, lustrous white ground, with very distinct markings of rich colour, great substance, and exquisitely smooth, it well deserves its name, and will, I believe, please the most fastidious taste.

WM. HARLAND (Harland).—*—Raised at Newcastle-on-Tyne. A seedling from Sportsman, it has a splendid petal, and is a most beautiful flower; but like most North-country flowers, I suppose from the habit there generally followed of growing their stocks in raised *beds*, it does not do well with me in *pots*. It, however, well deserves attention at the hands of the grower for its good properties. Like its progenitor, it is inclined to sport, and has produced John Burnett, S.B.; described at page 17 of this volume. (Mr. Rudd is by no means singular in this experience. I have rarely known layers taken from the open ground to give good flowers or satisfactory growth the first season after being transferred to pots. But pot-cultivation, in my experience, has invariably produced greater refinement in the flowers.)

Last class of all, in Carnations, we come to the lovely ROSE FLAKES :—

CRISTA-GALLI (Whittaker).—I saw this flower for the first time at the National Carnation and Picotee's Society's Exhibition at Manchester last year, where it won the fifth prize in its class, but what I saw of it evoked my warm admiration. Raised at Royton, in Lancashire, from self-fertilised seed of Lovely Ann (Ely), it is remarkable for its fine white ground, and very distinct through-markings of rich rose. Not a *splash* or *flash* was to be found in the entire flower, whilst in addition to its fine quality and distinct markings, it has a fine form, and a well-formed petal, of good substance and perfectly smooth. Apparently a kindly grower. First bloomed in 1868; sent out in 1873.

E. S. DODWELL (Bower).—Another seedling, evidently of the Lovely-Ann family, but very distinct from the preceding, being far more full of colour. Medium in size, fine in quality, richly-marked, of good substance and smooth, this is a most desirable variety, and when available will, I think, be eagerly sought for, even in a class so rich as this in variety. First bloomed in 1872; not yet sent out.

JAMES CARTER* (Adams).—Raised at Newcastle-upon-Tyne, by Mr. Edward Adams, and sent out in 1875. This is one of the very best of the pale roses we have. In the shape of its petal it follows Rifleman, C.B., and is beautifully striped with a pale rose. Form good, size

large, and early in flower. Should be grown well, and will carry two to three flowers on each plant. Parentage unknown.

JAMES MERRYWEATHER (Wood).—Another of the fine productions of Mr. Edmund Wood, sufficient, even did it stand alone, to ensure him long remembrance in the minds of Carnation-growers. A seedling, I have little doubt, of the Lovely-Ann family, it has a petal which is the perfection of shape, broad, smooth, of fine substance, and richest quality; markings bold,—distinct through-stripes, and full of variety, form fine, size large, and an admirable grower, no collection can be complete without this variety, and it worthily commemorates the name of a most excellent, enthusiastic florist, who was esteemed in life by all who had the privilege to know him. First bloomed in 1865; sent out in 1869. My friend Mr. Rudd has forwarded me a plant of this variety which had sported into a Crimson Bizarre, of which he says, “If constant, it will prove one of the finest C.B.’s possible to be seen.”

JOHN KEET (Whitehead).—Raised at Oldham from mixed seed, but I have little doubt, like James Merryweather, of Lovely Ann extraction, this is another of the varieties of a rich class which can scarcely be too highly extolled. Large in size, fine in form, of great substance, smooth, richly marked with through-stripes,—lovely in their variety, though all distinct,—admirable in its habit, and robust in its growth, it is difficult to imagine higher attainment than is here developed. Comes early into bloom, but, as from its vigour, many of the strongest side-shoots run to bloom, it may also be had amongst the latest. In ordinary cases, my practice is to “stop” the side-shoots as they start for bloom, and thus generally I get a large addition to the increase; but finding John Keet to be an exception to the rule, I recommend allowing the shoots to run, and thus a few fine late flowers will be secured. Grow generously, but, as with every other variety of Carnation or Picotee, carefully avoid the use of crude forcing stimulants.

LOVELY ANN (Ely).—“Raised from Wakefield’s Paul Pry, C.B., and sent out in 1836. Much the best R.F. bearing Mr. Ely’s name, though Lady Ely is shown probably twice as often. As used to be the fashion some years ago, when the trade in flowers was not so healthy as it now is, spurious varieties have been largely distributed for this. Indeed, in my experience I have bloomed no less than *nine*, so-called, Lovely Anns, and many florists do not now know the true one. Lovely Ann correct and in good character is indeed lovely; the petal broad, very smooth, gently cupped, of good substance and rich texture; the white clear, and the colour, a *rich* rose, not a *deep* rose, admirably distributed. The distribution is not, as in Lady Ely, in stripes of almost uniform width in every petal, but of varied widths, giving the flower a less stiff and a more sweet and *simple* character, to my taste far more engaging, though Ann, like some other very lovely ladies, can upon occasion be quite sufficiently *commanding* in her style. Of average size when well grown, and well crowned, without any confusion. The habit of grass is narrow, curled, and if touched with green-fly will become twisted and distorted. A delicate grower, and requires careful treatment during the winter and early spring months. Must be grown in a kind, generous soil, and as the buds swell, two or three applications of weak, clear manure-water will much advantage the bloom.” This was my description of 1853, and though now nearly a quarter of a century has elapsed, it needs no emendation. Alone of the Rose Flakes then described, it remains in my collection, and though from its delicate habit such a result might scarcely have been anticipated, it has been the parent immediately, or with a generation removed, not only of several flowers of the finest quality in the class, but of varieties of the most *robust* and *kindliest* habit.

MARY ANN* (Fletcher).—Raised at North Brierley, near Bradford. Sent out in 1873. A very large full flower, heavily flaked with deep rose. The petals are very stiff and leathery in texture, and apt, if not bloomed upon a card, to curl, when the flower is worthless. Though uncertain in its character, it is, when caught, a really beautiful variety. Requires good growth; will carry two to three flowers on each plant. Medium in its period of bloom.

MAID OF ATHENS (Ely).—An old variety, though I am unable to give the date of its introduction, and one which, in several localities, for some years did duty for the same raiser’s Lovely Ann. It is, however, very distinct from Lovely Ann, both in the habit of its growth, and the colour and characteristics of the flower. It has a well-shaped and well-marked petal, and a good-formed flower, but both white and colour are far behind the high quality and richness of Lovely Ann. Habit of grass, narrow, fine, exuberant: a good grower.

MERRIMAC (Wood).—A good bold flower; fine form and substance; white, pure, with well-defined markings of bright rose; good pod, and a smooth petal; constant, and a good habit of growth. Sent out prior to Eccentric Jack and others; one of E. Wood’s earlier seedlings. (I am indebted to my friend Mr. H. M. Hewitt, of Chesterfield, for this description.)

MRS. F. BURNABY (Turner).—First bloomed in 1870. Sent out in 1873. As seen by me at Slough in 1875, one of the sweetest delicate pale roses I have ever seen, but, unfortunately, judging from its behaviour in my garden, it lacks robustness of constitution, and consequently both plants and flowers were a disappointment. In more open situations, and with a purer

air, it may give similar flowers to those I saw in the home of its birth, and such flowers, though of little use to the exhibitor, would, I think, gratify a taste refined to fastidiousness.

MRS. DODWELL.—Raised by my friend, Mr. Robert Lord, of Todmorden. A seedling from Uncle Tom, R.F., crossed with pollen from John Keet, R.F., both parents, as I believe, of Lovely Ann descent,—this variety exhibits qualities of the highest excellence, such, indeed, as may be equalled, but scarcely can be surpassed. Form fine, flower large; petal broad, gently cupped, smooth, and of great substance; markings distinct and various,—colour rich, upon an exquisite white ground; it is difficult to imagine loveliness carried to a higher point. It is also a good grower. First bloomed in 1873; to be sent out next autumn.

ROSABELLE (Schofield).—Habit of plant dwarf; grass plentiful and healthy, clustering in dense tufts round the base. Both plant and flower very distinct from any other, save that it follows in some respects Samuel Moreton (Addis) and Rose of Castile (Headly), but it is superior to either. The flowers are very full, and require careful manipulation to prevent the bursting of the pods. The outline of the flower is good, petals smooth and distinctly marked with pale rose, rather brighter in its hue than that of Mrs. F. Burnaby. Should be grown for its beauty on the home stage, though too pale for exhibition. (My friend Mr. Douglas kindly supplies the above.)

ROSE OF STAPLEFORD (Headly).—A very distinct and desirable variety; a seedling possibly from Rose of Castile, which in its day deservedly occupied a very prominent position. Grass fine, flowing, and plentiful; petal of medium width, smooth, and well marked; white ground excellent; colour rich, and well distributed. Lasts a long time in flower.

SIBYL (Holmes).—Raised at Wakefield, from self-fertilised seed of Lovely Ann, which with an additional robustness and larger size, it closely follows in grass and flower. A lovely variety, remarkable, like others of the Lovely Ann family, for its pure white ground, and the richness and distinctness of its markings. Petal broad, smooth, of good substance, and gently cupped; form fine, size large. First bloomed in 1869; sent out in 1873.

UNCLE TOM (Bramma).—Another variety of Lovely Ann descent, unquestionably. Raised in the neighbourhood of Leeds, I believe, and sent out about 21 or 22 years ago, it is yet a good old variety, of good form, good substance, and liberally marked with a rich salmon-rose. Apt to spindle in autumn and early spring, and should not be overgrown.

WM. CARRICK* (Adams).—Sent out in 1875, this variety closely follows the characteristics of James Carter, by the same raiser, previously described, and is, I assume, from the same pod of seed. It is, however, later in its period of bloom, and not so strong in growth. Will carry one to two flowers on each plant.

—E. S. DODWELL.

VILLA GARDENING FOR APRIL.

A FAIR spell of sunshine, though accompanied with cold winds and keen frosts, has yet brought on many things with great rapidity, and the general advance which has taken place in vegetation denotes the advent of the more genial season of the year.

The Cold Greenhouse: Two sharp frosts, following on successive evenings, left their mark on a few tender things, but little appreciable damage was done where a collection of hardy *Primulaceæ* is grown; they are now the fairest representatives of the gifts of the gladsome spring-time. How much better some of these beautiful subjects deserve care and attention than a collection of summer-bedding plants such as Pelargoniums, Calceolarias, Verbenas, &c. The latter are of a very uninteresting character just now, but spring-flowering plants are either in or coming into all the glory of their bloom. In addition to the species named last month, there are also Auriculas, both show and Alpine; Polyanthus of various kinds; Narcissi, and many subjects, including some grown for the beauty of their foliage, that are very attractive just now. As the plants go out of bloom they may be stood out of doors under a shady wall, on an ash-bed, and covered with a mat or newspapers, when frost threatens. This makes room for Pelargoniums, Fuchsias, &c., as they come on into bloom.

The Warm Greenhouse: In addition to a good display of flowering-plants, which require much care during the lengthening days in the matters of watering,

cleaning, &c, there is also the important work of propagation. By striking cuttings, and by raising seedlings, the Amateur keeps up a supply of the needful plants for the decoration of his garden just when they are needed; and these two occupations are among the highest enjoyments of a garden. Stock-plants—that is, plants kept through the winter—of such things as Fuchsias, Petunias, Verbenas, Lobelias, *Salvia patens*, and many other of the best-known bedding-plants, if placed in the propagating-frame, soon throw out a number of shoots of which cuttings can be made. Then there are plants, such as Fuchsias, Pelargoniums, &c., raised from cuttings at the end of last summer, which require shifting to be grown on for summer service. And it is a common fault to crowd a house too much with plants. This is a serious mistake, as they get drawn; there is not space for each plant to assume its proper proportions, and they get unclean in appearance. Cinerarias, and Calceolarias in particular, require a great deal of attention just now; their leaves are very apt to become infested with green-fly, which gives them a curled and unhealthy appearance. Air must be given in plenty as the sun increases in warmth, and the watering-pot will be in constant requisition. Fancy and large-flowering Pelargoniums, which are among the most valuable of decorative agents in a conservatory, likewise require constant attention in the way of cleanliness; and the fancy varieties should be kept in a warmer part of the house than their larger-flowered brethren.

Cold Frames: The planting-out of hardy plants may now be pushed on as the soil becomes workable, and the advantage is that it leaves space in the frames for hardening-off spring-struck plants. The cold frame is also useful for making up seed-beds for Primrose, Polyanthus, and Alpine Auricula-seeds. Plants of these when sown in a frame come on more quickly than those sown in the open ground, and unless they are strong by autumn they do not flower well the following spring. Lilies in pots which have been shifted, newly potted Tigridias, *Tritonia aurea*, cuttings of Hollyhocks, and others should be placed in the cold frame, and not allowed to suffer for want of water.

Flower-Garden: There are a good number of spring plants to furnish bloom through April, and tender plants can be kept under cover for some time yet. The Daffodils are getting fine, the common yellow is well-nigh over, but some of the fine single varieties are only coming into flower, and at no time of the year do gaudy hues of yellow and gold appear so acceptable as at the spring-time. Polyanthus, Anemones, Arabis, *Alyssum saxatile*, the large-leaved Saxifrages, *Fritillarias*, *Doronicum austriacum*, Honesty, Pansies, Daisies, &c., form a group that will be charming all through the month. We have no class of plants that can replace these fine old hardy things in the flower garden. By occasionally stirring the surface of the beds, and keeping them clear of decaying flowers and leaves and also of weeds, their appearance is much enhanced, and they can be maintained pleasant to the sight till the summer bedding-plants carry on the floral display.

Kitchen Garden: Peas and Broad Beans for successive crops should be sown, and the main crop of Potatos planted. Advantage should be taken of drying weather to get all ground dug and prepared for cropping. Heavy soils have been practically unworkable for weeks past, and now they can be dug they will be much helped by digging-in at the same time some long stable-manure and some mortar-rubbish, if it can be obtained. This will tend to keep the soil open. Carrot, Parsnip, Onion, and all garden-seed crops should be sown without delay. Early Peas and Beans coming through the ground can have the soil stirred about them, and a little earth drawn up about them. Successional sowings of Mustard and Cress, and of Radishes should also be made.

All wall-trees as well as pyramid Plums and Pears are coming on into bloom, and seeing that white frosts are certain to follow clear sunny days, some covering for the wall-trees at least should be provided. It should lie on a framework, so as to prevent the blossoms from being rubbed off, when it is let down over the trees; and it should be tied down securely, to keep it from being blown against the trees with the wind. The covering should be rolled up by day, to allow the trees to have all the sun and air possible.—D.

GARDEN GOSSIP.

THE *Exhibition of the Royal National Tulip Society for 1877*, will be held at the Manchester Botanical Society's Gardens, Old Trafford, on **Whit-Friday, May 25th**, and will remain open until 4 o'clock p.m. the following day. It will be held in conjunction with the Society's Great Annual Exhibition, and a special one for cut roses, bouquets, dinner-table decorations, &c., which will open and close at the same time as the Exhibition of the Royal National Tulip Society. The prospects of a good exhibition are favourable; up to the present time an unusual number of subscribers are enrolled, including many new ones. All who are interested in the show, or in helping forward the cultivation of the Tulip, should place themselves in communication with the hon. secretary, Samuel Barlow, Esq., Stakehill House, Chadderton, near Manchester, from whom schedules of prizes, and all information can be had. No entries can be received after April 28.

— THE *National Auricula Society* will hold its next (northern) exhibition at Manchester, in connection with the Show of the Botanical Society in the Town Hall, on April 27. The prize-list, which may be had on application to the hon. sec., Rev. F. D. Horner, Kirkby Malzeard, Ripon, is a liberal one, the prizes offered amounting to about £45. There are classes for 6, 4, and 2 show Auriculas, and separate classes for single plants of the four sections; a class for Alpines, and separate ones for single plants of yellow-centred and of white-centred Alpines; and two classes for Polyanthuses, besides a few special prizes. The rules require that the trusses shall be shown free from all artificial packing and support. The judges nominated are Rev. F. Tynon, Mr. J. Hepworth, Mr. J. Douglas (York), Mr. E. Pohlman, Mr. W. Taylor, and Mr. J. Cockroft. Intending exhibitors are to apply to the Secretary not later than April 21, for the exhibition-labels they may require.

— THE *Pelargonium Society* is quietly doing good work in the special encouragement of the different classes of this popular flower. The prize-list for the Show to be held on June 20 next has just been issued; and comprises some twenty-four classes, amongst which considerably over £100 are offered as prize-money. The date has been fixed especially to fit the blooming season; and not only the Zonals, but the large-flowered show sorts, the fancies, the hybrid Ivy-leaved sorts, and the Cape species are provided for, liberal prizes being offered for each. That the limit of improvement or of variation in the Pelargonium is not reached is quite evident, since scarcely anything has yet been done with the cut-leaved, scented-leaved, and tuberous-rooted kinds. To carry forward its work the Society needs more support, which ought to be forthcoming from amongst the admirers of the several groups of Pelargoniums. The schedule may be had on application to Mr. Moore, Botanic Garden, Chelsea.

— THE *National Rose Society*, founded in December last, has already received such support from the leading Rosarians, both amateur and professional, that it may be regarded as fairly established. The objects of the Society are to extend and encourage by every means in its power the cultivation and exhibition of the Rose, and to unite those who are interested in it, in a common bond of union. To this end it is proposed to institute a Grand National Rose Show, to be held annually, which shall be considered *the Rose Show* of the year, and at which liberal prizes will be offered. It is proposed also to affiliate such existing Rose Societies as may be willing to join; to hold meetings for discussion on subjects connected with the Rose; to publish a Journal; to open communica-

tion with foreign rose-growers; and generally to adopt any means which may appear advantageous to Rose interests. The Show for 1877 has been fixed to take place at St. James' Hall on July 4, for which the prize schedule has been issued. Amongst the prizes is a 50-guinea challenge cup, which must be won in three years, the winners of 1877 and 1878 being alone competent to compete in 1879. The joint secretaries are Rev. H. H. Dombrain and Horace K. Mayor; and the annual subscription is 10s. Those who desire to support the Society should address the Secretaries of the National Rose Society, 3 Adelphi Terrace, W.C., where the meetings of the Society are held, by permission of the Horticultural Club

— **MR.** BURBIDGE'S new book, entitled *Cultivated Plants, their Propagation and Improvement*, which we mentioned some time since as being in preparation, proves to be one of the most valuable horticultural publications which has for a long time appeared, and one which will be particularly useful to the thoughtful and studious younger members of the gardening fraternity. No such judiciously-selected and well-assorted information was ready to the hand of their fore-runners—those who are now descending the hill of life—and no better evidence is necessary of the progress which horticulture is making in this country, notwithstanding some sore discouragements, than the appearance of this handsome and solid volume of more than 600 pages and nearly 200 illustrations. Practically, its contents may be said to range under three divisions,—namely, Propagation, as explained in its various phases; Improvement in plants, as illustrated by the records of progress in the most prominent amongst garden genera and species, whether useful or ornamental; and Direction, as set forth in a detailed propagator's calendar. In the second division, recording the successive stages of improvement through which many of our garden plants have passed, it is to be expected that some readers here and there may be able to supply scraps of addition and correction, and we are sure the author will join us in expressing a wish that any such information should be made public for the benefit of those who may follow up the subject; meanwhile we commend the volume as one well worthy of careful study by every intelligent horticulturist, whether amateur or professional. We shall probably hereafter ourselves recur to some of the subjects mentioned, but for the present conclude in the words of a contemporary:—"The present work will, we hope, do much towards inducing our raisers of new plants and florists' flowers to systematise their experiments, to start with a well-defined object, to pursue it steadily and carefully, and to record every step in the process, every failure, as well as every success, with strict accuracy," as an accession to scientific knowledge, and in order to lighten the difficulties of those who may after them travel over the same path.

— **THE** Committee of the *Standish Memorial Fund* has recently issued its report, from which we learn that a sum of £61 7s. 6d. was subscribed. This sum has sufficed to procure a portrait of the late Mr. Standish, painted by F. Havill, which portrait is hung, by permission of the Council, in the meeting-room of the Royal Horticultural Society at South Kensington, the ownership thereof being invested in the Trustees of the Lindley Library; and to place a stone and curbing over Mr. Standish's grave in Ascot Churchyard, bearing the inscription:—"This stone is erected by a few personal friends to the memory of JOHN STANDISH, nurseryman, born March 25, 1814, died July 24, 1875." Mr. Gibbs, by whom the monument was erected, substituted polished granite for stone, at his own expense, as a mark of personal regard.

— **M.** JOSEPH WALTHÉRY, a gardener residing near Liège, has discovered a simple means of *Preventing Hares and Rabbits from Gnawing the Bark of Trees*, which he strongly recommends as being certain and inexpensive. The remedy was in his own case applied to a row of Apple-trees, which were year after year stripped of their bark, especially during severe weather. One day in November, it occurred to M. Walthéry to dilute some dog's dung in a pail of water, and to apply this to the bark of the trees. This was done twice, and with full success, for the hares and rabbits did not come any more. Probably, he says, the scent of the excrement of their dangerous enemy kept them at a distance, and the seasoning not being to their taste, they went elsewhere in search of food.

— **THE** curious *Witch Knots on the Birch*—those great masses of twigs looking like large bird's nests fallen in amongst the branches of the birch tree—are caused by the attack of a minute four-legged acarus (*Phytoptus*), very similiar

to the one causing much mischief to young buds of the black currant. In the autumn leaf-buds are observable, distinguishable from the natural smooth lanceolate shape by their swollen appearance, being roughly spherical, comparatively large, and composed of loosely inbricated scales. In November the *Phytoptus* may be found in these buds, and it continues active through the winter. About the beginning of February these scales will drop to a touch, and show inside a short thickened axis, beset with numerous very minute round buds at the base of the scales—the beginning of the future diseased mass of twigs. The credit of this discovery belongs to Miss Ormerod.

— THE Belgian committee established for the purpose of erecting a monument to the *Memory of the late Louis Van Houtte*, have decided on erecting the monument in a new square about to be constructed in the suburb of Gendbrugge, wherein Van Houtte acted as burgomaster for nearly a quarter of a century. The square will be called the Place Van Houtte, and will form part of a new street which will pass in the immediate vicinity of the establishment founded by Van Houtte. The sum subscribed in England for the same object is to be invested, and the interest to be offered as a prize (medal or cup) at the Ghent Quinquennial Shows, for the culture of stove and greenhouse flowering-plants.

— WE learn from the *Gardeners' Chronicle* that Mr. Wildsmith, of Heckfield, finds wood-ashes to be the best manure he can use for Vines. He therefore impounds every stick and stump he can lay his hands on, and has his fire going during most of the winter, by which means he secures an abundant supply of the pot-ash which his vines so much relish.

— IN a communication read by M. Boutin before the French Academy of Sciences, relating to the study of comparative analyses of several varieties of *American Vine-stocks*, resistant and non-resistant to the *Phylloxera*, it is stated that there has been found in all American stocks a resinoid principle, which, indeed, exists also in French stocks, but in quantity one-half less than in the resistant American stocks, and one-third less than in the non-resistant. The resistance is accounted for by the presence of this principle in a proportion not under 8 per cent. in the entire root, and 14 to 15 per cent. in the bark alone, for though the punctures made by the insect cause nodosities on the root, yet are they cicatrised by exudation of the resinous produce, and this prevents loss of the nutritious juices of the plant. No such cicatrization occurs in the non-resistant stocks, the resinous matter not being sufficiently abundant.

— THE *Guide Pratique de l'Amateur de Fruits*, by the late M. Thomas, manager of the fruit-tree department in the nurseries of MM. Simon-Louis frères, of Plantières, near Metz, is a very useful catalogue of fruits. The number of varieties described is 4,354, only 296 of which are designated as of the first class, and 2,495 are still under trial. The enumeration includes some 10,000 synonyms! Thus the May Duke Cherry has sixty-two; the Grosse Mignonne Pear, fifty-one; and the Catillac, sixty-eight; the Frankenthal Grape (Black Hamburg), fifty-five, and the Chasselas de Fontainebleau (Royal Muscadine), forty-one synonyms. Fruit-growers, and all interested in knowing what a name really represents, will find this catalogue very handy for reference, and the names are easily found, as they are arranged alphabetically.

— M. DÉsirÉ BOUDRANT, jun., has communicated the following recipe for an *Insecticide Powder* to the Central Horticultural Society of France:—Take 100 grammes (a gramme is 15.444 grains) of silicic acid, 1 litre (about 1 $\frac{3}{4}$ pints) of alcohol at a strength of 86, and a sack of fine sawdust. The acid is dissolved in the alcohol, and the solution is applied in small quantities to the sawdust, carefully mixing while adding, until it has absorbed the whole. This operation is performed in the open air. The following day the powder is ready for use, and is applied to infested plants by throwing it over them.

— ACCORDING to the *Revue Horticole*, the following plan of *Preserving Vines against Frost*, noted by Mr. Charles Baltet, is to be recommended, and might be adopted for other plants. At the time of pruning the long wood, a trench is

made a few inches in depth, and the rods laid in it and covered over, taking care that the two uppermost eyes are left out of the ground. These will come into growth early if not killed by frost, and the protected buds will be proportionately retarded. If frost ensue the upper exposed buds will be killed, but the subterranean ones will be preserved. When danger from frost is over, the young shoots are pruned away if frozen; if not, they are pinched in so as to equalise the growth from the long wood. The covering-up is done in February, the uncovering at the end of May.

— As a weed-destroyer *Carbolic Acid* seems likely to prove a boon to gardeners. Such weeds as Dandelions are killed by one application, the mode of applying it to destroy single plants being to make a hole into the crown with an iron point, and then to pour on a little of the liquid from a bottle. For paved yards, and also for garden-paths, the carbolic acid is mixed with from ten to fifty times its quantity of water in a bucket, according to its original strength, and applied with a brush or broom, or from a rose watering-can, a sunny day being the best.

— ONE of the great necessities in the cultivation of plants such as fruit-trees and flowering-plants, and excluding such as annuals, is *Rest*. The gardener's axiom is to ripen the season's growth properly, and then to give a long period of complete rest. Rest, however, in this case does not imply inaction, but rather change of work, for during what is called the resting-period many physical and chemical changes take place, such as concentration of liquid juices, changes in their chemical composition, consolidation of tissues, and the like, all aptly enough summed up in the expression "ripening the wood." But a plant "at rest" is really no more inactive than the chrysalis of a butterfly, in which wonderful transformations are taking place.

— As a *Substitute for Persian Insect-Powder*, the wild rosemary (*Ledum palustre*) has been suggested in America. When dried as well as fresh it is destructive to lice, bugs, fleas, moths, &c. The tincture prepared from it is also a remedy for the bites of gnats, and insects generally, not only relieving the itching in a short time, but also the pain, when applied to a wound. The tincture repels gnats, when mixed with glycerine and rubbed upon the skin. It seems to deserve notice on account of these properties, and its possible substitution for the more expensive and frequently adulterated Persian insect-powder. The plant is most effective when fresh and in bloom, and should be gathered in the latter condition.

— THE true *Dwarf Purple Queen Stock* is not only one of the hardiest of its class, but scarcely behind the best imported summer kinds in the production of double flowers. In a large bed raised from seed saved indiscriminately, and not subjected to any particular thinning or selection, just seventy-five plants in the hundred are double, a proportion that ought to satisfy the most exacting, having regard, at the same time, to the necessity for the production of seed. This Stock is of a rich, deep, violet-purple hue, and is very dwarf and compact, seldom exceeding 15 in. in height when in full bloom. In some cottage gardens in the neighbourhood of Feltham, Middlesex, it is well grown, the double flowers being cut in bunches for market. When grown in bulk, it is a capital successor to the dark Wallflower, and furnishes an immense amount of deliciously-perfumed flowers all through the month of May. As a bedding-plant it is most effective, and produces a mass of colour that would rival any other bedding-plant.

— WE learn from M. Ortgies that the Colorado Spruce, *Abies Menziesii Parryana*, mentioned at p. 47, is without doubt the same as one of which Mr. B. Roezl collected a great quantity of seeds in the Colorado Mountains in the autumn of 1874. Mr. Roezl spoke very highly of the decorative value of this Spruce, the foliage glittering like silver in the sun, and said it ought to be called Silver Spruce, and when once fairly known would become a great favourite. He also took it for a variety of *Abies Menziesii*, but said that it never made such tall trees, and had a better and much more compact habit. On examining the specimens sent to him, M. Ortgies found it to be the *Abies commutata* of Professor Parlatores (*Abies Engelmanni*, Parry), under which name the

seeds were distributed. There must be now a great quantity of two-year seedlings in the principal nurseries on the Continent and in England.

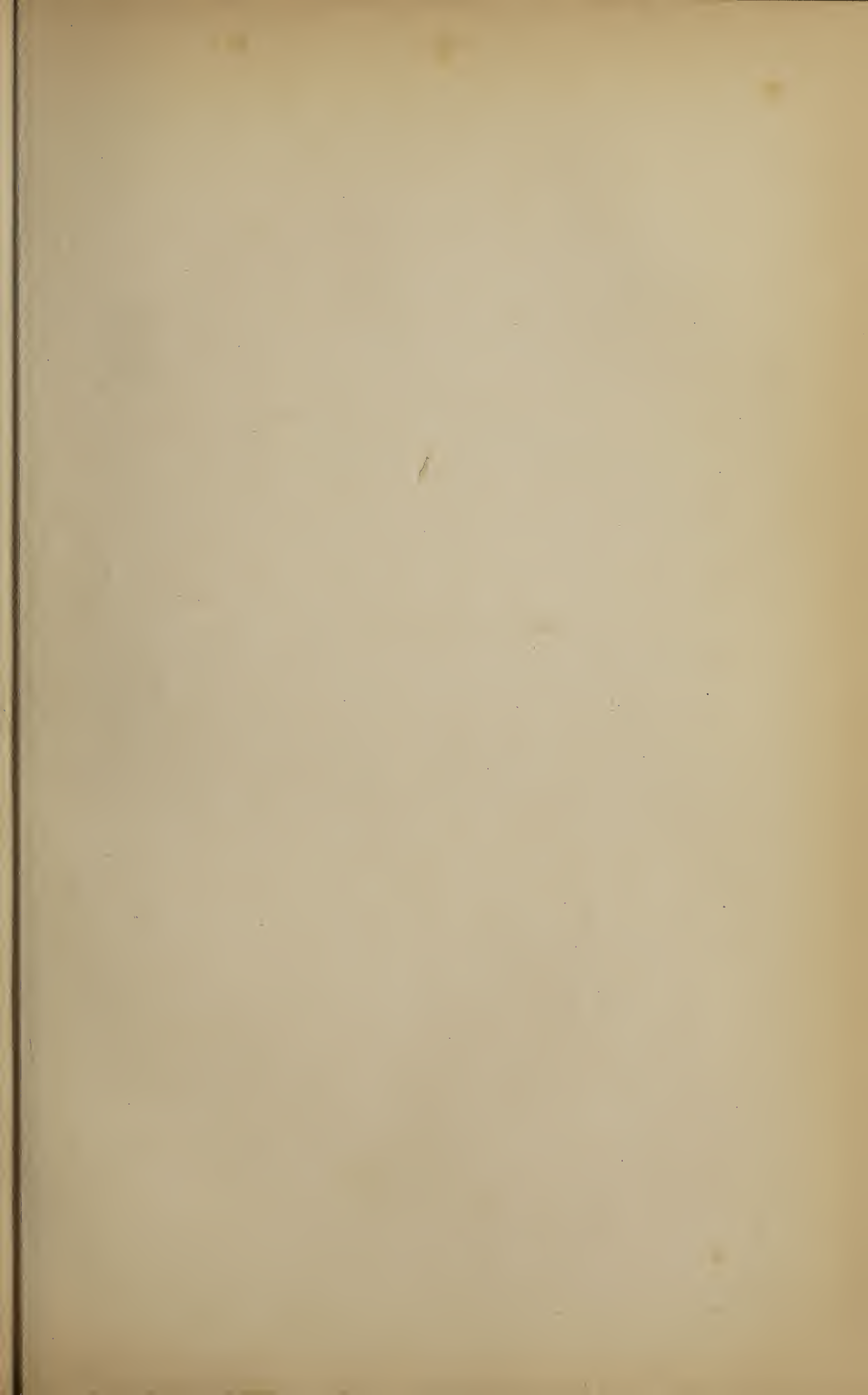
— THE *New Palm-House* in the north-western part of the Adelaide Botanic Garden was opened by Lady Musgrave in January last, having been commenced in February, 1876. The house has been erected on a terrace some 6 or 7 ft. high, and 30 ft. broad on all sides. The building is 102 ft. in length, including two half-octagons, each 8 ft. 6 in. long, which project at either extremity, 35 ft. broad, 16 ft. 6 in. high from the level of the terrace to the eaves, and 5 ft. additional to the ridge, the altitude of the centre dome being about 40 ft. To construct it 3,808 panes of glass have been used, each being about 20 in. long and 14 in. wide. Most of the glass is pellucid, whilst of the remainder some is "frosted," and that composing the borders is of a deep rich blue colour. There are two entrances, one of which faces the north, and the other the south. The cost of the ironwork and glass, including commission and freight, has been about £1,240, and the cost of the formation of the terrace, &c., nearly £1,900, thus making the total cost about £3,140. For its dimensions, elegant construction, and general *tout ensemble*, the structure is certainly not to be approached in the Australian colonies. The arrangement of the interior offers unmistakable evidence of the artistic ability and exquisite taste of Dr. Schomburgk, from whom the idea emanated, and under whose supervision it has been carried out. There is a rotunda in the centre, containing palms, ferns, and other tropical plants; while an avenue some 6 ft. or 7 ft. wide runs from one extremity to the other, as well as from the central rotunda to both entrances, and is paved with red and black octagonal tiles, the spaces being filled in with square yellow tiles.

— THE schedule of prizes to be competed for at the *International Horticultural Exhibition to be held at Carlisle* on September 6, 7, and 8 next, under the auspices of the Carlisle and Cumberland Floral and Horticultural Society, is now issued. There are 218 classes in which money prizes or plate are offered, and ten in which certificates only are given. The amount of prize-money offered is nearly £1,250. The schedule is divided into fourteen divisions, viz., 1, fruit, open to all; 2, fruit, open to amateurs only; 3, fruits of foreign growth; 4, plants in pots, nurserymen only; 5, plants in pots, for gardeners and amateurs; 6, plants in pots, for amateurs only; 7, cut flowers, for nurserymen only; 8, cut flowers, for gardeners and amateurs only; 9, cut flowers, for amateurs only; 10, dinner-table decorations, open to all; 11, vegetables, for gardeners and amateurs only; 12, vegetables, amateurs only; 13, new plants, open to gentlemen and amateurs; and, 14, horticultural requisites. The entries close on August 30. Intending exhibitors should apply for a copy of the schedule to the acting secretary, Mr. John Mounsey, Victoria Hall, Lowther Street, Carlisle.

— THE *Epacris onosmaeflora flore-pleno nivalis*, flowered by Mr. Bull, of Chelsea, proves to be a grand acquisition, and is at once distinguishable from the double variety shown last year for the first time, by the purer whiteness of its flowers and their larger size. Individually the flowers are quite half as large again as those of *E. onosmaeflora flore-pleno alba*, and are of snowy whiteness as compared with those of the last-named plant, which are distinctly flesh-tinted. The plant is a strong grower, and produces long dense spikes of flowers.

— MR. LEE'S new *Violet* called *Odeoratissima* well deserves the name, and so far as can be judged from cut flowers, is the best of the recent novelties, the flowers being large, finely-formed, with broad rounded well-set petals, of a bright shade of blue-purple, and deliciously fragrant; while the foliage does not appear to be so coarse as in some of the other large-flowered sorts. The perfume is wonderfully powerful, and the colour effective and attractive.

— THE business of horticultural engineer and manufacturer of hot-water apparatus carried on so successfully by the late Mr. H. Ormson, at Stanley Bridge, Chelsea, will, we learn, be continued under the same name.





W.H. Fitch del.

Premier Peach

THE PREMIER PEACH.

WITH AN ILLUSTRATION.

THIS fine Peach was raised a few years ago in the Royal Gardens at Frogmore, and is the result of a cross between the *Grosse Mignonne* and *Bellegarde*. In general appearance it much resembles the latter variety. The fruit is large, round, and of even outline, with a slight suture, extending generally to the apex; the skin is purplish-red, becoming very dark when fully exposed to the sun, and often having spots and blotches of dark red on the shady side and near the base. The flesh is tender, juicy, and melting, with a delicious flavour; and the flesh parts freely from the stone.

This variety truly deserves a place in every garden where peaches are grown on the open wall, on account of its hardiness, healthy habit, and the good quality of its fruit. Mildew never attacks it, and it is generally free from the other ills to which peach-trees are subject.—J. POWELL, *Frogmore*.

CALVILLE BLANCHE APPLE.

THE illustration published at p. 73 conveys a very faithful idea of the beauty of this magnificent Apple. More than 50 years ago the then Marquis of Stafford brought trees of this kind from Paris, which were planted against a south wall, and fruited regularly until their removal to make room for glasshouses. The apple, under such circumstances, was said to attain a fair size, but to be wanting in flavour, by comparison with samples subsequently grown in pots.

The climate at Trentham is so uncertain and unfavourable for the growth of apples out-of-doors, that the late Mr. Fleming happily hit upon the idea of growing this apple extensively in pots, and he purchased, some twenty years ago, of Mr. Rivers, a quantity of small trees, grafted upon the French Paradise stock, which trees never fail to produce a sufficient quantity of handsome and delicious fruits for dessert during the winter months.

That respected veteran and generally correct judge of the Pomaceæ, Mr. Rivers, did some injustice to the character of this apple some few years ago, for when ripened perfectly, it is the most pleasant apple to eat that I know. It however, requires a long summer to bring out its best qualities as a dessert apple; if grown in an orchard-house, the trees should be in flower by the latter end of March, and the fruit should never be gathered until they have attained that bright yellow colour peculiar to this apple; and this will not occur, as a rule, before the middle or end of October. The fruit should be gathered as they attain their full colour, but not before. They will then ripen perfectly, with a firm crisp flesh, vanishing in the mouth like that of a peach, and leaving a delightful impression on the palate.

To those gardeners who must ever be on the look-out for new or striking

effects upon the dinner-table during the winter months, a few dozens of these little trees, laden with their golden treasures, are most useful. I know of no more fairy-like picture than an *apple-grove* of such trees set upon the dinner-table about Christmas. The apples will hang on the trees until March, if they have been well ripened, and some sprays of oak, with the leaves upon them (which may at all times be had in the winter, where there are young trees) will furnish the necessary foliage for sharpening-up the picture and relieving the bareness of the little trees. I might add that the heaviest fruit that we have grown of this apple this year, weighed twenty ounces.—ZADOK STEVENS, *Trentham Gardens*.

CLEMATIS INDIVISA LOBATA.

THIS very handsome evergreen climber is a plant of vigorous growth, bearing creamy-white flowers in great profusion during the spring months. It is from New Zealand, and is a very suitable plant for a large house where a considerable space has to be covered, and where it has room to develop itself sufficiently to exhibit its natural character. It is, moreover, a free-rooting subject, and requires to be planted-out, as no ordinary-sized pot could contain enough soil to support the growth which it makes.

In commencing with young plants, it is better to grow them on for a season in pots, so as to get them well furnished with roots before turning out into a prepared border. A plant occupying a 6-in. or 7-in. pot should in April be shifted to another two or three inches larger. This Clematis grows well in a mixture of half peat and loam, with a moderate quantity of sand added to it. For this, as for other free-rooting things, it is well not to make the soil too fine; break the turfy pieces into bits the size of walnuts, and mix the sand well with it. After potting insert in the pots several tall sticks, round these twine the shoots, which should be confined to from one to three in number, so that the plants may be induced to make considerable progress during the season. When potted place them in any ordinary greenhouse, and encourage growth by the usual means of damping the atmosphere in bright weather, and shutting up early with sun-heat, as also syringing freely overhead. Beyond this nothing will be required through the growing season except keeping the shoots regularly trained round the sticks. If this is not attended to they get entangled in a way that renders it difficult afterwards to separate them. As autumn approaches give more air, and discontinue the use of the syringe. Winter the plants in the usual greenhouse temperature of about 40° in the night. Warmer than this they should not be kept, or they will be induced to make growth through that which ought to be a season of complete rest previous to planting-out. This will be understood from the plant being indigenous to a country where the winters are cool.

Before planting prepare the border which they are to occupy by efficient drainage covered over with a layer of fibrous material, than which for a strong-

growing subject of this description there is nothing better than a thin, turfy sod of about an inch in thickness, that has lain together sufficiently long for the grass to have become decayed. This, if put on the turfy side downwards, will for years exclude the finer particles of soil from getting down into the drainage, which is better for being some six inches in depth. Previous to planting-out this and all other climbers, especially in greenhouses and conservatories, care should be taken that they are perfectly free from any of the worse kinds of insects, such as scale or mealy-bug, for the position of plants thus trained on the roof renders them much more difficult to clean than when grown as ordinary pot-specimens. It is equally of importance that any plants at all affected with these insects, and that are introduced to the house in which roof-climbers are grown, should never be stood in contact with the stems of the climbers, for if so placed the pests are sure to be communicated to them, and the worst results must follow. Let the planting-out be done sufficiently early in spring, before any growth has commenced, so that the necessary disentangling of the roots from the ball of earth with a view to spreading them in the new soil can be carried out without injury, which would follow if growth in either roots or branches had begun. After planting, give no more water until they have commenced to grow; this is necessary, to keep the soil in a suitable condition. During the growing season keep the shoots regularly tied up into the place allotted to them, and supply the roots with water.

This *Clematis* is very appropriate for planting at one end of a house, and training under the ridge. When allowed to hang thinly in festoons it has a good effect, and is more fitting for being so grown than things which are not naturally calculated for extending far. As the soil in which the roots are placed gets exhausted, recourse must be had to stimulants, in the shape of copious waterings during the growing season with liquid manure, and renewal of the surface-soil in the spring, by removing an inch or two from the top of the border the roots occupy, and replacing it with new. When the space is filled which the plants are intended to occupy, each year after flowering the knife should be freely used, so as to reduce the shoots within proper limits, and to allow room for the season's growth.

Red-spider will, during hot weather, sometimes make its appearance, and should be guarded against by a free use of the syringe.—T. BAINES, *Southgate*.

NEW ORNAMENTAL JAPANESE PEARS.

WE have sent you a small package containing Pears from Japan. These pears are very rare at present, and we believe they are not grown at all in England. Though not dessert pears, they are really worth a more extended cultivation, especially in the gardens of amateurs. We send five varieties, namely, *Daimio*, *Mikado*, *Madame Von Siebold*, *Sieboldii*, and one unnamed. The first four varieties were brought into trade successively by the firm, Ph.

Von Siebold, whereof T. Mater is the well-known manager. The two first-named were offered in the year 1812, the other two in 1813.

Mikado and *Daimio* are summer pears. *Madame Siebold* and *Sieboldii* can be kept till December and later. All four are good for kitchen use. The two first are quite ornamental when ripe, being pure yellow in colour, and hanging on long stalks. The Japanese people eat them for dessert, though we suppose they must have a different taste from ours, for we cannot eat them raw; but these Japanese are a queer people.

The two last are used in Japan in the kitchen; but here is an extraordinary circum-

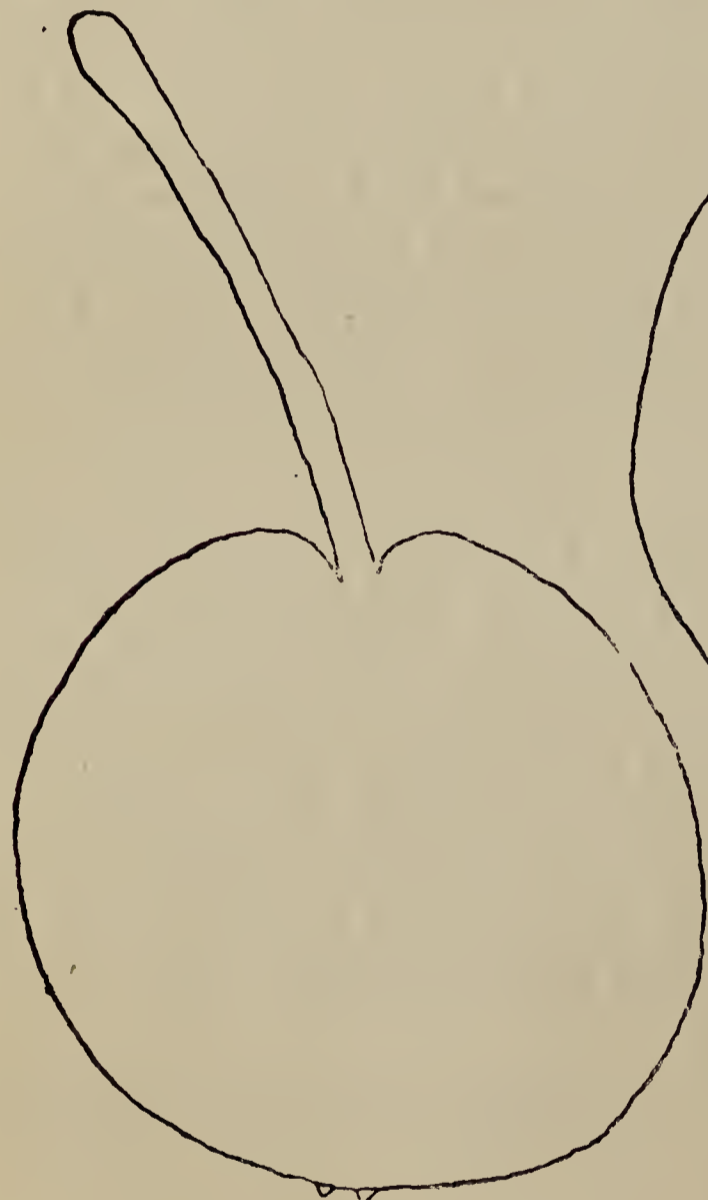


FIG. 1.

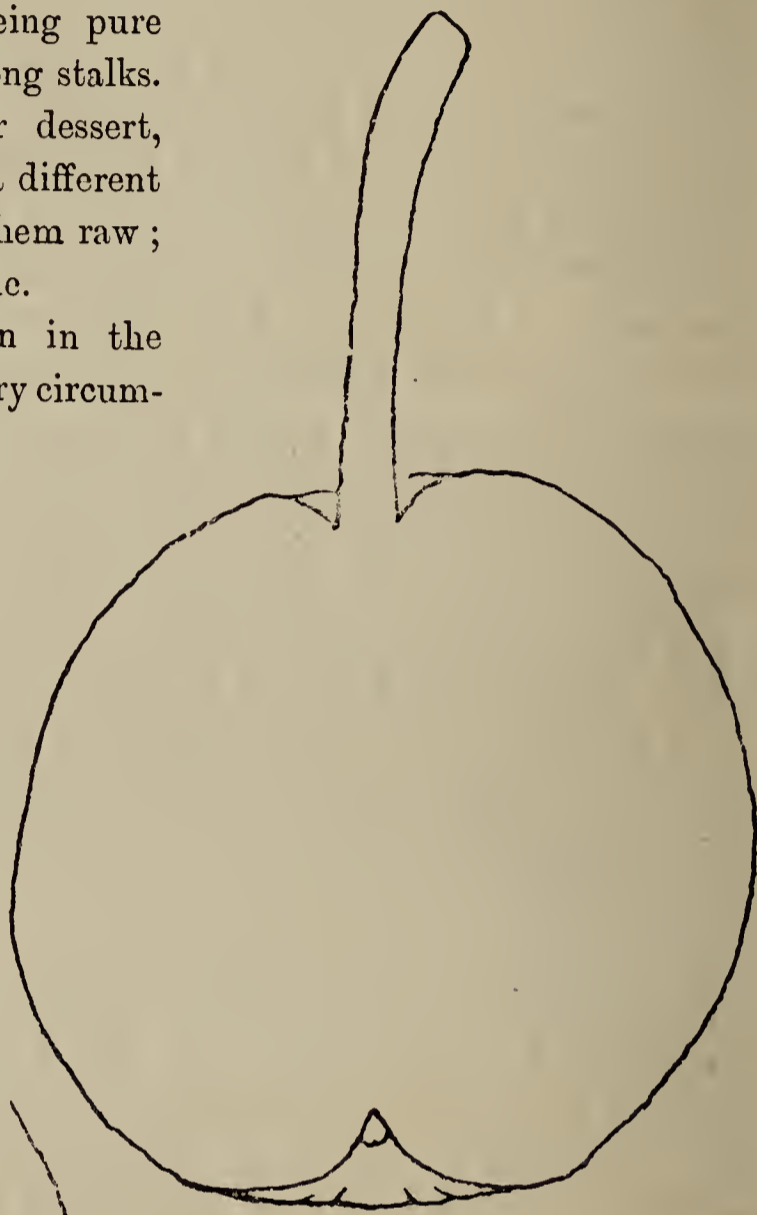


FIG. 2.

stance—M. Von Siebold had always said that these late pears could be kept later than any other sort in existence—more than eight or ten months, or sometimes till the following year; they are also much larger in Japan. Both these state-

ments have been again made not long since by M. Maximowicz, the well-known traveller in China and Japan, when he was paying a visit to the establishment of M. Von Siebold, at Leyden.

Von Siebold says the following of it:—"The envoys of the Ancienne Compagnie Neerlandaise have not ceased to admire in their journeys to the Court of Yedo, the large pears exhibited in the fruit warehouses, and perfectly

preserved until the month of July. There are even some of them which keep longer still—eight to ten months. This pear-tree, which is originally from China, whence it was imported to Japan in distant times, distinguishes itself from our varieties by large fruits, almost rounded, and with very long peduncles, whose skin is rough (harsh), brownish, and dotted, and the flesh very succulent, but hard, more acid, or acerb, than sugary. There are some which are forwarder, smaller, and which are eaten in the summer season as re-

freshing fruits, but there are these large pears of autumn, which keep so long, and are very suitable to be cooked and preserved, because of their acidity and acerbity, surpassing all our late pears in this property. The varieties which we have introduced stand easily not only the climate of central Europe, but also that of the tropical countries.”

We can also say of them that they are quite as hardy here as

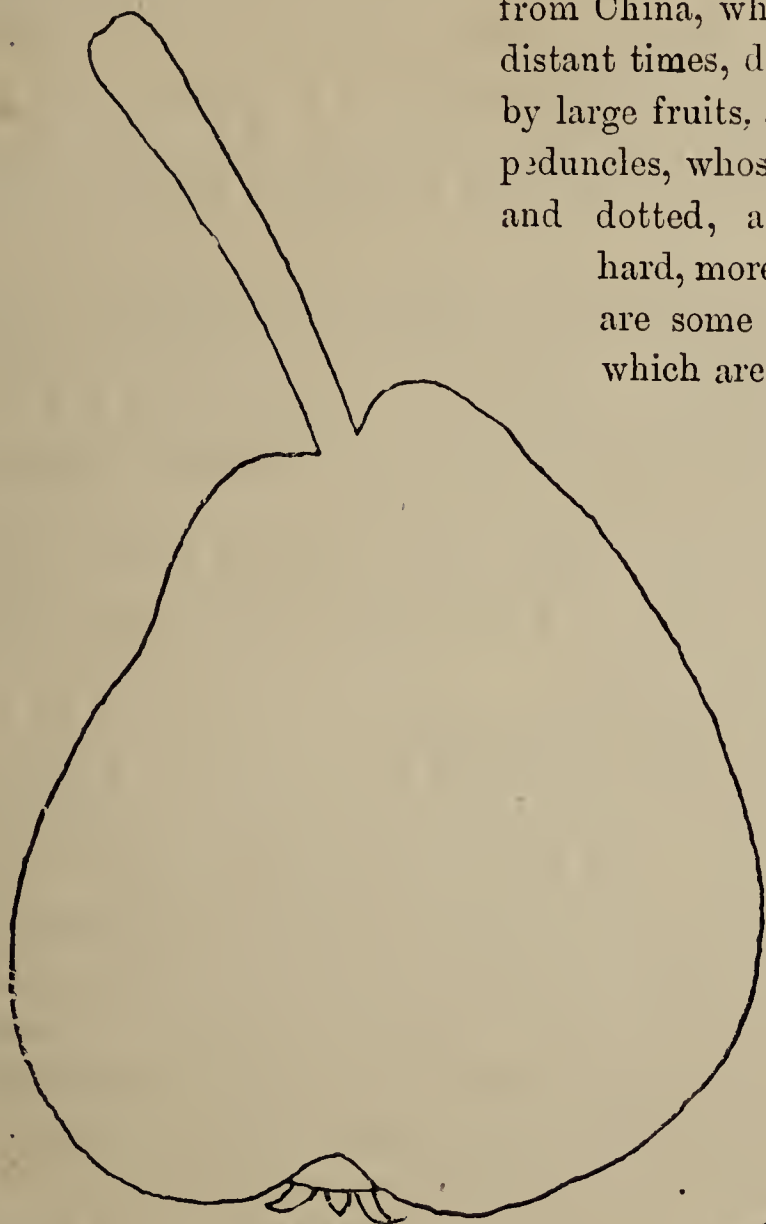


FIG. 3.

any other varieties. They grow immensely, making shoots four feet long in one year; their leaves, as you will see by the shoots now sent, are twice as large as those of other pears. They seem to form their flower-buds principally at the tops of their branches.

The fifth variety sent is the best of all; it has no name at present, not being yet offered for sale. This variety is now in our hands. We purpose to name it after one of our pomological friends in Holland. This variety is quite different from the other four, and

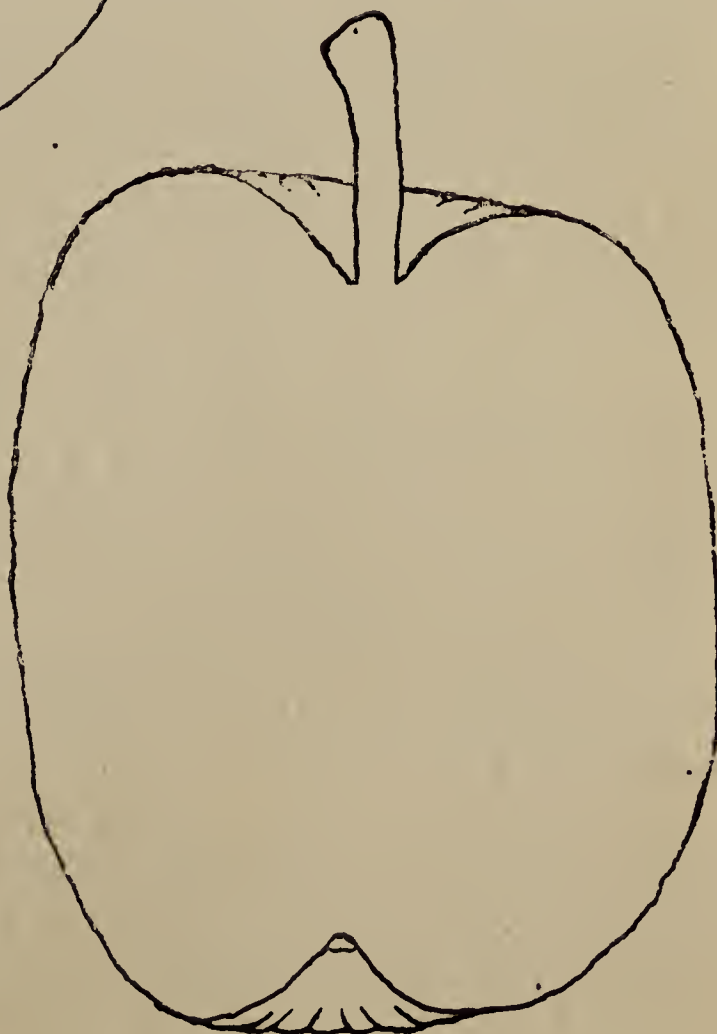


FIG. 4.

it differs largely from European pears, having the same characteristics as the other Japanese pears. The shape of the fruit is very peculiar, as is also the colour. This variety can be used as a dessert pear, for though perhaps third-class for eating, it is first-class for ornament. Though the other varieties have not met with the attention of horticulturists generally, this cannot fail to do so, as it is more ornamental, more peculiar, and more fit for use. It is of the same stout habit, making very long shoots, with quite ornamental leaves.—J. W. OTTOLANDER AND SON.

To this we may add that the young wood and foliage of the whole of these pears indicate a vigorous habit of growth. That of the variety named *Daimio* has the bark marked with oblong white spots, the buds very prominent, and the leaves ovate or elliptic-ovate, gradually or rather suddenly acuminate, sharply serrated with bristly teeth. The fruit, represented at fig. 1, has the skin of a dull yellow freckled over with light brown spots; stalk long and slender; eye very shallow. The flesh is coarse, gritty, and uninviting. The *Mikado* has leaves and flowers and fruit similar to the last.

The fruit of the variety named *Madame Von Siebold*, represented at fig. 2, has a light olive-brown skin, thickly dotted with small pale brown scurfy spots; eye sunk in a deep narrow basin, without calyx-lobes; stalk thickish, an inch and a half long, also set in a narrow cavity. The flesh is white, crisp, and gritty. In the variety *Sieboldii*, the bark is marked with small brown spots, and the leaves are ovate-acuminate, sharply serrate. The fruit, shown in section at fig. 3, has a rich golden-russet skin, dotted over with whitey-brown specks. The flesh is coarse, crisp, gritty, and unpalatable. The variety *Ottolander* has small round dots on the bark, and acutely serrate ovate-acuminate long-stalked leaves. The fruit, represented at fig. 4, is very distinct from that of the others, being oblong in outline, the skin of a clear golden-russet, thickly speckled with whitey-brown spots. The flesh is white, rather gritty, with a pear flavour. They are all desirable hardy deciduous ornamental trees.—T. M.

THE CULTURE OF THE HIPPEASTRUM.

COLONEL TREVOR CLARKE is so well known as a successful grower of bulbous plants, that the following remarks of his on the management of the *Hippeastrum*, from the *Journal of Horticulture*, will doubtless afford a useful hint to many growers:—

The essential point in the cultivation of this genus—which is very distinct from *Amaryllis*—lies in the comparatively new method of ripening the bulbs gradually in the open air.

We will suppose a batch of plants in flower now [March] and in succession for several weeks in their warm quarters in the stove. After flowering, let them remain a little shaded and removed from that part of the house which they no longer ornament. Keep them here till the leaves, or the greater part of them, have become fully grown and firm. This period will come on about the end of May and onwards

for a week or two. Next, remove them into the greenhouse for three weeks or a month, where the leaves will become stiff, strong, and healthy. This will bring us into July, when the plants must be removed into the open air, preferably at the foot of a south wall, and watered every day or two during hot weather. If September brings hot weather, leave them alone while it lasts. If not, take them into the greenhouse for the winter at once.

The plan here described is not my own, though I have long practised a hardening system of the kind. It was taken from an article in one of Van Houtte's catalogues, and has been now tested here for several years with the best results. A horticultural friend in my neighbourhood sent me twelve of these plants last spring to try the system upon. He had had them ten years without flowering one. Six are now flowering strongly, and the rest are in the highest of health.

I omit much detail, confining myself to essentials. Any person conversant with gardening under glass will know what to do as to general good treatment.—
R. TREVOR CLARKE, *Daventry*.

THE ENGLISH IVY.

THOSE who are acquainted with the common English Ivy, *Hedera Helix*, know that the leaves of its creeping stems are five-lobed and five-pointed, while those on the offshoots, close to the clusters of flowers, are oblong, or ovate, and of various sizes, a thing observable also in other kinds of plants. Yet if the forms of leaves vary so much as those of the Ivy are known to do, botanists might well hesitate before distinguishing new plants by this peculiarity; nevertheless, as a rule, there can be no better guide for specific distinctions, because the leaves of plants are more readily seen than their blossoms and seed-vessels.

The young shoots of Ivy sprout out roots somewhat like centipedes' feet at their tips, on the shaded side, which enable them to creep up walls and trees; not only rendering them steadfast, but also serving to imbibe nutriment, especially in damp weather. But it is not so with the off-shoots, for these, being exposed to light and air, have no roots on the bark, and derive their support from the other branches; they are also of less vigorous growth, which tends to fruitfulness. The same applies to dwarf Ivy in pots; the leaves in that case soon become pointless, like the blooming branches. It would seem fair to conjecture that stunted growth is connected with the variation of Ivy-leaves, as in the case of the Holly; but opposed to that stands the fact that Ivy, growing on the ground under the shade of trees, though weak, never loses the pretty five-pointed leaves, and consequently is barren of blooming branches.

Though Ivy creeps or grows about in all manner of ways, yet I never observed it adhering to walls or trees and at the same time growing downwards. Thus, when the twigs reach the coping of a wall, they dangle about, instead of descending to cover the other side; nay, even when they are nailed downwards, the points

turn round, send out roots on the shaded sides, and ascend in the usual way. Such rootlets act somewhat like feet, and are so numerous that fifty may be seen on an inch-length at the tip of a shoot mounting a wall or tree; and thus, though Ivy is weak of itself, it adheres firmly, not only to rough walls and bark of trees, but to smooth surfaces, even to panes of window-glass.

My attention was lately called to a new wall partly clad with Ivy on both sides. On close inspection, however, I found that some of the shoots had crept round one end, and grew horizontally under the coping, while all their off-shoots were followed without pointing downwards. This fact may afford a useful hint to those who wish to cover both sides of a wall with Ivy. The English or common sort is not only the prettiest, but the best for this purpose, because its grasp is more firm than that of the more favoured Irish Ivy, whose broader leaves and heavier shoots are often the cause of whole masses of it being brought to the ground in stormy weather.

Old ruins are always associated with Ivy and owls. Gray had that in view when he wrote his far-famed "Elegy." But I leave the owl in his "ivy-mantled tower," to put this question,—Does Ivy keep walls dry or damp? I say dry. One has only to observe the good preservation of old Ivy-covered walls to prove this. In fact, Ivy may be considered their keeper, long after the exposed parts are tottering in decay.—J. WIGHTON, *Cossey Park*.

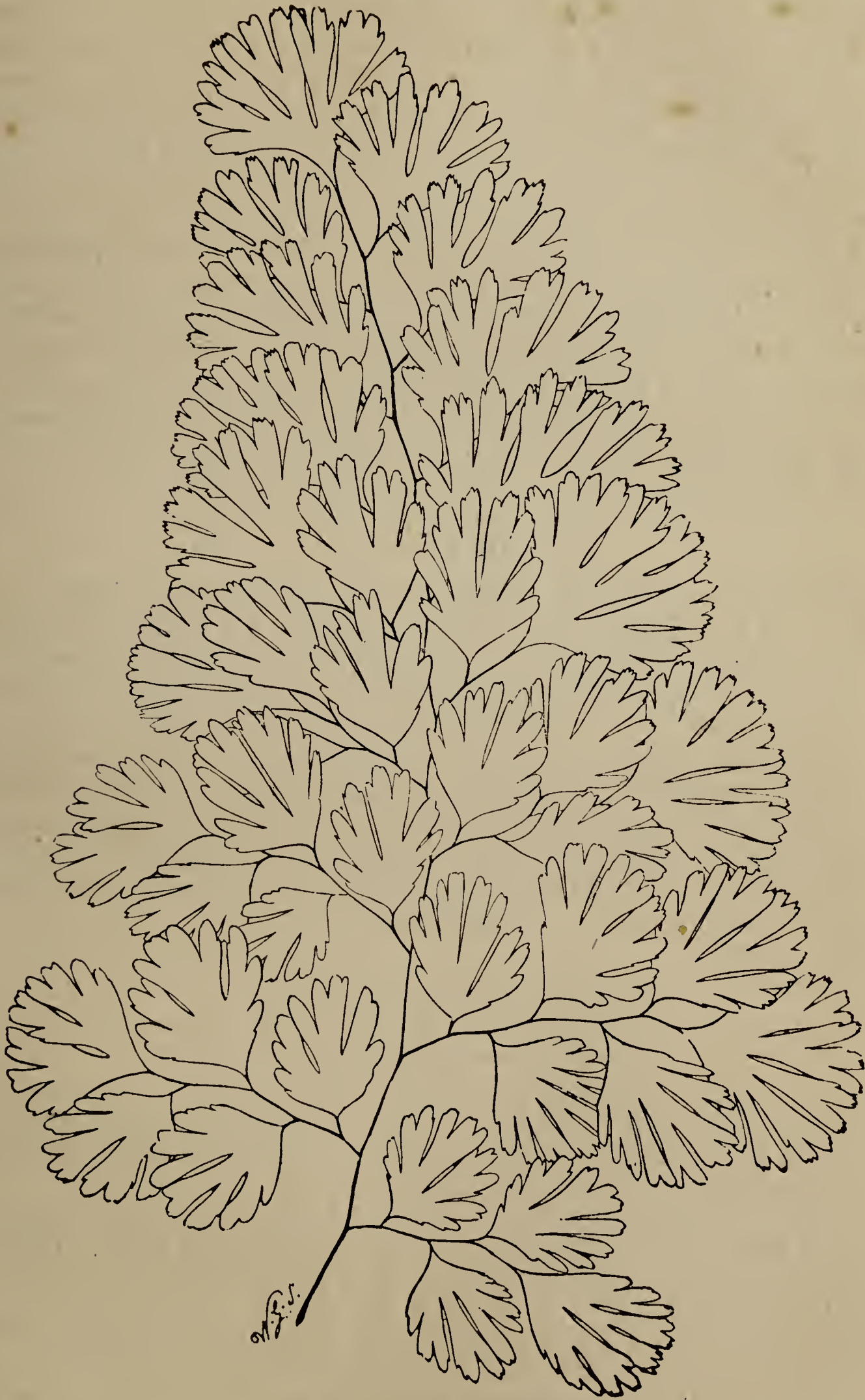
THE WHITLOOF CHICORY.

A GOOD deal has lately been written both for and against this esculent. In reference to it, I would merely suggest that if the root was plentiful—and there is no reason why it should not be, except for the demand—it might be made both interesting and useful to London people in this way. If five or six roots were put into a pot, with a little soil, cocoa-nut refuse, or sawdust, and an empty pot was turned over it, the roots would push on any window or mantel-shelf. A few days would suffice to bring out sufficient leaf to fit it to be put on the table at breakfast or dinner, to be picked at. It is admitted by all to be a wholesome salad, and many will prefer the slight bitter flavour. Even the costermonger might have his salad by using up some of the Australian meat tins now so plentiful. On board ship they might have it for use half the year or more, and the next Polar Expedition might have it all the way to the Pole.

In Belgium, where they take a good deal of care in its blanching, it is cooked as a vegetable.—J. FLEMING, *Cliveden, Maidenhead*.

ADIANTUM CAPILLUS-VENERIS CORNUBIENSE.

WE are indebted to our contemporary, the *Gardeners' Chronicle*, for the use of the accompanying woodcut of one of the most beautiful varieties of our native Maidenhair Fern which has been yet met with. Mr. Tyerman writes of it:—"Amongst the many beautiful species and varieties of British Ferns the Maidenhair has no rival, and one might doubt if



ADIANTUM CAPILLUS-VENERIS CORNUBIENSE.

it were possible that any abnormal form could surpass the parent form in graceful elegance, but the var. *cornubiense*, represented by the annexed woodcut, occupies the same relative position to *A. Capillus-Veneris* that the beautiful *farleyense* does to *A. tenerum*. Like that variety, it is much larger in all its parts, the large wedge-shaped pinnules being divided into numerous and deeply parted lobes; and like that, it does not produce seeds. The fronds are from 12 to 15 inches long, very delicately membranaceous; the pinnules an inch or more broad and an inch long, deeply multifid, the margins dentate-lobate. Both indusium and sori are wanting. As in the var. *farleyense*, the involucres, instead of taking the form of indusia and becoming reflexed, are extended in continuation with the free-forked veins, and subdivided into numerous slightly dentate and rounded lobes. The honour of discovering this beautiful Fern and introducing it to cultivation is due to Mr. H. H. Trevithick, of Hayle, who found it growing on the rocks by the sea, and near his home. The name I have chosen for it will mark it as one more, and not the least valuable, of the many beautiful Fern sports found in this county."—J. TYERMAN, *Tregoney, Cornwall*.

THE LILAC.*

AMONG the hardy large-growing ornamental shrubs, the Lilac justly occupies a prominent place. Indeed, we consider it second only to the Magnolia as an ornamental flowering shrub. It is a universal favourite, and fully merits Loudon's encomium, "beautiful in leaf, and pre-eminently so when in flower."

The common purple and white varieties, like the red Pæonia and Snowball, are familiar to all. They may be seen in almost every farmer's garden, regaling the passer-by in their flowering season with their delicious perfume. Their swelling buds and pale green leaves are among the first to proclaim the advance of spring, and are always intimately associated with the return of the genial season. In this connection Cowper's description of the Lilac is worthy of quotation:—

"The Lilac, various in array, now white,
Now sanguine, and her beauteous head now set
With purple spikes, pyramidal, as if
Studious of ornament, yet unresolved
Which hue she most approved, she chose them all."

The colours and shades of its flowers, in the many varieties, are manifold, and no less in this respect than in their delicate grace and exquisite fragrance do they merit the esteem of the lovers of floriculture.

The Lilac is adapted to almost any soil and climate. In park or garden, lawn or hedge, it lays claim to distinction for effectiveness and beauty. In city gardens, where there is only limited space, it is one of the cleanest and most satisfactory of shrubs, either as a well-shaped bush or a low tree with neatly balanced head. But it is in large places where its charms can be displayed to

* Read before the Western New York Horticultural Society.

the best advantage. In lawns, where large clumps of the showy-coloured varieties can be planted, it has few superiors in point of brilliancy and fragrance. Clumps of *Syringa Josikæa* are introduced with fine effect in the Central Park, and when in flower are among its striking attractions. In this climate it takes the place of the Rhododendron, so much prized in England. Besides being very hardy, it has the additional advantage of fragrance, which the hardy Rhododendrons do not possess.

In grounds sufficiently large, it can be used for ornamental hedges. Its dark green foliage is not affected by atmospheric changes, nor has it any insect enemies. It therefore, always forms a clean and handsome background, and when in flower is a feature of the park or garden. Where Privet-hedges are already grown, the Lilac can be grafted with no little effectiveness, at intervals of about 10 ft. to 15 ft. The Lilac grafts, when grown, project over the Privet, and form round or pyramidal heads, varying the monotony of the ordinary formal hedge.

By many the Lilac and other highly fragrant flowering-shrubs are considered invigorating and healthy as atmospheric purifiers and dispellers of noxious vapours. I well recollect when the cholera was raging throughout Europe, in, I think, 1830, the *savants* of the city of Stuttgart, where I was then residing, ordered the burning of fragrant herbs in the market-place, to prevent infection. Whether owing to this means or not, the city escaped the dreadful scourge.

Although it will thrive and flower in any soil, an annual top-dressing of stable-manure will well repay the trouble and expense, in the fuller development and beauty of both flowers and foliage. Half-standards for single specimens can be grown either on their own roots, or grafted on the common sorts, as well as on the Ash or Privet. In order to render them attractive they must have well-balanced bushy heads, and be kept in form by regular thinning and pruning. After the flowers have faded they should be removed, in order to cause new growth, that will ensure profuse blooming the following season. By this means the flowers may also be very much enlarged.

In all large Continental cities, and particularly in Paris, the Lilac is in great request for winter flowering. The common purple is generally used for forcing, and when kept in houses, darkened by mats or otherwise, produces pure white flowers. In order to produce the best results, the plants should be carefully selected in the spring and planted in pots; then plunged in the ground during the summer, and kept well watered. In September they should be repotted into rich compost, and in succession, according as required, be placed in an atmosphere of 60 to 70 degrees Fahrenheit, which should gradually be increased to 80 degrees, and even as high as 100 degrees. The roots should be well supplied with water, and the plants should receive frequent syringings with tepid water. They may also be taken up carefully with balls in the fall, to be forced the following winter, but we recommend the former method. When no forcing house is accessible, a warm room answers very well in its stead.

For a window-plant the Lilac keeps in bloom a long time, and has no superior.

As a florist's flower in winter, it is in great demand. The Persian varieties are also used for forcing, the flowers being more delicate than those of the common purple. Through hybridisation many valuable varieties have been added to the Lilac group of late years, both in this country and in Europe. In the following list we desire to introduce and make known some of the best and most striking varieties, consisting of all colours and shades, from the darkest red to the purest white :—

PERSICA.—A native of Persia, of dwarf growth, four feet to six feet high, with small foliage, and bright purple flowers.

PERSICA ALBA.—Of somewhat less vigorous growth than the above, with delicate white flowers shaded with purple.

FLORE-PLENO.—Double purple, resembling in colour the common purple, but has a double row of petals. It is much admired, being the only double variety.

GRANDIFLORA.—A very vigorous-growing variety, with panicles of bright purple flowers of unusual size.

VIRGINALIS.—A most charming variety, with large panicles of pure white flowers, and dark green foliage.

EMODI.—A native of the Himalayas, with very large and fine, delicate, purplish-lilac flowers, in erect dense panicles; a very free bloomer.

SINENSIS.—A species resembling the Persian, but of more vigorous growth. Flowers of reddish-purple, a most prolific bloomer; in fact, the whole bush is a mass of flowers.

JOSIKÆA.—A very distinct species, with shining leaves and purple flowers, blossoming from two to three weeks after all the other varieties of Lilacs, and when very few other shrubs or trees are in bloom.

DUCHESSE DE NEMOURS.—Flowers light purple, distinct and fine.

NANA.—A very distinct dwarf variety, with large and compact spikes of dark reddish-purple flowers.

SPECIOSA.—One of the most charming new varieties, with very strong spikes of bright reddish flowers.

GLOIRE DE MOULINS.—Panicles very large, of a fine rosy lilac colour, a superb variety.

CŒRULEA SUPERBA.—Flowers light purple when in bud, but when fully open, a clear lilac; truss very large; the finest of its colour.

ALBA GRANDIFLORA.—Large, pure white trusses of flowers; considered the best white.

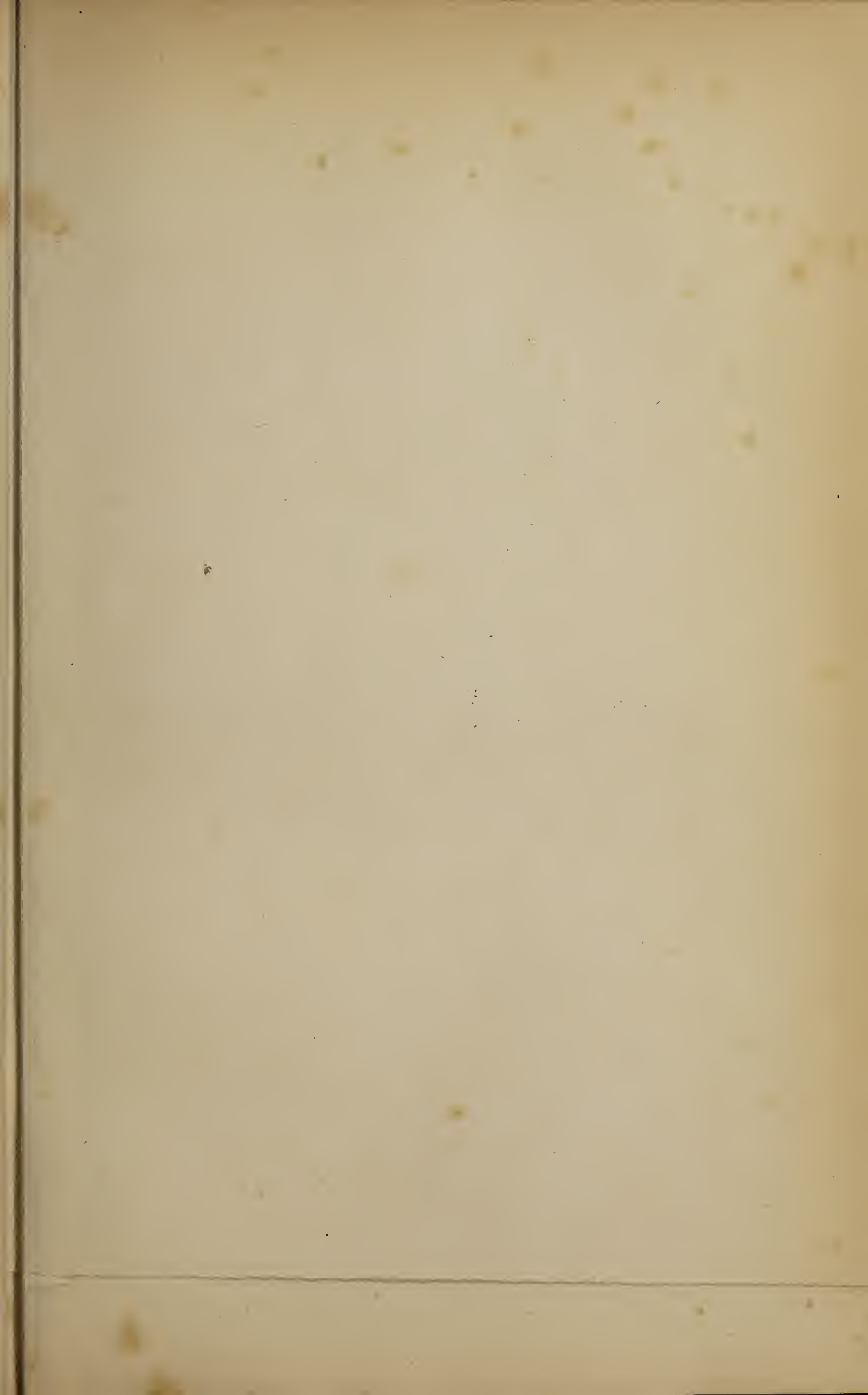
PRINCE NOTTGER.—Delicate bluish-purple; flowering early.

ROTHOMAGENSIS RUBRA.—This is one of the most showy varieties, flowers reddish, in panicles of great size, often measuring 18 in. in length, and very abundant. Planted on lawns no tree or shrub will give such grand effect; even the Rhododendron cannot vie with it.

—GEORGE ELLWANGER, *Rochester, N. Y.*

SPECIMEN SHRUBS.

WITH a view to summer effect, shrubs which are planted too thickly should be thinned-out during the winter, and the thinnings taken away and burnt. The beauty of all shrubs depends in a great measure on their outline. Fine variegated Hollies, for instance, are often seen smothered with other common things, and their contour really spoilt from want of timely attention to thinning and cutting-in. Lilacs and such-like deciduous spring-flowering shrubs, though very beautiful in their way, should never be allowed to interfere with the full development of a large Holly, Yew, or Portugal Laurel, causing it to be one-sided and sickly from overcrowding. When this overcrowding has been going on for years, and the vigour of the finer specimens is very much reduced, a good top-dressing with dung or some kind of soil may be put on with advantage. This will assist greatly to rectify matters, and bring about a free growth. It often





L. V. Charlare del. et sculp.

Dartmouth Park

CORNUS MASCULA AUREA ELEGANTISSIMA *J. & C. Lee.*

SENT OUT BY JOHN & CHARLES LEE, ROYAL VINEYARD NURSERIES, HAMMERSMITH LONDON
FIRST CLASS CERTIFICATE ROYAL HORTICULTURAL SOCIETY.

happens that where gardens have been too much "kept,"—too clean, by not allowing even a leaf to rot on the surface—this weakly attenuated form of shrubby growth is the worst. In few places can littery beds and borders be permitted, and it is well to clear away leaves as they fall, but the same bulk in a rotten state should be brought back yearly, and dug-in or allowed to remain on the surface.

Ivy borderings are very effective, indeed no plant is more useful or better adapted for all kinds of ornamental work than the ivy. It is quite as indispensable in the ornamentation of gardens as a frame is to a picture, and in winter is especially desirable.—H. KNIGHT, *Floors Castle*.

CORNUS MASCULA AUREA ELEGANTISSIMA.

WITH AN ILLUSTRATION.

AMONGST the ornamental-leaved shrubs which adorn our gardens and pleasure-grounds, those with variegated foliage are especially useful. Witness the silvery Negundo, whose pure white variegation, introduced here and there, lights up a whole bank of green, and makes it aglow as if with blossoms. The subject of our present illustration, which bears the name of *Cornus mascula aurea elegantissima*, is equally effective, and even more brilliant, since its variegation is golden in the early part of the summer, and flushed with crimson later on. "A broad margin of pure gold, surrounding a bright-green centre, is of itself a sufficient attraction, but when in July the tips of the leaves become suffused with the brightest carmine, it is impossible to give an idea of the beauty and elegance of the plant, which will bear a favourable comparison with the best variegated stove or greenhouse exotics. The habit of the plant is semipendulous and very graceful." Such is the account given of it by its fortunate possessors.

This variety was raised in their Isleworth Nursery by Messrs. J. and C. Lee, of Hammersmith, and is now in the hands of their successors, Messrs. C. Lee and Son, by whom it is being distributed. The beautifully bright and well-contrasted variegation has proved to be perfectly constant, so that it may be recommended as one of the most brilliant of deciduous shrubs, having the leaves of the ovate-acuminate form found in the type, and being, like it, perfectly hardy. The reports of it at the time it gained a First-class Certificate at South Kensington in 1872, when it was three years old, speak of it as "a remarkably pretty thing," and "a welcome addition to the list of hardy ornamental shrubs," which opinions we endorse. The colours are green, gold, and rosy-carmine, and the habit is good, the branches spreading more elegantly than in the common form.—T. MOORE.

DWARF BEDDING LOBELIAS.

THE many varieties of dwarf *Lobelias* now in cultivation for bedding purposes have sprung from *L. Erinus*, a fine form of which, under the name of *speciosa*, may be instanced as the progenitor of the new and improved varieties. The type represented by *speciosa* is, since the introduction of a

dwarf or *pumila* section, come to be spoken of as the large-flowered type, and the varieties are of more robust and somewhat spreading growth, with bold flowers very freely produced. Several varieties have sprung from *speciosa*, among them some with pure white flowers, the seed of which is of a pale lemon-colour, differing from that of the blue varieties, which is of a chestnut colour. It is not a little remarkable that the pale-coloured seed taken from pure white varieties will often revert to blue flowers, but they always produce dark-coloured seeds.

The varieties included in the *pumila* section are all distinguished by a remarkably close-tufted growth, very compact in appearance, and yet producing flowers in great profusion. A double variety of the last has also been produced, equally free-blooming, but with flowers fully double. While the colours of the flowers in both sections range from deep blue, through claret, lilac, and pink, to pure white, the double form is at present confined to blue only.

When bedded out, the *Lobelia* should have a light soil, in which there is plenty of leaf-mould. It is a plant that thrives well in moisture when planted in a suitable soil, but on cold wet soils it does not flower so profusely from seed as when propagated by cuttings. It should be planted out at the end of May, and when the plants begin to make growth, the beds should be surfaced with some finely-sifted leaf-soil. In order to have good plants from which to obtain cuttings in the following spring, some of the side-pieces should be taken from the plants about the beginning of August, and these will invariably be found to have some roots attaching to them. They require to be potted into middle 60-pots, and put into a cold frame, and kept shaded till established, and then stood out-of-doors on an ash bottom; or the lights may be drawn off, and the plants fully exposed to the weather till the autumn. They can be wintered on the top shelf of a greenhouse, and occasionally syringed, when the weather is mild and sunny.

In order to have good and effective beds, it is always best to propagate certain good sorts by cuttings, as seedlings will vary more or less in colour and in the habit of growth. In spring, when the store plants begin to make growth, the young shoots should be taken off and inserted as cuttings in pans of moist sand, and placed in a quick moist bottom-heat. In a few days they become rooted, and can then be pricked off and grown as required. One plant will yield a large number of cuttings, if kept growing in a moist heat. The young plants must be gradually hardened off before being placed in the beds in May.

When seeding, only the plants that have a compact habit of growth, that are free-blooming, and bear flowers of a decided hue of colour should be selected for the purpose. The seed can be sown in September, or in early spring; a sowing made at the end of the summer will produce fine plants by spring, if they are carefully grown on, and especially when an early display of bloom is required in the open air, a pan or shallow box, well provided with drainage, should be nearly filled with leaf-mould, loam, and sand, a little rough in appearance, and over this, some finely-sifted soil, gently pressed down; and in this the seed, which is very minute, should be sown very thinly indeed. This should be gently pressed

into the soil, slightly sprinkled over through a fine rose, a piece of glass placed over it, and put in a shady place in a gentle bottom-heat. The seed is not long in germinating, and when the plants are large enough to handle, they need to be pricked off into other pans or boxes and encouraged to grow into size. The same hardening process must be adopted as in the case of cuttings.

The best varieties of the *speciosa*, or large-flowering type, are :—

<i>Blue King</i> , deep blue, excellent habit.	|	<i>Omen</i> , rosy lilac.
<i>Brilliant</i> , dark blue.	|	<i>Paxtoni</i> , white, margined blue.
<i>Celestial</i> , celestial blue, with white centre.	|	<i>Violetta</i> , bright blue, white centre.
<i>Lustrous</i> , rich blue, white centre.	|	

Of the *pumila* section, the following may be recommended :—

<i>Flore-pleno</i> , blue.	|	<i>Magnifica</i> , clear deep blue.
<i>Grandiflora</i> , deep indigo-blue, dwarf and free.	|	<i>Maxima azurea</i> , light azure blue.
	|	<i>Miss Murphy</i> , white.

—R. DEAN, *Ealing*.

THE CARNATION AND PICOTEE.

CHAPTER XVII.—DESCRIPTIONS OF THE BEST VARIETIES, OLD AND NEW (*continued*).

CONTINUING our description, we come now to the Picotees, the first class in order being the

RED-EDGED.

BRUNETTE (Kirtland).—Heavy-edged; petal broad, smooth, and of good substance; white, fair, densely edged with a broad band of deep red. Habit of grass tetchy and capricious in autumn and spring, but a good summer-doer. Useful for the home stage, and for the exhibitor, where long numbers are required, but not entitled to a place amongst the “upper ten thousand” of Picotees.

CLARA (Bower).—Light-edged. A variety of beautiful form, fair white ground—as light-red Picotees go—and of excellent substance, it would take very high ground, but that the marking is slightly broken, being laid on like the links of a chain, rather than as a continuous wire. It is, however, very pretty, without spot or bar, and well deserves wide cultivation. First bloomed in 1872, not yet distributed.

COUNTESS OF WILTON (Holland).—Heavy-edged; a seedling from Mrs. Norman, left by me at Bradshaw Gardens when I withdrew from them in 1859. It is yet a good old variety, distinguished, as was its parent, for its fine quality and rich colours. A good grower, though showing signs of the advance of years.

J. B. BRYANT (Ingram).—Heavy-edged; raised by the late Mr. Ingram, of Huntingdon; first bloomed in 1870, sent out in 1874. Awarded a First-class Certificate by the Floral Committee of the Royal Horticultural Society in 1872. This variety represents the perfection of form, and in a season like the last, suitable for the development of a good white ground, an eminent degree of excellence. In dull, wet seasons, such as 1875, it is apt to become clouded, therefore it will be well to give it a liberal supply of charcoal in the compost for its growth. For shape and substance of petal and regularity of its marking it cannot be surpassed. It is also an admirable grower. Will do well singly in 8-in. pots, and may carry two or three flowers on each plant.

JOHN SMITH (Bower).—Heavy-edged; this has the broadest edge of all the heavy-edged reds, and when in its best character, with its rich translucent white, without spot or bar, it is undoubtedly the best heavy-red existing. But like many other varieties of high character, its excellences are not to be obtained without effort; and like other varieties of succulent habit, it clearly is most at home in the bracing atmosphere of the north. It will, however, well repay the attentions required, these being that it shall be kept thoroughly clean, free from the assaults of green-fly, and the compost untainted with stagnant moisture. With me it does best from pipings, and as it grows very freely in summer, this method of propagation may readily be effected. Flower full, and of fair size; petal of medium width, gently cupped, good substance, and a fine white. Will carry two flowers, and when in vigorous health, three. Mix charcoal freely with the compost. First bloomed in 1862, sent out in 1864.

JOHN HARRISON* (Flowdy).—Medium-edged; raised at Newcastle-on-Tyne; origin un-

known. Has a finely-shaped stout petal, with the colour nicely laid on, should be grown under cover, as otherwise the white is creamy. In the North (Newcastle), the growers practise covering close very generally, with the result in Carnations that their flowers, though large, are sadly short of colour, but their Picotees are always good. It is a tall grower, and will carry two flowers to the plant.

LEONORA (Fellowes).—Heavy-edged; raised at Shotesham Rectory, Norfolk, by the Rev. C. Fellowes. First bloomed in 1871, sent out in 1874. Evidently a seedling of the old King James descent, though probably some generations removed. This in my collection was decidedly the best of the heavy reds raised by Mr. Fellowes, though elsewhere, I believe, Princess of Wales has been thought the better. A variety of great excellence; fine in form and substance, white ground extra, and markings dense and distinct, without the slightest tendency to bar, it is most attractive, full of *expression*, life, and *vivacity*, qualities many flowers whose individual points are almost faultless yet nevertheless greatly lack. A fine grower.

LORD VALENTIA (Kirtland).—Heavy-edged. Another variety by the raiser of Brunette, though of very differing character. First bloomed in 1866, sent out in 1869. Has a well-formed and well-marked petal, but requires more of them to give good form. The white ground lacks refinement, and is therefore sorely deficient in that expression which only such quality can give.

MISS SMALL (Fellowes).—Another of the Shotesham varieties. Very distinct, having a good white, broadly margined with a cherry red. Petal good, smooth, and of fair substance. A good grower. First bloomed in 1870, sent out in 1873.

MRS. BOWER (Bower).—Light-edged. A variety of the largest size, excellent form, good substance, and with a broad, well-marked petal; it wants only the rich white of Leonora to make it an unbeatable flower. Wanting that, it falls into a secondary class, but in the dearth of light reds, with the rich ground-colour of some of the heavy-edged varieties, it will, I fear, be long before it can be dispensed with by the exhibitor. And it should never be forgotten by the interested student of these flowers that, as contra-distinguished with a purple, it is the inevitable effect of a red margin to impart a creamy hue to the white ground. Raised at Dirkhill, Great Horton, Bradford. First bloomed in 1872, sent out in 1874.

MRS. DODWELL (Turner).—Heavy-edged. Sent out in 1854. Evidently a seedling from King James, but with a far better habit of growth. Possesses one of the finest petals possible to be seen, with a rich distinct marginal colour, and fine white, and would be unbeatable, had it the few more petals needed to give it perfect form. But even with this drawback, it was shown in such fine condition by Mr. Bower, of Manchester, last year, that it was second in its class only to a remarkably fine bloom of J. B. Bryant.

MRS. HORNBY (Turner).—Light-edged. Another illustration of the great drawback the lack of a pure sparkling-white ground involves. With this exception, the flower rejoices in almost every good property that can distinguish the Picotee. It is of full size, and finely formed; has a broad, smooth petal, great substance, and a beautiful wire edge of bright red. It also is a fine grower. Yet with all these good properties, wanting the pure sparkling white, I cannot describe it as first-class. First bloomed in 1870, sent out in 1874.

MRS. KEYNES (Fellowes).—Medium; sometimes light-edged. Raised at Shotesham Rectory. First bloomed in 1870; sent out in 1873. A good useful flower, large, full, and a good grower. Not equal to the high quality of one or two of the broader-marked flowers in the class originated by Mr. Fellowes, but well deserving wide cultivation for its constancy, fine form, stoutness, smoothness, well-formed petals, and general character.

PEERESS (Turner).—Heavy-edged. Has the broadest edge of the class; evidently a seedling of the King James breed, to which it closely reverts. A good useful variety to the seedling-raiser, for its breadth of colour and good white; also for the home stage and general purposes, but not likely to be used by the exhibitor, save where very long numbers are required. First bloomed in 1870; sent out in 1874.

PRINCESS OF WALES (Fellowes).—Broad, heavy edge. A very fine variety, described by Mr. Turner as the best of the class, although, from the fact that the centre petals with me were so frequently interlocked, and therefore disfigured with grown-rents; and further, the colour, instead of the sharp definition which is so effective, had a tendency to suffusion—"melt"—as florists phrase it, "into the white," I cannot join in this opinion, as I have already stated, in my description of Leonora; yet, nevertheless, it is a variety of great excellence,—large, full, well-formed, stout, smooth, and with a beautifully brilliant colour. It is also a good grower. First bloomed in 1870, sent out in 1873.

REV. F. D. HORNER (Lord).—Light-edged. Raised at Todmorden from self-fertilised seed of Mrs. Turner; light rose edge; first bloomed in 1871, sent out in 1873. This was by far the best light-edged red which bloomed in my collection last year. Fine in form and shape of petal, good white, of great substance, and very smooth, it is equal in its quality to

a good William Summers, and far more definite in its marking than that variety, having a perfect wire edge of bright red on the margin of each petal. Some of Mr. Simonite's fine light-edged reds will, I think, when accessible, surpass it, being fuller, and therefore better-crowned, but with me last season the Rev. F. D. Horner was decidedly A.1. of its class. Robust in its habit of growth, but like its parent, apparently by no means prolific in increase.

ROBERT SCOTT* (Flowdy).—Heavy-edged; raised at Newcastle, parentage unknown. A fine full flower, much like John Smith in its general character, but later by some eight or nine days in its period of bloom. The best of the North-country heavy-red Picotees. Requires generous growth.


THOMAS JIVENS* (Flowdy).—Light-edged. With me, a very large and full flower, with a number of small petals (though well arranged) in the centre, and these, I learn, have been its characteristics in the collections of Mr. Dodwell and Mr. Jonathan Booth, where also it has bloomed. In the North I am told it always wins the premier prize, whilst with us it is unfit for a stand. How is this? Mr. Flowdy informs me that with him it blooms with a petal broad and continued—as in Mary, light purple picotee—to the crown. In such a condition it must undoubtedly be a telling flower, and it would be interesting to learn the treatment required so to produce it.

THOMAS WILLIAM* (Flowdy).—Light-edged. A grand variety, the best light-edged red in my collection, and I am almost inclined to think the best I have seen. Something in the way of the Rev. F. D. Horner, but fuller, and better finished in the crown. Petals large, beautifully smooth, with a fine white and perfect wire edge. A tall and strong grower. The raiser says it never has a burst pod. Will carry two to three flowers on each plant. Parentage unknown.

WILLIAM SUMMERS (Simonite).—One of the earlier varieties of this celebrated raiser, grown from seed taken from Laurretta (Smith). A very beautiful variety in its day, sent out in 1862. Like all Mr. Simonite's seedlings, Wm. Summers exhibits high quality, fine substance, and a broad beautifully proportioned petal. The colour, a medium feather-edge, is bright and attractive. A full-sized, well-formed, and well-crowned flower. A good grower, though exhibiting signs of diminishing stamina with its advancing years. Being somewhat late, it should have the protection of a frame, or a warm corner of the garden, to bring it in with the general bloom.

—E. S. DODWELL.

PITH IN THE GRAPE VINE.

 R. FISH has very properly drawn attention to this important subject, which has been too long neglected. Much of late years has been written on Vine-culture, but this point has certainly not received that amount of attention it deserves, as the production of good grapes amounts to an impossibility unless we have a solid foundation to work upon. Pithy vines, when once fairly established, are a source of yearly disappointment. It will be readily admitted that every effect is brought about by some cause, however distant it may be, but in the present instance we have it close at hand. I do not believe that we shall find in any general rule a remedy against the excessive formation of pith, still I have, from long observation, concluded that it is mainly due to the over-stimulating properties of the soil, which is at the same time charged with an undue amount of water. There is, too, an ardent desire with most gardeners to prevent the introduction of red-spider, and to make sure against its invasion the atmosphere is kept constantly bordering on saturation. Under these conditions the vines grow vigorously, they are pictures of health, and to superficial observers are all that can be desired; but the practised eye is more deeply educated, and looks upon such an accumulation of health with distrust and disappointment. This experience is derived from knowing that in this

country the solar rays, even by the aid of artificial means, are not sufficiently intense to produce the requisite changes required to solidify the daily deposit of tissue. Hence it is that at the end of the growing season such gross wood is left improperly matured, over-charged with pith, and prepared to follow the same course the succeeding year.

Finding ourselves so circumstanced, the only certain remedy for checking so vigorous a habit, is to lift the plants and introduce less stimulating soil, mixing with it brick-bats, chips of the igneous rock, the old or new red sandstone, giving, at the same time, a liberal supply of crushed bones. Unless in cases of extreme poverty, I advise never to use farmyard manure, as ultimately it renders the entire bulk of soil tough and spongy, producing a peculiar acid hurtful to the roots. I strongly believe in having a constant control of stimulants at my own disposal, and so prefer to apply them in a liquid form, and this practice I advocate.

Wherever an excess of pith exists, we can hardly hope to succeed, under the most intelligent and painstaking management, in producing anything approaching to a satisfactory crop of grapes, even if the effort does not prove altogether a failure. The bunches, as a rule, start from the sixth joint, grow to an immoderate length, are exceedingly feeble, and as a consequence, the shoulders are set far apart, producing a straggling habit, which is retained to the last. Neither do the berries colour properly. No doubt there are various causes why grapes shank, but none, I believe, is so potent as imperfectly ripened wood, and yet it is seldom referred to.—ALEXANDER CRAMB, *Tortworth*.

THE NATIONAL SOUTHERN AURICULA SHOW.

THE recent effort made in the South to revive the public interest in Auriculas, by an attempt to get together a show worthy of the name, has been crowned with success, so far, at least, as the exhibition itself was concerned. The show, which took place on the 24th ult. at the Crystal Palace, was, in fact, the grandest display of these interesting, old-fashioned flowers which has ever been held in London or elsewhere, thanks to the indefatigable exertions of the Secretary, Mr. E. S. Dodwell, and the hearty support of the Rev. F. D. Horner, S. Cooper, Esq., and Mr. B. Simonite, in the North, and of Mr. C. Turner and Mr. J. Douglas, in the South. Owing to the backward season, several of the Northern growers who would have been present were unable to compete, but as it was, there was a large competition, and the flowers staged by Mr. Horner in particular were splendid examples of successful cultivation, brought out to the very day by means of judicious covering and by many a long night-watch.

We give below a record of the principal collections and specimens exhibited :

CLASS A. *Twelve dissimilar varieties*.—1st: The Rev. F. D. Horner, Kirkby-Malzeard, Ripon, with John Simonite (Walker), Alderman Charles E. Brown (Headly), Smiling Beauty (Heap), Pizarro (Campbell), Champion (Page), Ann

Smith (Smith), Freedom (Booth), George Lightbody (Headly), Anna (Trail), Prince of Greens (Trail), Charles James Perry (Turner), and Lancashire Hero (Lancashire). 2nd: Mr. Ben. Simonite, Rough Bank, Sheffield, with Pizarro (Campbell), Talisman (Simonite), William Bradshaw (Simonite), Lovely Ann (Oliver), Prince of Greens (Trail), Metropolitan (Spalding), Complete (Sykes), John Simonite (Simonite), George Lightbody (Headly), Frank Simonite (Simonite), Lancashire Hero (Lancashire), and a seedling self. 3rd: Mr. James Douglas, gardener to F. Whitburn, Esq., Loxford Hall, with Colonel Champneys (Turner), Pizarro (Campbell), Lady Sale (Smith), Alderman Wisbey (Headly), John Waterston (Cunningham), Topsy (Kay), Admiral Napier (Campbell), Charles James Perry (Turner), Robert Trail (Lightbody), Eliza (Sims), Smiling Beauty (Heap), and Lancashire Hero (Lancashire). 4th: Mr. C. Turner, Slough, with Mrs. Sturrock (Martin), Crucifix (Clegg), General Neill (Trail), Robert Trail (Lightbody), J. Waterston (Cunningham), Charles J. Perry (Turner), Colonel Champneys (Turner), Pandora (Turner), Squire Chilterman (Wilmer), Lord Elgin (Finlayson), Peacemaker (Turner), and a seedling. Mr. H. Jones, Carrow House, Norwich, also competed with J. Waterston (Cunningham), Duke of Wellington (Dickson), Formosa (Smith), Miss Willoughby (Hufton), Charles J. Perry (Turner), Squire Smith (Chapman), General Bolivar (Smith), Countess of Wilton (Cheetham), Duke of Cambridge (Dickson), and Emperor (Litton).

CLASS B. *Six dissimilar varieties.*—1st: The Rev. F. D. Horner, with Lancashire Hero (Lancashire), Prince of Greens (Trail), Smiling Beauty (Heap), Pizarro (Campbell), George Lightbody (Headly), and Anna (Trail). 2nd: Mr. James Douglas, with Beauty (Trail), Colonel Taylor (Leigh), Charles J. Perry (Turner), Admiral Napier (Campbell), Colonel Champneys (Turner), and Lancashire Hero (Lancashire). 3rd: Mr. B. Simonite, with Lovely Ann (Oliver), Beauty (Trail), Lancashire Hero (Lancashire), Lord Palmerston (Campbell), Eliza (Sims), and Fanny Crossland (Simonite). 4th: Mr. Charles Turner, with Geo. Lightbody (Trail), Highland Queen (Horsefield), Charles J. Perry (Turner), Mrs. Sturrock (Martin), Admiral Napier (Campbell), and Colonel Champneys (Turner). 5th: Mr. H. Jones, with General Neill (Trail), Countess of Dunmore (Lightbody), Eliza (Sims), Miss Willoughby (Hufton), Formosa (Smith), and Countess of Wilton (Cheetham).

CLASS C. *Four dissimilar varieties.*—1st: Rev. F. D. Horner, with Smiling Beauty (Heap), George Lightbody (Headly), Prince of Greens (Trail), and Pizarro (Campbell). 2nd: Mr. Charles Turner, with Alderman Wisbey (Headly), Mrs. Sturrock (Martin), Charles J. Perry (Turner), and Colonel Champneys (Turner). 3rd: Mr. James Douglas, with Smiling Beauty (Heap), Eliza (Sims), Colonel Champneys (Turner), and a green-edged seedling. 4th: Mr. H. Jones, with Gen. Neill (Trail), Helen (Wilson), Mrs. Smith (Smith), and Miss Willoughby (Hufton).

CLASS D. *Two dissimilar varieties.*—1st: Rev. F. D. Horner, with Alderman Charles E. Brown (Headly) and George Lightbody (Headly). 2nd: Mr. James Douglas, with Lady Richardson (Gairns) and Charles J. Perry (Turner). 3rd: Mr. Ben. Simonite, with Alderman Charles E. Brown (Headly) and Samuel Barlow (Simonite). 4th: the Rev. B. H. Margetts, Lyddington, Uppingham, with Beauty (Trail) and Napoléon (Trail). 5th: Mr. Charles Turner, with Charles J. Perry (Turner) and Colonel Champneys (Turner). Mr. H. Jones also showed General Neill (Trail) and Formosa (Smith).

CLASS E. *Single specimens, green-edged.*—The Rev. F. D. Horner, 1st, with Champion (Page); 2nd, with Prince of Greens (Trail); 3rd, with Colonel Taylor

(Leigh); 4th, with Lancashire Hero (Lancashire); and 6th, with Rev. George Jeans (Trail); Mr. James Douglas, 5th, with Lord Palmerston (Campbell); 7th, with Lovely Ann (Oliver); and eighth, with a seedling. In addition to the varieties above mentioned, the Countess of Dunmore (Lightbody) was staged by Mr. S. Cooper, The Hollies, Timperley; Lancashire Hero (Lancashire), by Mr. Ben. Simonite; George Lightbody (Headly), Anna (Trail), Imperator (Litton), and Apollo (Beeston), by Mr. Horner; Highland Boy (Pollock), by Mr. Douglas; Lady A. Wilbraham (Oliver), and Sir John Moore (Lightbody), by Mr. Turner.

CLASS F. *Single specimens, grey-edged.*—1st, Rev. F. D. Horner, with George Lightbody (Headly); 2nd, Mr. Douglas, with Robert Trail (Lightbody); Rev. F. D. Horner, 3rd, with Alderman Charles E. Brown (Headly); 4th, with Alma (Lightbody); 5th, 6th, and 7th, with Lancashire Hero (Lancashire); and 8th, with Alexander Meiklejohn (Kay). Mr. Douglas competed with George Lightbody (Headly), Colonel Champneys (Turner), Robert Trail (Lightbody), and John Waterston (Cunningham); and Mr. Turner, with Colonel Champneys and Mary Ann (Fletcher).

CLASS G. *Single specimens, white-edged.*—1st, Rev. F. D. Horner, with Smiling Beauty (Heap); and 2nd, with Catharina (Summerscales); 3rd, Mr. Douglas, with Catharina; 4th, Mr. Horner, with Glory (Taylor); 5th, Mr. Douglas, with Ann Smith (Smith); and 6th, Mr. Turner, with Arabella (Headly). Mr. Douglas also staged Glory (Taylor), Earl Grosvenor (Lee), Smiling Beauty (Heap), True Briton (Hepworth), and Model (Gairns).

CLASS H. *Single specimens, Selfs.*—1st, Rev. F. D. Horner, with Pizarro (Campbell); 2nd, Mr. Douglas, with Ellen Lancaster (Pohlman); 3rd, Rev. F. D. Horner, with Duke of Argyll (Campbell); 4th, with Blue Bell; 5th, with Metropolitan (Spalding); 6th, Mr. B. Simonite, with a seedling; 7th, Mr. Turner, with Penelope (Turner); and 8th, Mr. Horner, with Lord of Lorne (Campbell). Formosa (Smith) was staged by Mr. Douglas, Mr. Turner, and Mr. S. Cooper; Mrs. Sturrock (Martin) by the two first named; Master Hole (Turner) and Lord Lee by Mr. S. Cooper; and Othello (Netherwood) by Mr. Douglas.

CLASS I. *Fifty plants, not less than 20 varieties, including Alpines.*—1st, Mr. Turner; 2nd, Mr. Douglas; and 3rd, Mr. S. Cooper. Mr. Turner's very fine collection included Topsy (Kay), Metropolitan (Spalding), Mrs. Purves (Turner), Clipper (Turner), Garnet (Turner), Duke of Cambridge (Dickson), Clipper (Turner), James Douglas (Turner), Mrs. Sturrock (Martin), Colonel Champneys (Turner), Sarah (Downing), Gen. Neill (Trail), Prometheus (Turner), Charles J. Perry (Turner), Sir Robert Peel (Finlayson), Prince Alfred (Turner), Arabella (Headly), Minstrel (Turner), Alderman Wisbey (Headly), Eclipse (Martin), Lady Richardson (Gairns), Superb (Headly), Calypso (Turner), John Waterston (Cunningham), Apollo (Hudson), Metropolitan (Parker), Ne Plus Ultra (Fletcher), and the following Alpines of his own raising:—Mrs. Llewellyn, Percival, Mrs. Thomson, Mrs. Carter, Sensation, Dolly Varden, Wildfire, Meta, Topaz, and Lavinia.

CLASS K. *Twelve dissimilar Alpines.*—1st, Mr. Turner, with Nat Norman, John Ball, Dolly Varden, Fascination, Queen Victoria, Rover, Mrs. Dodwell, Thetis, Selina, Prima Donna, Queen Eleanor, and Vesuvius. 2nd, Mr. James Douglas, with Spangle, Beatrice, Sydney, Masterpiece, Elcho, Edgar, Bronze Queen, King of Crimson, Mercury, Brilliant, Miss Reid, and a seedling.

CLASS L. *Six dissimilar Alpines.*—1st, Mr. Turner, with Bronze Queen, Mrs. Llewellyn, Queen Victoria, Topaz, Dolly Varden, and John Ball; 2nd, Mr. S.

Cooper, with Neatness, Ovid, Brilliant, Dazzle, Beatrice, and Diadem; 3rd, Mr. Douglas, with Bronze Dragon, Brilliant, Beatrice, Miss Reid, and two seedlings.

CLASS M. *Single Specimens, Alpines*.—1st, Mr. Douglas, with Silvia; 2nd, Mr. Turner, with King of the Belgians; 3rd, with Distinction; 4th, with Bessie Ray; and 5th, with Nat Norman; and Mr. S. Cooper, 6th, with Diadem.

The Premier Auricula of the show was the grey-edge George Lightbody (Headly), shown by the Rev. F. D. Horner.

We hope the success of the present show, which attracted a goodly number of visitors, will lead to its being continued annually, and that the interest which has been once more aroused may go on increasing in depth, so that it may lead to a large accession to the ranks of Auricula-cultivators.—T. MOORE.

VILLA GARDENING FOR MAY.

VILLA Gardeners are still waiting anxiously for the fine dry weather that is slow to come. There is an interval of two or three dry days, and then, when it is hoped real gardening work can be commenced, down comes the rain, and a further time of disappointment follows. Many have had to sow and plant, working their heavy, wet, clinging soil as best they could, for the work admitted of no further delay.

The Cold Greenhouse: A few strong Zonal Pelargoniums will now be coming into bloom, but they are late in flowering, through lack of sun. They will now become a leading feature for summer decoration. Show Pelargoniums that were repotted in September are also coming into flower; that is, plants that were not pinched back after February. Show Pelargoniums are so useful for making a display during summer, that if carefully managed by refraining from stopping, or stopping till late in the spring, a succession of bloom can be maintained. Fuchsias (cut-down plants from last summer) are breaking into growth to give flowers before young plants bloom, and tuberous-rooted Begonias, *Mimulus*, *Convolvulus mauritanicus*, *Hoteia japonica*, *Nierembergia gracilis*, *Plumbago capensis*, and other plants of a similar character, are all coming on into growth to flower in their own time. *Primula cortusoides amœna* is now a fine subject for a cold house. Of foliage plants that are of great service in a cold house just now may be mentioned the Indiarubber Plant, *Ficus elastica*, *Aralia Sieboldii*, *Agave americana*, and *A. a. variegata*, and others. It is sufficient to indicate a few leading plants, but the above list does not exhaust all that are suitable for a cold house. In cold nipping weather (unhappily sometimes too prevalent in May) the house should be kept close; in warm sunny weather, give air, keep the plants well watered, and sprinkle freely overhead.

The Warm Greenhouse will require a little fire at night, as long as they are dull and cold. Now, Camellias, Azaleas, Cinerarias, Epacris, Ericas, Roses, Polyanthus Narcisi, and Hyacinths, and the many subjects that can be had in bloom, should be gay and cheerful in appearance. *Richardia æthiopica* does well in a warm-house, if kept well watered, and furnishes splendid flowers. Camellias and Azaleas that have done blooming need a little ventilation, to prepare them to go into the open air next month to ripen their wood. All growing plants need to be stopped as required to maintain a goodly shape to the plant, and to have plenty of air, to ensure a sturdy short-jointed growth. Fire-heat should be dispensed with as much as possible. Fuchsias, Pelargoniums, Verbenas, and Petunias make

capital subjects for blooming in autumn in pots, if the cuttings be struck now, and kept regularly stopped till July. Towards the end of the month the sun will strengthen in warmth, and a shading of tiffany or some such material will have to be provided. It need scarcely be stated that watering needs constant attention, also frequent syringing during bright weather; and vigilance is necessary in keeping the plants clean and free from aphid, &c.

Cold Frames: Plants of Marigolds, Balsams, Phlox Drummondii, Asters, Stocks, Dwarf Nasturtiums, &c., may be pricked out in cold frames from the seed-pans or boxes, to harden them off before planting out in the open ground. Tender plants that have gone out of flower may be placed in the frames till it is safe to stand them out in the open for the summer. Some watchfulness will be required in regard to the weather, as covering will be requisite at night when it is cold and frosty.

Flower-Garden: If the flower-beds are not planted with spring-blooming plants, they should now be forked over, and some leaf-mould or refuse-soil from the potting-bench worked in with them. The hardier plants may be put out at once, such as Calceolarias, Zonal Pelargoniums, Verbenas, Gazania, Petunias, &c. A few sprigs of Evergreen stuck in here and there about the plants, will save them from harm from rough winds and frost. All tender bedding-plants should be hardened off, ready for planting-out at the first favourable opportunity, and when danger from frost is past. Beds intended for Asters, Zinnias, Stocks, Phlox Drummondii, &c., should be well manured and worked; such flowers make but a poor display in indifferent soil. Climbing plants need attention to training, and Ivy growing against walls should be cut in closely, as at this season the bare places soon become covered with young leaves. Box-edgings may now be cut over, and it is best done after rain or in dull weather.

Kitchen Garden: Such popular vegetables as Cauliflower and Lettuce should be picked out for succession on some rich ground. Some Celery should be got out in trenches as soon as large enough, to give it a good start. In dry weather abundance of water must be given. Tomatos may be planted out against sunny walls as soon as the plants are large enough. Dwarf French Beans and Scarlet Runners should be sown at once, and other sowings follow for succession, according to the quantity required. Beet should be sown without delay. Radishes, Spinach, Turnips, Lettuce should also be sown for succession. Brussels Sprouts should be planted out from the seed-bed at the earliest possible moment in well-manured soil. Onions, Carrots, &c., should be thinned out, and the beds kept clear of weeds.—D.

GARDEN GOSSIP.

THE *National Carnation and Picotee Society's Southern Show*.—You will greatly oblige by permitting me to inform your readers that this show will be held in the Royal Aquarium, Westminster, in conjunction with a display of cut Roses, for which the Aquarium Company offer £65 in prizes, on Wednesday and Thursday, July 18 and 19. Schedules of these prizes, and those for the Carnations and Picotees, are in the press; and by the time this notice meets your readers' eyes I shall be ready, and shall most gladly forward them to all persons interested. The promoters of the Carnation and Picotee show accepted this proposition of the Aquarium Company, in the belief that the display of Roses would give an additional attraction to the Show of Carnations and Picotees, and therefore offer a larger return to those friends who so readily and generously responded to their appeal for the means of offering suitable and adequate prizes. That response disposes, I presume to believe, of the perverse and absurd statement

that "florists' flowers were hopelessly at a discount in the South;" but I shall not think the refutation perfect and complete until the Carnation and Picotee-growers of the South, aided as they may be, and as I am sure they will be, by their brethren in the North, who have convenience for hastening the bloom, have provided a display of these lovely flowers such as Mr. D'Ombraïn never before looked upon, and such as shall elicit universal admiration. I invoke the aid of my fellow-florists' in this work, and if we succeed, as I am sure we shall, I shall be repaid tenfold for the pleasant labour it has entailed upon me.—E. S. DODWELL.

— THE *International Potato Exhibition* is to be held at the Royal Aquarium, Westminster, on October 3, 4, and 5 next. The schedule provides for a series of classes ranging from twenty-four to single dishes, and the prizes amount to about £130. Copies of the schedule may be obtained on application to Mr. J. McKenzie, 1 and 2 Great Winchester Street Buildings, E.C.

— THE first instalment of Mr. Elwes' superb *Monograph of Liliums* has recently been issued. It is of folio size, and contains eight coloured plates representing the following species and varieties:—*L. philippinense*, *Hansoni* (avenaceum), *pomponium*, *Parkmanni*, *Wittei*, *pyrenaicum*, *testaceum*, *polyphyllum*, and *Davidii*, the latter a new East Tibetan plant, discovered by the Abbé David. The plates are finely executed from Mr. Fitch's drawings.

— THE varieties of *Tree Pæonies* (*Pæonia Moutan*) are very useful for conservatory decoration during the early months of the year. These plants are grown and forced with great success at the Pine Apple Nursery, where we saw many of them blooming freely during the past spring. They flower readily in 5 and 6-inch pots, and their massive blooms of many hues are very telling. The principal point in forcing them is to permit the flower-buds to form in a cool temperature, and not to place them in brisk heat until these are fairly prominent.

— WHEN well-blanchéd and mixed with celery and endive in the salad-bowl, the *Dandelion* forms an excellent salad, and one which is most wholesome. The improved broad-leaved variety, obtained by Madame Vilmorin is, however, far better than the old form for this purpose. Seed sown in April will furnish strong roots for the following winter's forcing, and a dozen roots put in the mushroom-house weekly will furnish a good cutting every day. Some persons prefer dandelion to the whitloof or chicory, although it is equally true some palates object to the bitter flavour of the dandelion.

— MR. C. W. QUIN'S new book, entitled *Garden Receipts* (Macmillan) is a collection of numerous recipes for combating the various insects and pests that infest our garden crops. The information is arranged alphabetically, and is therefore found with facility. There is often a considerable number of remedies quoted, and this is justified by the fact that what may be easily applied in one district may be not so readily obtained in another. Besides the remedies set forth, there is a very useful glossary of materials, and a good index. As a reference-book, it should find a place in every garden library.

— MR. G. KUSTER, writing in the *Field*, gives the result of some experiments in planting *Potato Shoots*, instead of sets, made by the Swiss Government lecturer, as follows:—"He planted a field with potato shoots, 2 in. to 7 in. long, leaving about an inch above-ground, adhering in other respects to the old mode of cultivation. Though the season was very late, the operation taking place at the end of May, he not only got a fine crop, but by its ripening earlier than if planted by the old method, he was able, I believe, in July, to put in the same ground a second crop, which came to maturity and produced very fine tubers, which I saw. There is no difficulty in getting a sufficient quantity of shoots for large fields; they should be taken off at the eye, and not broken nor bruised. The potatoes from which they are to be taken should be exposed to the air and some light; no germs should be taken off previously, second shoots being useless. They should be planted with a dibber. This plan is said to accelerate growth, to reduce the cost of seed tubers,

since potatoes average above ten shoots, and one only is required for each plant; and to render the tubers available for use as food.

— THE appearance of the 18th edition of Mr. Rivers's *Miniature Fruit-Garden* (Longmans) is in itself a more potent recommendation of the work than any special words of ours could be. Yet we may say with truth that it is a good book, showing, in comparatively few words, that fruit-trees may successfully be cultivated in a smaller space than was formerly supposed to be possible, and thus, that even in a cottage or villa garden, a considerable variety of fruits may be grown to a high state of perfection, yielding far heavier crops than would be credited by those who are inexperienced in the matter. The chapters on the double grafting of fruit-trees, and that on cordon training, the latter by the editor of the present edition, Mr. T. F. Rivers, may be pointed out as particularly interesting.

— IN describing his mode of cultivating the *Neapolitan Violet*, Mr. Ward writes:—Chislehurst, in Kent, may be said to be the Violet garden of England. Every gardener in Chislehurst and its neighbourhood devotes part of his time to the cultivation of Violets under glass, in pots, and planted out in the frames; and it was when foreman in the gardens of Earl Sydney, near Chislehurst, that I first saw the Violets cultivated to a large extent, and with great success under glass. The *modus operandi* is this:—In the first week in May we take off the runners, and plant in a north or an east border in rows 18 in. apart, the soil being pressed firmly. They receive a good watering, which must be repeated when necessary, and after they have started well into growth, and commenced to make runners, five of the strongest are selected and stopped at the points, all the others being cut away; these five are to become the crowns from which the flowers will issue, and from this time until they have done blooming they are kept stopped persistently. Early in September, the plants are taken up, with nice balls, and potted in a mixture of loam and leaf-soil, with sand sufficient to keep the whole porous. The young plants thus potted are transferred to frames, and plunged near the glass in either sawdust or leaf-soil. When they have taken root, they are subjected to the full rays of the sun, and soon after they throw up their flowers. Liquid manure is used occasionally, but not before the pots have become pretty well filled with roots. Many of the blooms thus produced are nearly as large as a two-shilling piece.

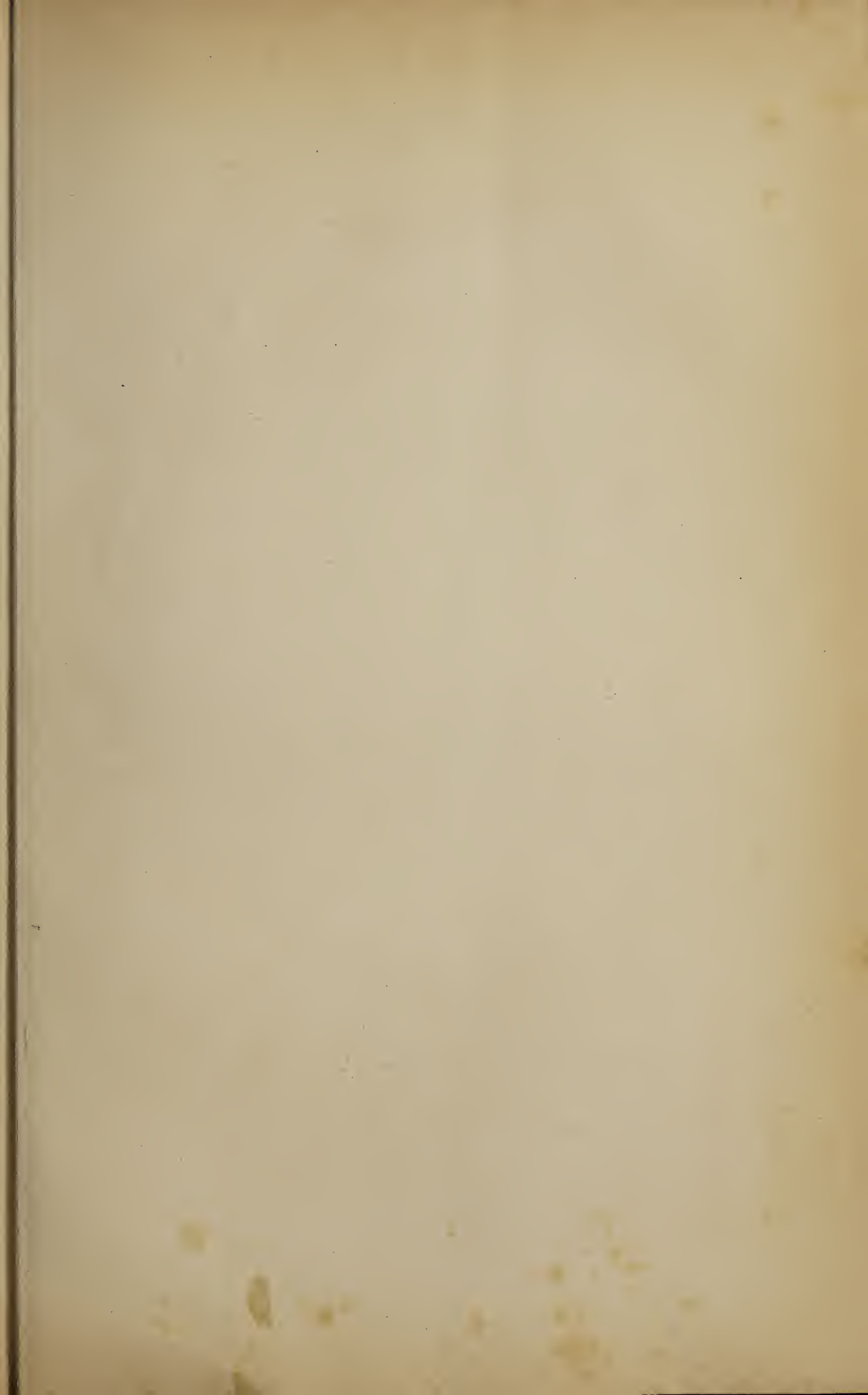
Obituary.

— MR. THOMAS DICKSON died at Chester, on March 23, in his 42nd year. He was a partner in the firm of Messrs. F. and A. Dickson and Sons, and was the responsible head of the nursery department at Upton. The whole of his business life was passed at the Upton Nursery; and until recently, when his illness assumed a more serious nature, he took a very active part in the management of the nursery, and was well known and respected among horticulturists in Lancashire, Cheshire, and North Wales.

— JOSEPH HUNT, Esq., died at High Wycombe, on March 23, at the age of 71. He was well known amongst the older florists as a successful grower of Tulips and Pansies, and as having effected very great improvements in the quality of the Sweet William from the florist's point of view, so that Mr. Hunt's strain of Sweet Williams enjoyed some years since a particularly high reputation amongst growers, on account of the advance made towards the production of smooth-edged flowers.

— MR. WILLIAM FOSTER, nurseryman and seedsman, of Stroud, Gloucestershire, died on March 31, in his 78th year. In early life he came to London, and entered the service of Messrs. Gray and Sons, of the Brompton Park Nursery, where he stayed for some years; and subsequently commenced the business at Stroud, in the management of which he took an active interest until within a few weeks of his death.

— MR. M. SAUNDERS, the well-known and widely-respected head of the firm of Saunders and Sons, died at his residence, Friars' Walk, Cork, on April 3. Few men in the nursery trade in Ireland were more widely esteemed.





J.L. Macfarlane del.

Camellia Madame Cachet.

CAMELLIA MADAME CACHET.

WITH AN ILLUSTRATION.

WE have to thank the Messrs. Veitch and Sons, of Chelsea, for the opportunity of figuring this fine variety of Camellia, which is decidedly one of the very best of the double white varieties with pale striped flowers. It is of Continental origin, and does not appear as yet to be very widely known. It, however, is deserving of the most extended cultivation, and so highly do the Messrs. Veitch think of it, that they have planted it out as one of the gems admitted to a permanent position in their Camellia-house, an honour which is accorded only to varieties of the highest merit.

It is a plant of vigorous growth, and is provided with that first consideration in selecting a good Camellia—broad healthy-looking foliage, of a fine deep green colour. The flowers are of the full middle-size, the petals neatly and regularly imbricated, broad, smooth, and clear in colour, of a pure white, marked with distinct but narrowish stripes of pale carmine-red. It is a variety which may be safely adopted for general cultivation.—T. MOORE.

THE AURICULA.

CHAPTER XIII.—THE BLOOM.—THE CRYSTAL PALACE SHOW.—NOTES ON NOVELTIES.

THE Auricula has been brought forward to plead more eloquently for itself than could any written advocacy of admiration or description. A warm and brilliant reception awaited it in London, and it came from far and near, from town and country, from lowly frame and cosy house. It came in its primrose modesty, from the cool shade of its violet-like seclusion, to be a noted visitor in the gay London floral season, a fresh and artless pretty country cousin, among all the usual spring show flowers that are far too seasoned now to bend their heads and blush at praise.

There was something very touching in the presence of the Auricula at the Crystal Palace Show. It was there as a once neglected flower—to show what a winsome favourite had been forsaken and forgotten. So long has it been overlooked, that to nearly every one who sees it now, its delicate and wondrous beauties are a strange new thing. It has been reduced to such a paucity of friends, that their names have been painfully prominent by their fewness; and now he who possesses Auriculas is accounted in floricultural circles as one endowed with rare gifts and virtues! For the one and very natural revenge which this slighted flower has taken has been to make itself scarce; and this retaliation must be all the more acutely felt, because it is not in the power of the plant to rapidly increase by offsets, nor indeed by seeds, while no seedling is ever an exact reproduction of the parent variety. “Alpines,” however, are fairly prolific in both ways; it is the high-bred edged flowers that are so shy.

The Crystal Palace Show had excited great hopes and interest, and there the

flower met with many old friends and made many new ones. To those who had known it long, but not seen it for a weary while, it was a dear old face, but little changed by time; while to strangers it was a flower of bewildering beauty, smiting with love at first sight, and leaving that true impression of its nature, that it is one which makes the heart grow fonder as acquaintance ripens into intimacy. It was ample reward for any trouble on the part of those who had brought the Auriculas, to see the real delight and interest taken in them by the visitors who flocked around them, and asked many earnest questions about them. It was all in glowing contrast to the unobservant indifference that is often manifest at flower-shows, and that leaves the disheartening conviction that if the flowers had been but so many set forms in wax, or glass, or pottery, or Berlin wool, or silken cunning of embroidery, it would have been much the same to those who do not go to flower-shows for the sake of flowers.

But good as the Crystal Palace exhibition was, we may hope to see it both better and larger. For there could not have been a more trying season for the Auricula, and this had told its tale against all growers who could not, or would not, so treat their plants as to save them the bitter knowledge of how bad the weather was. The one redeeming feature was the early start which open weeks in January and February allowed the plants to make. They never forgot this benefit, where they were saved from all after-check; but to preserve them from this required some delicate care, which is a very different thing from "coddling," and not half so easy.

One of the happiest memories of the year with Auriculas is that some young flowers—new seedlings—are coming by the side of the best old flowers, even to take, with gentlest grace, the oft-won crown of bay-leaves from the grey brow of champions that have fought these fifty or a hundred years or more. There is no such a veteran band in any other florists' flower, none that has borne the burden of so long a day. Where are the Tulips, Carnations, Dahlias, Roses of half that time ago? These flowers have all passed through many phases and vicissitudes, while the Auricula has looked down upon them through generations of florists and their flowers as from some calm height beyond the influence of time and change. Long-standing, honoured names, naturally are accounted of great weight, and we shall not, as Auricula-growers, easily grow accustomed to disconnect the names of Smiling Beauty and Colonel Taylor from first prizes. But it may be, we shall come to some such sore amazement as the old tulip-grower did, on the day he found that "Do-little" was not at the head of the class. "Why, where's my Do-little," cried he, "where's my Do-little?" Name and fame must carry everything. There's Do-little here. "*Where's my Do-little?*"

They will be good flowers that put down such as Smiling Beauty in Auriculas, but rivals and conquerors must appear in time, if the flower is carefully followed up. It may be a little difficult to work at, and it may be we have rested too content with the work done for us by former raisers, but it will never be that we exhaust perfection, and may say it is no use trying for anything better. If we

can get nothing better in its way, then we shall begin to get something different. We know how, in the kaleidoscope, the introduction of one little bit of broken glass of a new colour will yield quite another set of geometric patterns. So, also, in the Auricula there is a resource of colour-power which has not been turned to account as yet. In the green, grey, and white-edged classes we have abundance of black body-coloured kinds, so much so, that one large grower said there were plenty of them, and he would not look at any more black-ground greys.

But Nature has in store for the Edged Auricula delicious touch and gleam of other colours,—bright violet-blue and ruddy crimson. Here are dashes of rare beauty for the florist's kaleidoscope of Auricula patterns. Let him work for the snowy edge of Smiling Beauty round a rich blue-velvet ground, and for the grass-green edge of Colonel Taylor as a border for a ring of ruby. Then, with the golden tube and white paste as the inner zones to these, can we not imagine the Auriculas of the future? The long and firm attachment in the North to black body-colours has not been without its strong foundation in the other superior qualities hitherto co-existent in a black-ground flower. No other colour has lived so true upon the pip as the real jet-black of a sort like Lancashire Hero. Such a flower "dies well"—*i.e.*, nothing gives way first upon it—the edge does not turn sere, nor the body-colour change, nor the paste wax thin, nor the tube grow pale—all last equally until either the throat of the flower fairly withers under it, or the whole pip is cast aside, unworn out, by the swelling seed-vessel. A good Auricula should seem constructed on the principle of the "wonderful one-hoss shay" in the Transatlantic poem, wherein a certain Deacon, a mechanical genius, builds a "kerridge" in "such a logical way that it ran one hundred years to a day," when on the morn of its hundredth year,—

"There are traces of age in the one-hoss shay
A general flavour of mild decay,
But nothing local, as one may say;
There could not be, for the Deacon's art
Had made it so like in every part,
That there was not a chance for one to start;
For the wheels were just as strong as the thills,
And the floor was just as strong as the sills,
And the panels just as strong as the floor,
And the whipple-tree neither less nor more;
And the back cross-bar as strong as the fore,
And spring, and axle, and nut, encore;
And yet, as a whole, it is past a doubt,
In another hour 'twill be worn out."

The break-up, for it cannot be called a break-down, is then graphically described; it occurred—

"All at once, and nothing first,
Just as bubbles do, when they burst!"

Other body-colours than black have heretofore proved treacherous. Rich plum-reds and violet-blues have become shaded as they age. This is a serious fault in either edged or self Auriculas, and ought to be the true meaning of the term

“chaney” in Lancashire. No objection, but the very contrary, should be taken to edged flowers of rich and lasting crimson and blue grounds; but the zone of body-colour should assuredly keep its one deep shade, without the velvet pile wearing off, or weaker tints creeping into its texture; a firm, true body-colour strengthens the whole pip, and a shaky one weakens its brilliancy and decision of character. A black body-colour looks well in either green, grey, or white edges; and when we get blue into the whites and crimson into the greens, the *Auricula* will be very greatly enriched. At the Palace Show, my friend, Mr. Simonite, had two lovely illustrations of the effect of blue in white edges in his two seedlings, *Frank*, and *Fanny Crossland*.

Frank is a flower of particular brightness, so smooth and white in edge and paste, that it seems to give out light. It is a large, flat, round flower, tube bold and circular, and with more colour in it than flowers with blue in them are usually able to show; paste broad and dense, round in the best pips, and a little wavy in the weak ones; ground-colour broad and bold, of a lovely liquid-violet blue, a beautiful new strain; edge pure, brilliant, lasting white; plant large and handsome; foliage broad, serrated, half-mealed; not a free breeder.

Fanny Crossland is yet a very young sort, a flower of the same new combinations; body-colour, if anything, bluer than in *Frank*; edge pure white; tube good and lasting; paste fine; pip circular and flat. Parentage of these two seedlings not known.

Talisman was raised from Admiral Napier, a green edge, like its parent, but a much better thing in every way. Napier is as soon past his best as a Rose is, and grows out of shape in a day or two. *Talisman* is a very long-lived flower, large and circular, flat when in good order; tube bold, and of a full lasting yellow; paste pure, dense, broad, and round when right; ground-colour jet black, heavily laid on, and not dashing through the edge, which is a soft vivid green of good breadth; petals broad, six to the pip; plant good-humoured, and a large free grower; foliage broad, large, smooth, green, evidently of the Palmerston type, which Napier belongs to.

From the same raiser came the grey-edge named *Wm. Bradshaw*, with large, round, flat pip, of good substance; circular tube of full yellow, paste perfect in all properties; body-colour dark and bold, edge full rich grey, beaded. Also a red seedling, pip round, but slightly notched on petal-edges; tube good, yellow, paste broad and dense, and without any break or “foxy” line between it and the body-colour, which is a truer red than Lord Lorne.

Mr. Turner also exhibited a seedling grey, *Peacemaker*, that seemed, like Geo. Levick, a flower that shivers in a cold season such as this; tube good yellow, and paste light; ground-colour black and lively, edge lightly-mealed grey; probably starved in the pip.

Besides these new flowers, I have received two white-edged pips of exceeding promise. One is exactly like Taylor’s *Glory*, freed of all her faults, perfectly round and flat, with broad white edge, plum body-colour, that does not fade, like

Glory's, in a few days, and is much more correctly proportioned; paste nearly circular, which Glory's never is, though I suppose there is no Auricula in existence that has such density and smoothness of paste as Glory has; tube fine, yellow, lasting till the end. The other pip was a black-ground white, perhaps rather small, but better than Regular, which is very correct, but decidedly under-sized.

There is sufficient proof in all this that the Auricula is advancing, and best of all, that among the present growers some are working onward with seedling-raising, which, like a walk through an unknown picturesque country, leads one on unwearied through many unexpected beautiful scenes.—F. D. HORNER, *Kirkby-Malzeard, Ripon.*

THE CALVILLE BLANCHE APPLE.

MR. STEVENS' estimate of the qualities of this incomparable Apple (page 97) quite accords with my own opinion, for I have grown it largely in pots, and as single cordons along the bottom of south walls. Grown on cordons on the French doucin stock, it bears abundant crops; and on the bottom of a south wall a little protection can be given to the blossoms in frosty springs; but to see it in all its beauty and size, it is best grown in pots in an orchard-house, as at Trentham. When well grown and ripened, it is one of the very best keeping varieties; and in the months of February, March, and April no other Apple proves to be so grateful to invalids, for it melts in the mouth on eating it, without leaving any residue. Some years ago, in the *FLORIST AND POMOLOGIST*, I had to defend this variety against a fruit-grower in one of the Channel Islands, who was running it down as not worthy of the high price given at the time for French-grown specimens—2s. each fruit—in Covent Garden Market. When well grown, it is too valuable for baking purposes, but in some seasons here, where the fruit has been grown on espaliers, and not ripened well, it has been used in the kitchen, and found the most delicious of all sauce apples.

There is another variety of Apple, when grown in pots, of the greatest beauty, namely, *Cox's Pomona*. This variety, with a dozen or two of its highly-coloured fruit on a little tree, and placed on the dinner-table, is a worthy companion to the yellow-fruited Calville Blanche. When the Pomona is on the Paradise-stock, and grown in pots either in the orchard or in the open air, with plenty of air and sun-heat, it never fails in colouring its fruit to the brilliant red so attractive in apples.—WILLIAM TILLERY, *Welbeck.*

ARALIA FILICIFOLIA.

WE are indebted to Mr. W. Bull for the use of the accompanying woodcut of one of the most promising new plants of the season, in the ornamental-foliage class. It comes from the South Sea Islands, and was exhibited last year at the Brussels International Exhibition, under the title of *Aralia spectabilis*; but the name of *A. filicifolia*, which was given to it by its

discoverer, Mr. Charles Moore, has taken precedence. It forms a well-furnished, erect shrub, graceful in habit, and is likely to prove one of the most picturesquely



ARALIA FILICIFOLIA.

decorative plants of its family. The stem and leaf-stalks are purplish, thickly marked with oblong white spots. The stalk of the leaf is sheathing at the base, and terete in the upper part; while the limb is broad and leafy, of a bright

green colour, imparipinnately divided, the opposite pinnæ having a purplish costa, and being pinnatifidly cut into numerous falcate lobes.

Like most of its congeners, this plant will probably be most effective for decorative purposes while of moderate size, but still possessing the healthy vigour of youth, and confined to a single stem. It requires to be grown in the stove, but when sufficiently matured, may be used for effect in a cooler house during summer, or for special purposes. Its culture is easy, well-drained pots of rather lumpy peaty soil being preferable for it.—T. MOORE.

ON FLOWER-GARDEN BEDDING-OUT.

“Can you tell me if any there be
That would give me employ,—
To plant and sow, and sweep and mow,
And be a *garden boy*?”

WITH such a text as this, drawn from an ancient ballad, with only one word transposed, I beg leave to lay down some rules for the guidance of my young friends “the garden boys.” Before another month has come round, many thousands of bedding-plants will be in their summer quarters, therefore it is time to set the beds in order.

When it has been determined what size and shape the bed or beds are to be, it will be necessary, when bedding on grass, to correct the outline of the bed, so as to get all the curves true to their centres, and all the straight lines faultless. Wherever it can be attained, the bed should be perfectly level, that is to say, not higher in one part than another, for beds, like buildings, have no right to lean to either side, and it is obvious that as the plants have to live by the rain that falls upon the beds, it need not be turned aside unnecessarily.

Supposing the margin to be perfectly level, the next thing to be settled is the height of the soil in the bed; and here I begin to quarrel with half at least of professed planters, for I maintain that the ordinary edging should be only one inch deep, and that the rise of the soil should only be one inch above the grass-level. This is best proved by laying a piece of inch board at each side of the bed, and on these trying the level by means of a straight-edge. This rule holds good with all ordinary-sized beds on the platform of an ordinary flower-garden, but where box-edging forms the outline of the beds, it is not so easy to get the levels accurate; and unless they are correct, the practised eye will detect the error, for a bed may have an overflow of soil and be glutted, or it may be pinched, and thereby not like the rest. For this out-door work, I invented the “Sand-level” (see *FLORIST*, 1872, 137), which can be carried in the jacket-pocket for reference in all weathers, and as it is, at the same time, a plumb-rule, by which tall Hollyhock and Dahlia stakes may be set up true, there need be no excuse for random work.

Where bedding can be done regardless of expense, it is best to throw out all the soil in the bed, and so arrange the compost with which it is filled as to secure the plants from suffering by drought, for there is no fear of their suffering from

wet. The bottom layer should be good rotten dung for all plants that require gross-feeding, such as Scarlet Pelargoniums. The soil being thus enriched, much less bulk will be needed to do the work than where the soil is poor, but as many bedding plants flower more freely in poor soil than in rich, it is not needed to manure all the beds. I have, however, always overhauled every bed, so as to get the soil to a fine tilth by passing it through a riddle, which renders it much more manageable than when left rough. It is a great mistake in bedding on grass to have the flower-beds so laid down that one is at a loss to say whether the greensward or the beds predominate. If there be three-fourths of the area occupied by flower-beds, then it is a flower-garden with grass walks between the beds; but if the grassy surface predominates, then it is a flower-garden with beds upon the grass, such as cannot be mistaken as to its name and character.

Besides the bed proper, there are other things to be considered, such as the edging or outer line of the bed, and the wire-trellis surrounding it, where such can be introduced. In the best beds that I have planted, the climbing plants on the wire-work have been the most effective; but where the space is limited, these rings of basket-work cannot be introduced—I say basket-work, because they are often made with a bow or handle, on which plants are trained. An edging of dwarf plants of the Lobelia type is very effective for an outline where there is no wire-trellis, but would be out of place where there is one, as the trellis is meant to support taller plants, and therefore the dwarf edgings need it not. Where beds of Roses—and they are the best beds of any—grown with stems 1 ft. high, or on their own roots, are introduced, the surrounding wire-cage gives an opportunity to display such climbers as the beautiful varieties of Clematis.

In the case of a clump or bed of Roses, if the plants are taken up annually, and fresh manure is added as a layer in the bottom of the bed, they will flower better than if left alone in the ground they have already exhausted. This plan also gives the planter the power to condemn or approve when he comes to set up the fresh plantation, for few gardeners have ever been able to marshal worked Roses the second year equal to the first, especially in the Hybrid Perpetual class. I may mention that I saw, at Cluny, in Aberdeenshire, a bed of Moss Roses forming a crescent, in which the stems were spiked down upon green moss, so that the soil was not to be seen, neither was any leg or woody part of the plant in sight, but only the rich foliage and the finished elegance of the Moss Rose flower,—more like the herbaceous *Ranunculus* than the ligneous Rose.

The finest bed of summer flowers I ever saw was one of *Mesembryanthemums*, but it was only when the sun shone that it was to be seen in its glory. It formed a scroll around an evergreen bush, and the surface of the *red earth* was hidden by a coating of riddled coal-dust. Plants like the *Crassula* make splendid beds, but they require time and skill to get them to perfection. They were formerly grown, like the Cactus tribe, in pounded brick-and-lime rubbish, and they are still not averse to be salted with that same even now, when all the world has followed Mr. Green in growing succulents in loam and dung. I perfectly recollect seeing

Mr. Green's Cacti at Chiswick, when he taught the English gardener the art of flowering Epiphyllums. This was one of the triumphs of the Chiswick shows. The silent lesson was read, and we all carried it home, and discarded for ever the venerable compost of other days.—A. FORSYTH, *Salford*.

THE CARNATION AND PICOTEE.

CHAPTER XVIII.—DESCRIPTIONS OF THE BEST VARIETIES, OLD AND NEW (*continued*).

PURPLE-EDGED PICOTEEES.

ALLIANCE (Fellowes).—Heavy-edged. Raised at Shotesham Rectory, Norfolk. First bloomed in 1870; sent out in 1873. A fine full flower, with a broad, smooth, and fairly stout petal, and good white. A very desirable variety and good grower, though apparently inclined to "sulk" slightly in the late autumn months. Will carry two blooms.

ALICE (Lord).—Raised at Todmorden from seed taken from Mrs. Hanaford, fertilised with pollen from Mrs. Bayley. An exquisite variety. A narrow-edged heavy, in the south probably frequently a light edge, but whether in the one character or the other is unbeatable for its high quality. White, and colour rich, sparkling, and full of life; petal broad, smooth, and of finest texture, well continued to the crown; form fine; size medium. First bloomed in 1872, sent out in 1876. A fine grower; will carry two blooms to the plant.

AMY ROBSART (Dodwell).—This, a seedling from Duke of Rutland set with pollen from Alfred, was a superb variety in its day, having the finely-formed petal of the Duke, with the rich white and form of Alfred, and for years divided with Mrs. Bayley the premier honours at Picotee exhibitions. Amy now shows palpable signs of diminished excellence, and younger and more robust favourites have stepped into her place, but even yet I should be compelled to name her as one of the best six light-edged purples. First bloomed in 1853; sent out in 1854.

ANN LORD (Lord).—Light edge. Another of the beautiful varieties raised by Mr. Lord of Todmorden. From the same cross and same pod of seed with Alice. Language cannot exaggerate the excellence of these varieties. The marking, a perfect light wire edge; white ground, purity personified; texture and quality of the highest; form and formation of petal perfect; this is a worthy companion, though of most distinct characteristics, of Mary, shortly to be described. A good grower, sent out in 1874.

CHANTICLEER (Fellowes).—A broad heavy edge, useful on the home stage for its breadth and brightness of colour, and possibly useful to the seedling-raiser, but with no pretension to first-class excellence.

CYNTHIA (Turner).—Medium or light feathered edged. A good useful variety of full size and fair quality. Petal broad, smooth, of good substance, and well continued to the crown. Markings, though lacking the distinctness of the wire edge, whether of lesser or greater width, very pleasing. First bloomed in 1870, sent out in 1872. A good grower, and will carry two, sometimes three, blooms to the plant.

GANYMEDE (Simonite).—Light-edged. One of the earlier varieties of this celebrated raiser, and now, speaking from the testimony of Mr. Horner, rejected by him, from the smallness of its petals, as compared with Mary and others of Mr. Simonite's production, yet even with this comparative drawback, I think Ganymede not merely deserves to be described in this list, but to have a place in the collection, for its kindly and vigorous growth, its distinct markings and pure white ground, and its usefulness in especial for the bouquet-maker.

JESSIE (Turner).—Medium edge. Rather more definite in its markings than Cynthia, above described, and with somewhat more *expression* in its white ground, but not so kindly a grower apparently, or of such large size. Petal broad and of fair substance, rising to a medium height in the crown. Though not entitled to rank with varieties of the very highest class, it is, like Cynthia, a variety no *southern* collection could be complete without.

JOHN DELAFORCE* (Norman).—Broad-edged, heavy. The heaviest of all the heavy-edged purples, the colour being fully a quarter of an inch in width. Size medium, petal well shaped. Should be generously grown, and carefully shaded as the flower expands. Then a telling variety. Will carry two flowers to the plant. Parentage unknown.

KING OF PURPLES (Norman).—Heavy-edged. Another of the later varieties of the late Mr. Norman. It is one I have not bloomed, but have seen in good style in the collection of Mr. John Hines, of Ipswich. Petal of fair size, well formed, smooth, and of good substance. Size medium. Marking rich and distinct; white ground, pure.

LORD NELSON (Norman).—From Princess Alice (Wood), crossed with pollen from

Queen Victoria (Crask). The flower has the rich white and fine colour of the Princess, without the least spot or bar, but has suffered in smoothness from the cross. When well grown—that is, kindly and in good health—this is not very perceptible, and then it is a very fine heavy. The petal is well shaped, and the form good, but unless attended to, shows a disposition to reflex in blooming. A moderate grower; must be carefully guarded from excess of moisture in winter and early spring. First bloomed in 1848, sent out in 1850. This is therefore the oldest Picotee in this list.

MARY (Simonite).—Light-edged. A superb variety; well done, and in its best dress impossible to be surpassed. Full, and fine in form, and form of petal; of extra substance; white ground, untouched with spot or bar, the marking a bold distinct wire edge; higher properties cannot be enumerated. Yet, in some cases and under unfavourable conditions, Mary is inclined so to shed portions of the rich marginal colour on the under-surface of the petal, as to transform what should be the lovely white ground almost to lavender, and it is important to know how this may be guarded against. First, then, the plants must be kept perfectly clean, both from dust, dirt, and insects; must never suffer from excess of moisture; and finally, when the flower is breaking forth, must be, in the language of its raiser, carefully kept from “seeing the sun.” Strict shade of the flower therefore is the rule of the best growers of this delightful variety, and well are their attentions requited in the superb specimens they are enabled to produce. A fine grower; will carry two or sometimes three blooms to a plant. Sent out in 1866. Raised from an unnamed seedling.

MINNIE (Lord).—Another of the fine varieties raised by Mr. Lord, from the same cross from which Alice and Ann Lord resulted, and like the sister-varieties, though perfectly distinct, not possible to be surpassed in the beauty of its form, breadth and substance of petal, smoothness of texture, lovely white ground, and beauty and distinctness of its marginal colour. Sent out in 1876. Unfortunately, in the exciting air of my garden, a plant here and there exhibits a tendency to canker, or what I call “plant-gout,” a disease which high-bred seedlings placed in confined and stimulating atmospheres are peculiarly liable to; whilst on the breezy hill-sides of Yorkshire and Lancashire they appear to attain a positive immunity. Thus amongst plants, as amongst men, we have an illustration that robust health is best promoted in the free air of heaven, though perchance that may occasionally be somewhat rude, rather than in the sheltered nooks, the “Capuas” persons unversed in their seductive, demoralising influences, whether upon men or plants, so much affect.

MRS. DOUGLAS (Simonite).—Narrow-edged, heavy. A very distinct and beautiful variety, remarkable for its soft lilac or mauve marginal colour. Like all Mr. Simonite’s seedlings, and all flowers possessing first-class excellence, Mrs. Douglas has a fine large broad petal, well continued to the crown, thus producing a fine form and outline without confusion; rich white ground and distinct markings, smoothness, both of edge and surface, and fine substance. I fear, judging from the plants I have, it has a tendency to that plant-gout I have above referred to, but hope that in gardens more favourably circumstanced than mine, or that of Mr. Simonite, this tendency may be suppressed. Sent out in 1876.

MRS. HANAFORD (Simonite).—One of the earlier productions of Mr. Simonite, and one, as Mr. Horner tells us, like Ganymede, its raiser has now “no room for.” Mrs. Hanaford wants the fullness, fine form, and distinct marking of Mary, yet nevertheless is a fine flower, though unfortunately it develops palpable signs of that incurable plant-disease, canker. Sent out in 1862.

MRS. LITTLE (Hooper).—Raised, I believe, at Bath, first bloomed in 1871, and sent out in 1874. A flower of good average properties, having a good white ground, a lovely marginal colour, a light wire-edge, fair substance, and smoothness both of edge and surface of petal. It also is full, and of good size. But I can by no means think it the best of the class, inasmuch as with me the petal utterly lacked the breadth and symmetry which belong to Mary, Ann Lord, Minnie, Alice, and some others I bloomed.

MRS. MAY (Turner).—Heavy-edged. Sent out in 1855. Described by me in 1856 as “extra fine in form; the petal broad, of good shape, and the marginal colour very distinct and regular. The white is wanting in the lustrous richness which belongs to one or two flowers in its class, but nevertheless, it is a fine flower.” Shown, I am pleased to say, at Manchester last season, in a condition completely to warrant this description.

MRS. NIVEN (Niven).—Heavy-edged. Raised by Mr. Jas. C. Niven, Curator of the Botanical Gardens, Hull, from seed presented to him by Mr. Robert Morris, of Leicester, now from advancing years greatly withdrawn from a pursuit he has done much to advance and ornament. In form, formation of petal, and character of markings, very similar to the preceding, but far superior in its lovely white ground, which in every specimen with me was absolutely without spot or bar. Indeed, but for a microscopic serrature on the edge, Mrs. Niven, despite the great excellence of her compeers, would be the unquestioned queen of the class. Only recently distributed. A fine grower; will carry two blooms.

MRS. SUMMERS (Simonite).—Heavy-edged. A grand flower. In proper character and well managed, not to be surpassed. Petal broad, stout, smooth, and beautifully marked with a rich purple; white ground pure and lustrous; form full, and of full size. A very robust grower. I make no doubt from the same pod of seed with Mary by the same raiser, yet nevertheless impatient of wet, as indeed is almost every variety of plant grown, in autumn and early spring-time. Being rather late, it requires the aid of a frame or well-sheltered warm nook when first potted, to bring it in with the general bloom. Sent out in 1866. Will carry two blooms.

NORFOLK BEAUTY (Fellowes).—Raised at Shotesham Rectory, Norfolk. First bloomed in 1870, sent out in 1873. A fine, broad-edged heavy; fairly full; good in form; of good substance and smooth. Lacks the robustness both of growth and character of flower which belongs to Mrs. Summers, but a fine variety.

NYMPH (Lord).—Another of the fine flowers raised at Todmorden, though it would be an error to ascribe to it merit equal to Alice, Ann Lord, Minnie, or other varieties yet to be referred to. Mr. Lord is uncertain as to its origin, but I have little doubt it has Mrs. Hanford blood in it, though the shape of the petal is not so good as in that variety. Nevertheless Nymph is a variety I shall not willingly give up, as it has a beautifully clear white ground, and a very distinct narrow wire edge, marginal colour. It also is a good full-sized flower, and a good grower. First bloomed in 1871, sent out in 1873.

PICCO (Jackson).—Heavy-edged. Sent out by the late Mr. Jackson in 1858, with the following note, "A flower of fair average properties, remarkable for its solid edge, bright colour, and freedom from bars. Although not offered as a first-class flower, J. J. thinks it one that will often take a place in its class." The modesty of this note has been fairly vindicated by subsequent experience, and even yet Picco deserves to retain a place in its class.

PRIMA DONNA (Simonite).—Light-edged. Sent out in 1874. Shown at Leicester in that year, and there certified as first-class by judges as competent as any living. Described by its raiser as possessing a fine broad smooth petal, and pure white ground, without spot or bar, and solid marginal colour, all which it fully deserved, and where it will grow, deserves; but unhappily, it has evidently a most rickety constitution, I assume from being the product of a seed imperfectly matured, so that in a confined situation, such as mine, it is almost hopeless to essay its growth. In open, bracing localities, such as may be found on the breezy hill-sides of Yorkshire it may be stimulated into growth, and give, for some seasons to come, crops of its lovely flowers, but unless I am in error in my diagnostic, its life cannot be for long.

SELINA (Bower).—Light-edged. A sport from Clara (light red-edged), by the same raiser, described at page 111 of the *FLORIST*. This is one of those freaks of nature by no means infrequent, but very difficult to be accounted for. In this case the sport appears to have followed some abnormal condition of the mother-plant, as Selina, with me, has none of the robustness of growth which belongs to Clara.

SILVIA (Simonite).—A lovely light-edged purple, possessing the narrowest wire edge of any in the class; very distinct and beautiful, with a grand, broad, smooth petal, of great substance and fine texture. White without spot or bar. Apparently it is also a fine grower, and therefore I prognosticate for Silvia the high-place Prima Donna was expected to take, but which, from weakly constitution, it fails to maintain. Certified at the National Carnation and Picotee Society's Manchester meeting as First-class. Sent out last autumn.

WM. WILDE* (Adams).—Medium edge. Sent out in 1875. May be shortly described as a purple William Summers, which variety it much resembles, save in the marginal colour. Requires good growth, will carry two flowers. Not a robust grower.

ZERLINA (Lord).—Heavy-edged. The last upon my list, but certainly not least in my regard. From the same pod of seed with Alice, Ann Lord, and Minnie, it is impossible, as I have previously said of these flowers, to exaggerate their excellence or over-exalt their quality. In the distinctness of the markings, purity of the white ground, substance, smoothness, texture, and form of petal, or in the outline and general form, these flowers, as with various of those raised by Mr. Simonite, may be equalled, but cannot be surpassed; and as I travel in imagination or fact from one to the other, the reply of Tom Campbell, when asked which play of Shakespeare he liked most, viz., "that which I last read," comes spontaneously to my mind, and I confess I like each so much that I cannot part with one. Mr. Lord and Mr. Simonite have each of them worked from parents of great excellence, and they have their reward, in giving to their brother-florists a progeny unsurpassable in their sterling properties and lustrous quality.

P.S.—My friend, Mr. George Rudd, writes me:—"There is an error in your description of Maid of Athens Rose-flake. This variety was raised by Mr. John Hepworth, of Crossland Moor, Huddersfield, and first bloomed in 1846, with two

other Roseflakes then thought the better, but which time has proved the worse. I am unable to recall the mode of its distribution, whether offered in the usual fashion, or presented to a small circle of friends; but this is certain, that for upwards of twenty years it did duty, and that in large collections, for Lovely Ann. It is, however, very distinct from that variety both in grass and flower. Lovely Ann forms a long naked layer in the autumn, without breed, or with breed in the earliest stage of development; whereas Maid of Athens is, at that time, full of breed and well advanced. Lovely Ann, as its flower-stems start, always has its leaves curled outwards. Maid of Athens never. The flower-bud of Lovely Ann also varies markedly from that of Maid of Athens, always before expanding running out to a sharp point, whilst the calyx of Maid of Athens is obtuse (rounded) at the point. Another point of difference may be noted, Maid of Athens being a good and prolific breeder, whilst though Lovely Ann may yield a fair crop of layers in the autumn, the probability is the major part will spindle before planting time. Maid of Athens was a cross between Lady Gardiner (Ely) and Lady Grey (Malpas), and is one of the best varieties raised by Mr. Hepworth, possessing more refinement than any other of his flowers. Though getting well into years, it yet exhibits robust health."

—E. S. DODWELL.

PÆONIES FOR SUMMER BEDS.

HERE is a genus of ornamental plants belonging to the *Ranunculaceæ* that comes in early and flowers freely, especially in the Southern and Western counties, and which is famed for its intense blaze of bloom, which I succeeded so well with in Devonshire that I would fain see it more freely planted—I mean the Pæony. Most of the varieties grow a little over a yard in height, and may be confined by invisible wire, invisible only at a chain's length. Some of these Pæonies were highly fragrant, and all of them gaudy, surpassing the Hollyhock and Dahlia in intensity of colour. There were in my time some 30 or 40 varieties, and since that day they have received many additions. A clump or bed of Pæonies requires to be made as deep and as rich as if it were a vine-border, for owing to their tuberous roots, they cannot be regulated or manured easily after planting.

Dwarf Dahlias are often bedded-out with good effect where the family arrives at the country seat when the shooting season sets in.—A. FORSYTH, *Salford*.

EUONYMUS EUROPÆUS.

THIS is the common Spindle-tree of English botany, whose bunches of scarlet pericarps, or seed-vessels, may be seen after the "fall of the leaf" glittering in neglected hedge-rows. There are several species of the same family in cultivation, and this neglected one is worthy of notice, for the sake of its seed-vessels, for purposes of decoration at times when flowers are scarce.





Mesfardine. del.

Chromo. lith. G. Braun.


Pear Doyenné du Comice.

The plant is perhaps better known as skewer-wood, since its branches are easily split for making those useful articles. It is deciduous, and grows about the height of a hawthorn bush. The seed-vessels open in November, and show the small orange-coloured *arillus* enveloping each seed. These add greatly to the beauty of the clusters on the leafless shoots, and may be mixed with flowers with excellent effect.

Thus the glittering pericarps of the spindle-tree are useful in winter, like those of other plants, including the berry-bearing ones, which are often more valued for the colour of their seed-vessels than for the blossoms in summer. The same may be said of the beautiful bract leaves which surround the inflorescence of other plants, without which they might remain unnoticed. Those of the Poinsettias are an illustration of such, their real beauty consisting in the brilliancy of the false leaves which partly conceal the puny blossoms.—J. WIGHTON, *Cossey Park*.

DOYENNÉ DU COMICE PEAR.

WITH AN ILLUSTRATION.

 WE here present our readers with Mr. Macfarlane's very accurate portrait of one of a series of splendid examples of this grand dessert Pear, produced on pot-plants in Mr. G. F. Wilson's orchard-house at Gishurst Cottage, Weybridge, during the season of 1875. The figure represents the Pear at the period of the ensuing autumn, when it was fully ripened and fit for use; and the leaves, which are from the same tree, have been added subsequently. No finer or better specimens have yet been produced. The *Doyenné du Comice* may, indeed, both as to appearance and quality, be placed in the first rank of dessert pears for late autumn consumption.

We learn from the *Fruit Manual* that this fine Pear was raised in the garden of the Comice Horticole at Angers, and that the original tree was first fruited in 1849. In this country it has, till lately, been comparatively little known; but it proves to be a tree of healthy development, forming a handsome and tolerably free-bearing pyramid, when worked on the quince-stock. Mr. Wilson has succeeded for several years in growing it to very great perfection on his potted orchard-house trees, which, however, are plunged out-doors during the summer to mature their fruit. Altogether, it is a variety deserving of the highest commendation, and the most extended cultivation.

The fruit is of large size, frequently, according to Mr. Scott, exceeding 1 lb. in weight. It is irregularly turbinate or obovate in form, with a stout obliquely-set stalk, and a small deeply-sunk eye. The colour, when mature, is yellowish-fawn, marked over the surface with small grey specks, and mottled with russet near the eye and the stalk, the sunny side being faintly flushed with bright red. The flesh is fine, and very melting and buttery, rich and juicy, with a slightly perfumed flavour. Like most other autumn pears, it varies in its season of maturity from the end of October to the beginning or middle of December. Mr. Scott gives *Beurré Robert* as a synonym.—T. MOORE.

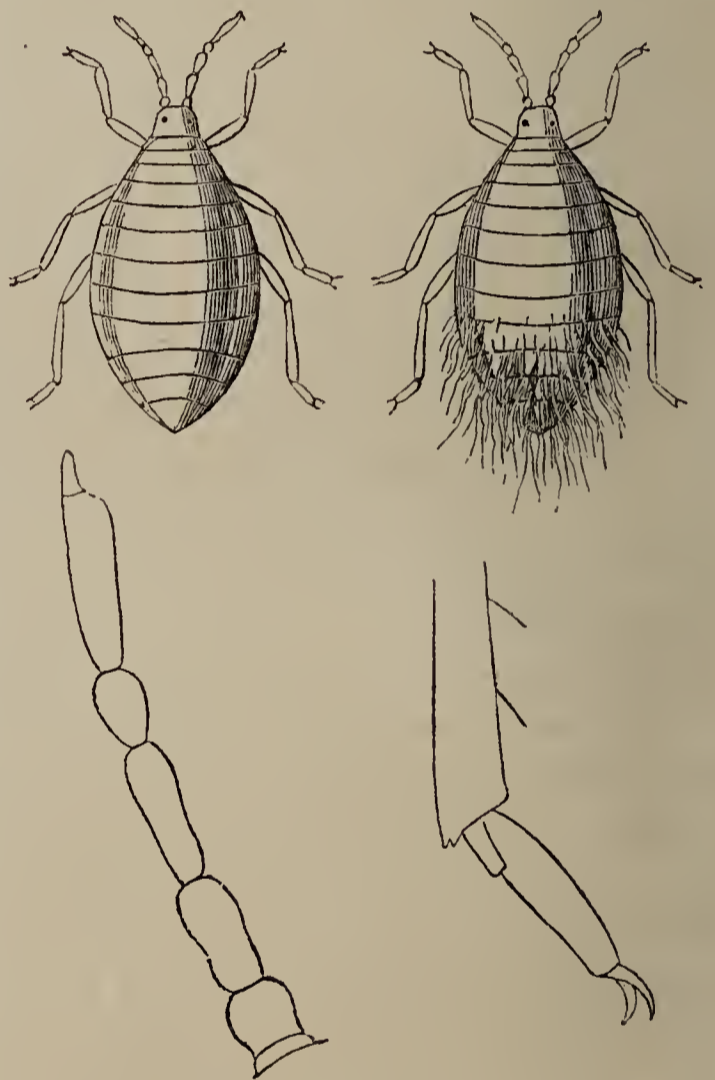
THE AURICULA DISEASE.

AT the first May meeting of the Royal Horticultural Society's Scientific Committee, the following communication on this subject was read:—

The mystery attending the Auricula disease is solved. At Mr. D'Ombraïn's suggestion, Mr. J. T. D. Llewelyn, of Unis-y-Gerwn, Neath, South Wales, has been kind enough to bring me a plant with the disease well established on it, and bearing plenty of a woolly aphis round its collar and about its roots. This aphis was in two stages—some individuals being provided with a woolly excretion, and others without it. Those without it corresponded in general appearance with both the figure and description of *Trama radialis*, given by Koch in his monograph of *Pflanzenläuse*. It has the same form, the same minute eyes adapted to its semi-subterranean mode

of life, the same lateral insertion of the legs, &c.; but on more minute examination, there are some trifling differences, which may perhaps warrant us in considering this as a new species, the more so that, neither in Koch's description, nor in Walker's in the list of homopterous insects in the British Museum (p. 1,061), nor in Westwood's description of *Rhizobius helianthemi* (*Pr. Ent. Soc.*, Jan. 2, 1843; *Ann. Mag. Nat. Hist.*, xiv. 453), which Walker gives in his List, but not in his Supplement, as a synonym of *Trama radialis*, is there any mention made of any woolly secretion—this, however, being a thing that is not always present, or perhaps it would be more correct to say, not present at all times or ages, may have to be looked at with caution as a specific distinction.

The colour of the body in the Auricula-insect is a little greener than in *Trama radialis*, which is spoken of as a louse-coloured white, and the legs and antennæ are olive-brown, whereas in *T. radialis* they are concolorous. Colour, however, does not go for much. If we could trust to the description of the antennæ by the different authors, this must be a distinct species, but I am afraid we cannot. Koch says they are seven-jointed; Westwood and Walker, six-jointed. When placed on a microscopic slide the antenna certainly seems to be only six-jointed, but when the living aphis is examined with a lens, there is seen in addition a small bulb from which the antennæ take rise, which may be either an actual joint or a tubercule. Koch has obviously con-



TRAMA AURICULÆ.

sidered it a joint. Walker, who seems to describe from a slide mounted in Canada balsam, has probably overlooked it. Besides this, the proportions of the other joints of the antennæ of this species correspond with none of those that have been hitherto described. The annexed figure will show what they are in this species. None of Koch's figures are sufficiently enlarged to allow us to trust absolutely to them (if we did, they would indicate a still wider difference). We therefore propose to describe this as a new species, under the name of *Trama auriculæ*. Four species of *Trama* have been described:—

1. *Trama radialis*, of Kalenbach and Koch (*T. troglodytes* of Heyden's Synopsis, without description), which has been found on the roots of *Crepis biennis*.

2. *Trama flavescens* of Koch, found on the upper roots of *Artemisia vulgaris*.

3. *Trama pubescens* of Koch, found on the roots of the common Yarrow.

4. *Trama helianthemi* (*Rhizobus helianthemi* of Westwood), found on the roots of the Jerusalem Artichoke.

Trama auriculæ.—Same characters as *Trama radialis*, with the following differences. The colour of the body greenish white, and in some individuals bearing a woolly excrescence behind, the legs and antennæ darker. Taking the antennæ as seven-jointed, the first joint is a tubercle not usually visible; the second is shorter and thicker than any of the rest; the third is about a half longer than the second, and is thinner than it; the fourth is about the same length as the third, but slightly thinner; the fifth is rather more than half the length of the fourth, and is perhaps a trifle thicker; the sixth is twice the length of the fifth; and the seventh is a mere appendage, stuck on like a projection at one end of the sixth. Walker, in his description of *Trama radialis*, gives the following as the proportions of the joints of the antennæ:—First and second joints short, third very long, fourth and two following joints moderately long. Koch, in his description, says that the third and fifth joints are equal in length. Westwood does not note the respective lengths of the joints.

One of the most remarkable things about this insect's appearance is that it seems to have been observed by Auricula-growers all at once in different parts of the country at the same time. The injury that it has done has in some cases been very disheartening; in others, it appears to have been more easily kept under. Mr. Llewelyn had been so successful in exterminating it in his plants, that he had to go to a less fortunate neighbour to obtain for me a plant that would show it in its characteristic state. In a note which I have since received from him, he gives the following additional information:—

“With respect to this aphid, I spent a most enjoyable day at the Crystal Palace Auricula Show on [April 24], and saw amongst others Mr. D'Ombraïn; he had brought with him a pot of affected Auricula, which he showed me. There was a good deal of woolly matter upon the roots, but no insect, and the woolly matter appeared to me to be stale, as though the aphid had been there and had gone. Several with whom I spoke were aware of the existence of such an insect, but made rather light of the mischief it does. Soft-soap and water, or tobacco-powder was said quickly to destroy it, but the attack should be treated at once, or mischief will be done. Mr. D'Ombraïn seems to have suffered most severely, and he did not show at the Palace at all.”

—ANDREW MURRAY, in *Gardeners' Chronicle*.

FITTONIAS AS WALL-CLOTHERS.

THE Fittonias, or Gymnostachyums, are, as is well known, among the most beautiful of all dwarf foliage plants. They form charming pots, pans, vases, or pyramidal masses of beauty, and are among the most valuable of all plants in a small state for forming or filling in flat dinner-table decorations. Planted out in masses of tropical rock-work, they are without a rival. They are not only beautiful in themselves, but contrast or harmonise admirably with ferns, lycopods, mosses and cactuses, or other succulents used for the forming or furnishing of tropical rockeries in plant-stoves or orchid-houses.

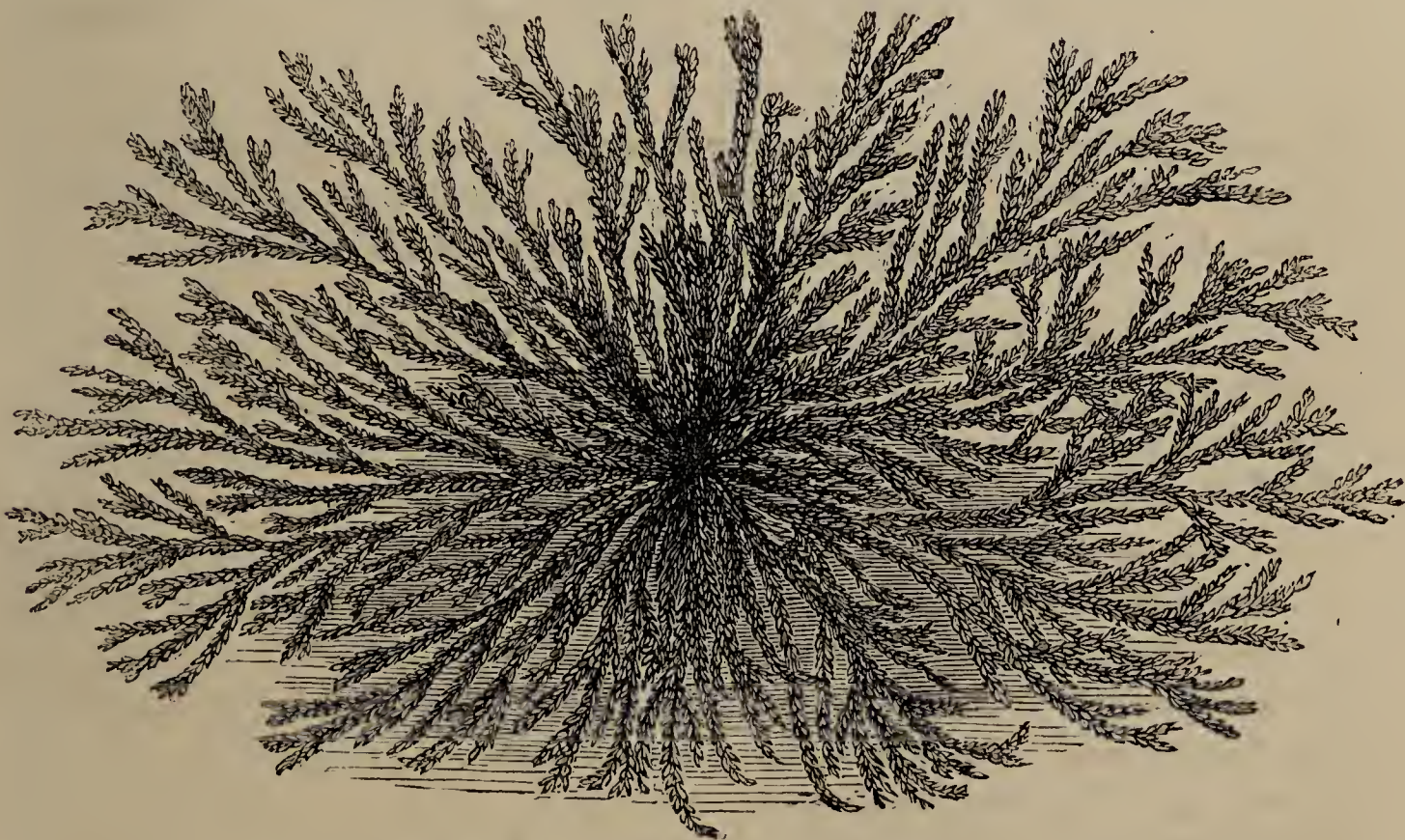
While admitting to the full the beauty of Fittonias, as generally grown, yet the best place for the richest exhibition of the peculiar veining and rare colouring of their beautiful leaves is the surface of a rusticated or roughened wall, where they may be brought near the eye and looked at on a level with it or downwards. The Fittonias are most effective when thus placed, though there are no objections to using them for the decoration of higher walls. But the upper surface of the leaf is the richest and best to look upon, and the leaf, unlike many others, grow in richness and beauty the more closely it is examined. The Fittonias also prefer the shady sides of walls. They are most beautiful and most at home on the north side of the walls, and plants if used on the south side or other sunny aspects, must be carefully and rather densely shaded, to bring out their peculiar beauty. It is a peculiarity of the Fittonias and many other variegated plants, that their leaf-colouring can only be perfected in a very subdued light. Not only are the colours richer under shade, but the plants become far more robust and strong.

The Fittonias also love moisture as much as shade. The roots cling to damp walls and the branches root at every joint without being detached from the plants, and altogether, no plant looks more at home on walls than Fittonias. Nor are the flowers to be despised in such positions. Though small and comparatively insignificant, some of the plants should be allowed to bloom, if only for the sake of gaining a little more diversity of stature and of form. The Fittonias are dwarf plants, and the dwarfer varieties are the best for wall-furnishing. Therefore, the best plants to use with them are the more dwarf varieties of Maidenhair or other ferns, lycopods of sorts, and *Isolepis gracilis*. The drooping beauty of the latter gives charming green verdure and variety, interspered with the rich colouring of the Fittonias. But the latter are sufficiently rich and varied in themselves to furnish any amount of wall with rare beauty, and an entire wall of Fittonias, in that luxuriance of health and richness of colour which is seldom seen off walls, furnishes one of the richest scenes of wall-drapery within reach of cultivators.

As to varieties, the whole of those generally cultivated may be employed for the purpose of clothing walls excepting *Fittonia gigantea*, which grows too large, and is not nearly so richly coloured as *F. Pearcei*, *F. Verschaffeltii*, and *F. rubro-*

nervia. The ground-colour of the leaves of all these varieties is green of different shades, and the midrib and veins are red, deep pink, or carmine. But such meagre descriptions give no idea of their wonderful beauty, as seen against virgin cork, stone, spar, or other prepared suitable matter for making rough walls with rustic pockets for plants.

But the finest of all the Fittonias remains to be noticed, the silver-veined and richly reticulated-leaved *F. argyroneura*. This is a striking contrast to the coloured veins of all the other varieties, in the lighter shades of beautiful green leaves being almost covered with silver lines. It is also the freest-growing variety of them all, and will soon cover a wall-space of almost any size. By a judicious admixture of this with other varieties, the whole of a wall of any extent may be speedily furnished with Fittonias with the happiest effect. Pockets should be provided at intervals of a foot or two to receive a few handfuls of loam and peat freely mixed with sand. All of them should have an outlet at bottom for water. Place a single plant or patch, or a single cutting or branch, in each pocket; water freely, and syringe several times a day till established. Afterwards the usual watering and syringing given to ferns and mosses in similar positions suit the Fittonias equally well, and in fact, endue them with a strength and beauty of leaf, stem, and flowers which is seldom reached by the usual methods of culture in pots, pans, or earth-borders, &c.—D. T. FISH, *Hardwicke House*.



SELAGINELLA JAPONICA.

UNDER this name Messrs. Veitch and Sons, of Chelsea, have distributed the neat and pretty form of club-moss, represented in the accompanying figure, and which they describe as a useful acquisition for a greenhouse or fernery of medium temperature. They say "it is caudescens, the incipient stem

rising to about an inch or an inch and a half, then producing a profusion of circinate frondose branchlets rather rigid in texture, which become horizontal as they lengthen, and are furnished with numerous lateral off-shoots, the whole



SELAGINELLA JAPONICA.

forming a good-sized spreading plant, with a regular but not formal outline. The colour of the plant is a rather deep green, quite distinct from any other Selaginella. It received a certificate of merit from the Royal Botanic Society."

CLERODENDRON BALFOURIANUM.

THIS is one of the most useful stove-climbers we have, being of easy growth, blooming profusely, and not troubled much with insects. When grown to flower early it is much prized, and when cut and mixed amongst other flowers it has a very fine effect. It can be grown well in pots, but when a large quantity and a continued succession to cut from is wanted, it is better to plant it out in a properly prepared border of half-rough peat and half-turfy loam, with a sprinkling of charcoal and sand, well mixed together. Before putting the soil into the border, see that there is plenty of drainage. It is a good system to lay a good turf, grass side downwards, on the top of drainage material, as this keeps it longer from getting clogged up with the fine soil. When all is filled in and pressed, let a nice healthy plant be put in, disentangling the roots, and not planting too deep; then give a good watering with tepid water, and shade for a few days from bright sun. It should afterwards be regularly attended to in training, either to the wall or under the roof, not allowing it to get too thick of

shoots. If all goes on well, it should have made a good large plant by autumn, when water should be gradually reduced, but not altogether withheld, unless indeed the border is under the ground-level, and in a damp situation. When the days begin to lengthen a little, and the heat in the house has been raised a few degrees, give a good watering, when it will soon start into growth, and by the beginning of May will be one mass of bloom.—A. H., T.

VILLA GARDENING FOR JUNE.

THE warm, genial, growing weather—the characteristic of the traditional, not the modern May—has come at last, after much patient hoping-for, and not without some blustering opposition on the part of the lingering remains of winter. And what a transformation-scene has passed over the face of Nature since warm, invigorating rains fell! May has indeed come

“With a light and laughing look of love.”

The Greenhouse.—As fires can now be dispensed with, the cold and warm houses may now be merged in one for the summer months. A hundred beautiful things are now challenging attention, such as Pelargoniums, Fuchsias, *Mimuli*, Heliotropes, Petunias, and others too numerous to mention. All the foregoing are soft-wooded plants, growing quickly, and when well-drained at the roots require a good supply of moisture, with sprinklings overhead. Mimuluses are very showy, and on the whole easy to manage, but they should have the coolest and shadiest part of the house. *Astilbe japonica* is still very good, and so useful is this to cut from, that it is always well to have plants in reserve to bloom in the house as long as possible. Acacias, Heaths, *Epacris*, *Cytisus*, &c., if not already cut back, should be so treated, and as soon as they commence to grow again require to be shifted on into larger pots, if the roots have filled the soil they are now in.

Potting should to be done as required, and attention must be given to the nature of the plants, and the kind of soil they should have. In the case of plants requiring peat, it should be used a little rough, mingling coarse sand with it, and giving plenty of drainage to the pots. As these plants remain in the soil longer than soft-wooded plants generally do, there is additional reason for preventing the soil from becoming soddened. The newly-potted plants should be shaded for a time, and sprinkled overhead.

Spring-struck cuttings of soft-wooded plants should be potted on to succeed the plants now in flower, or on the point of flowering. Globe Amaranthus, Balsams, Thunbergias, Egg-Plants, and *Humea elegans*, among others, are good decorative plants for the greenhouse during the summer months, but they require some care and attention. Where only a limited amount of attention can be given to plants, Fuchsias and Zonal and Nosegay Pelargoniums will be the best things to grow. The climbing Tropæolums, such as Caroline Schmidt, Triomphe d'Hyères, and other wiry-growing varieties that bloom with great freedom when raised from cuttings, are admirable things for growing in pots and training up pillars and along the insides of the roofs of greenhouses. When well established, they bloom with great freedom, and only require a little manure-water occasionally.

Green-fly is now getting very troublesome, but occasional washings with Gishurst Compound, or Fowler's Gardeners' Insecticide, or even brushings with a camel's-hair brush, will do much to dislodge and destroy the enemy.

Cold Frames: These are now serving two useful purposes. They give accommodation to seeds of perennials and biennials requiring to be sown in pans and boxes; and they serve as a nursery to the greenhouse, for the housing of plants coming into flower there by-and-by. They are useful just now for accommodating plants that have done flowering in the greenhouse, and which it may not be safe to place in the open air just yet.

Flower Garden: No time should be lost in getting the flower-beds quite filled. The hardier plants placed out in May will now be growing, and the spaces left for *Alternantheras*, *Perilla*, *Tagetes*, *Tropæolums*, *Heliotropes*, &c., should be occupied at once. Plant out during showery weather, and press the soil firmly about the balls of earth round the roots. An occasional sprinkling during sunny weather will be of great advantage. Every encouragement should be given to the plants to take root as quickly as possible. *Petunias*, *Verbenas*, *Phlox Drummondii*, and any other plants of a trailing character, should have their shoots pegged down to the soil. Two small sticks crossed will do this effectually. The grass edges of the beds should be kept neatly trimmed, and the beds free of weeds.

In the mixed border the decaying flowers of *Hyacinths*, *Tulips*, *Narcissi*, *Crown Imperials*, and *Grape Hyacinths* should be cut away as soon as they get out of bloom, but all the leaves should be left to decay naturally. Other early-blooming plants going out of flower, may have their flower-stalks cut away in the same manner. It does no injury to the plants, and greatly serves to make things tidy. *Anemones*, *Ranunculus*, *Narcissus poeticus*, *Alpine Auriculas*, *Pansies*, *Violas*, *Saxifraga granulata flore-pleno*, *Cheiranthus*, *Aubrietia*, *Alyssum saxatile*, and many other plants are very gay now. Where there is room to fill-up, plant out *Fuchsias*, *Pelargoniums*, *Phlox Drummondii*, *Heliotropes*, dwarf *Nasturtiums*, &c., as they come in very useful towards the end of the summer. All tall-growing plants throwing up flower-stems, such as *Chrysanthemums*, *Pyrethrums*, *Lilies*, *Aconitums*, *Delphiniums*, *Foxgloves*, *Hollyhocks*, *Aquilegias*, &c., should be supported by stakes, otherwise the wind is apt to blow them about, and spoil their effect. In the way of hardy biennials, *Wallflowers*, *Honesty*, and *Brompton* and *Queen Stocks* are very gay, and they well deserve a place in the border.

Kitchen Garden.—Fruit-trees on walls need constant looking over to keep them clear of curled leaves, caterpillars, snails, &c.; where the shoots are very crowded, a few may be thinned out. Vines on walls need to be stopped one joint beyond the fruit, excepting some of the leading shoots, which may be left at full length. Radishes and Lettuce, and also Turnips, should be sown for succession, and Tomatos planted out against sunny walls. The latest crops of Peas, such as *Veitch's Perfection* and *Laxton's Omega*, should be got in without delay. Hoeing, earthing-up, weeding, cleaning, and planting-out, are among the most urgent duties of the gardener at this season of the year, so that June is one of the busiest months in the garden of the whole year.—D.

GARDEN GOSSIP.

WE learn from S. Barlow, Esq., the Honorary Secretary to the *Royal National Tulip Society*, that the exhibition proposed to have been held on the 25th ult., in connection with the *Royal Manchester Botanical and Horticultural Society's* Whitsun show, has been postponed, it having been found utterly impossible, owing to the lateness of the season, to hold an exhibi-

tion on the day originally appointed. The Executive Committee have, in consequence, resolved that the Exhibition for the present year shall take place on Tuesday, June 5, at the Manchester Botanical Garden, under the conditions set forth in the schedules already published.

— THE *National Show of the Royal Manchester Botanical and Horticultural Society*, now in its jubilee year, has been a great success. The Roses and many of the Ferns exhibited have never been surpassed at any country show; and the Orchids were as usual a splendid display. For the champion prize for Pot Roses Mr. C. Turner and Mr. G. Paul contended, and victory favoured the Slough plants, which were certainly magnificent. Mr. O. O. Wrigley had some of the best Ferns ever shown, and his Orchids, which took all the first prizes offered to amateurs, were superb, the *Masdevallias* in particular never having been seen in such profusion or so grandly bloomed. For stove and greenhouse plants, Mr. Pilgrim, of Cheltenham, was first; and for a group set up for effect, Messrs. Thyne, of Glasgow. The weather on the opening day was unfortunately most unfavourable, but 25,000 persons attended during the three first days of the Whitsun week.

— WE are pleased to notice the reappearance of an old friend, the *Flore des Serres*, which has not been published since the death of its lamented projector and editor, M. Louis Van Houtte. The three first parts of Vol. XXII. have now been published in one, and we gladly welcome M. Planchon to the post which he once again occupies as editor, being convinced that in his hands the work will abundantly sustain its reputation.

— MISS E. WATTS'S *Flowers and the Flower Garden* (Warne and Co., Bedford Street) is a creditable little manual of flower-gardening. Most of the advice given may be accepted, which is more than can always be said for cheap books. It, however, needs a little revision in the botanical department in certain parts, as, for instance, at p. 36, where the Virginian Creeper and the Canary Creeper are hopelessly mixed up. In fact the whole would be the better for revision, with the view to a better modern selection of plants. A chapter on Stove Foliage plants seems altogether out of place. With these exceptions, the book offers a good shilling's-worth of horticulture.

— THE town of Hull is in a fair way to acquire a *New Botanic Garden*, the old one being almost crowded out by bricks and mortar. A scheme for acquiring a more open and favourable site has been put forward, and at a recent meeting of the proprietors of the old garden, it was, we believe, determined to wind up the present concern, with the view to facilitate the bringing-out of the new scheme, which appears to have every prospect of being adopted, as about £6,000 capital has been already promised, and there are numerous applications for the sites for villa residences, which form part of the estate to be purchased. A prospectus of the new corporation will shortly be issued.

— THE *Exhibition of Clematises*, by Messrs. G. Jackman and Son, of Woking, in the Garden of the Royal Botanic Society, in the Regent's Park, has proved to be an improvement on that of last year, the plants being equally well grown and flowered, and the variety of colour being greater, owing to the acquisition of a large number of purples and of whites, which went far to relieve the even tone of lavender-grey which predominated at the earlier shows. The Duchess of Teck and Countess of Lovelace, both recently figured in the *FLORIST*, were shown in admirable condition.

— MR. NEWMAN (32, Botolph Lane, London), has recently printed and issued a pamphlet on *Injurious Insects*, which we commend to the notice of our readers. Its object is to gain more exact information on certain points of agricultural entomology, and hence it is accompanied by ruled columned sheets for the purpose of recording monthly observations on certain selected insects, remarkable for the injury they cause to our common crops. The sheets are accompanied by short but popular descriptions and clearly-drawn figures of the insect pests, which is hoped may guard against errors. By this means, it is hoped to obtain a general series of observations through the country,

which cannot fail to be of service. It is hoped that agriculturists, horticulturists, and field naturalists will each lend their best support, as the object is a worthy one. If reliable information can only be obtained from competent observers (which on the prepared forms would cost them but a few minutes' occasional labour), it is intended to digest it into a report, primarily for the benefit of the observers, and which could not fail to be of great value to the country at large. Few but those scientifically or practically concerned know the heavy money losses constantly going on from insect causes in the crops, but it is only by co-operation in observation that the root of the evil can be thoroughly reached. Further information may be obtained of the Rev. T. A. Preston, Marlborough, Wilts; or of Edward A. Fitch, Maldon, Essex.

— ACCORDING to a recent statement of M. Duchartre in reference to *Forced Lilac*, it appears that by forcing the Lilac in a well-lit forcing-house at an average temperature of +15° Cent. [59° Fahr.] perfectly white flowers were produced. In one experiment a branch of Lilac was allowed to escape into the open air through a hole in the glass, while the rest of the shrub was within the forcing-house. Under these conditions the forced flowers were perfectly white, but those which were on the branch exposed to the open air expanded a fortnight later, and were of the ordinary lilac colour. M. Pigeaux states that it is only the *Syringa vulgaris* which acts in this manner, the flowers of *S. persica* when forced assuming the ordinary lilac colour.

— THE new *Rose Queen of Bedders*, which Mr. Noble is now distributing, is likely to prove a good bedding-out garden rose, if we may judge from the sturdy nature of the stock, and the abundant blossoms it is now throwing up. The flowers produced now, as well as those borne late in the season, are, as we learn from Mr. Noble, of the brilliant crimson tint shown in a plate he has issued, which is from a drawing by Mrs. Duffield, but in the height of summer the colour takes on more of the purple or rosy hue. For the purpose of flowering in beds, its profusely-blooming habit will, no doubt, well adapt it.

— A GROUP of *Sweet-scented Hybrid Rhododendrons*, raised by Mr. Davies, of Ormskirk, was lately exhibited (April 27) at a meeting of the Royal Manchester Botanical and Horticultural Society, by S. Barlow, Esq., Stakehill House, Chaderton. The plants, laden with large, finely-formed, pure, and generally deliciously fragrant blossoms, were the produce of a hybrid named multiflorum, crossed with *R. Edgworthii*. To the newest variety, named *R. floribundum*, a First-class Certificate was awarded; it is about equal in hardiness to *R. multiflorum*; flowers large, erect, open, pure white with crimped margins; habit compact, flowering freely on small plants, very early, as it blooms in the middle of April without forcing. Other fine varieties were *Countess of Derby*, having an intermediate habit of growth; the flowers large, pure white, the perfume of a remarkable sweetness; a grand conservatory plant. *Countess of Sefton* comes of the same parentage, the flowers pure white, fringed on the margins, with a band of pale rosy purple on each side of the corolla. *Lady Skelmersdale* has pure white flowers, but more trumpet-shaped than the preceding, the edges smooth, giving an appearance of fine form to the blossoms; a most attractive variety. *Mrs. James Shawe* is another white-flowered variety, also remarkably free. *Duchess of Sutherland* is very fine indeed, a robust grower, with large, handsomely-formed, pure white flowers, beautifully fringed on the margins. Though the flowers of several of the foregoing are white, they are yet quite distinct in character, and differ considerably in form.

— THE Dublin *Farmers' Gazette* states that there is to be seen in the University Botanic Garden, Ball's Bridge, a singularly dwarf bushy form of *Cryptomeria Lobbii* which in its compact and diminutive aspect bears about the same relationship to the typical form of that handsome Japan conifer, that the crabbed and curious variety known as *Abies Clanbrassiliana* does to the parental *A. excelsa*.

— THE finely-grown specimens of *Primula Marchioness of Exeter* shown recently from Burghley Gardens owe their health and vigour, in Mr. Gilbert's opinion, to the presence of charcoal in the compost in which they are grown. Not only does this furnish a good and necessary drainage, but it also affords valuable root-

food, and it is evident that the Chinese primula has a special fondness for it. Those who are accustomed to grow old plants of the Chinese primula are well aware of the extreme difficulty experienced in getting them safely through the winter, on account of their tendency to damp off, and Mr. Gilbert finds in the free use of charcoal a remedy for this evil.

— A CORRESPONDENT of the *Field* has recently written on the propriety of *Growing Ferns in Loam*. He states that early in February, he potted about three hundred plants, consisting of a general collection of stove ferns, in a compost of loam and leaf-mould and a very little peat. The plants are now beginning to grow freely, and saving the *Gymnogramma*, which does not show much difference as yet, all the specimens exhibit a marked increase of vigour, particularly the maiden-hairs, which are producing fronds freely at least three times as large as they did in a compost consisting principally of peat, and the colour of the foliage is all that could be desired. The plants were longer in taking to their shift than usual after being potted, and he began to doubt the advantages of loam; but now that the roots have got hold, they are sending their fronds up clear of the old foliage with unusual vigour. No liquid manure has been given to any of the plants as yet.

— THE *Azalea Duke of Edinburgh*, raised by Mr. Parsons, of Welwyn, has bloomed very finely this season. The flowers are remarkable for their great size and their extremely stout texture, the petals being smooth and well formed, almost wax-like in their consistency. The colour is a salmomy orange, and when seen in a cut state, the flowers almost resemble those of dipladenias.

— A NEW European Conifer, to which its discoverer, Dr. Pancic, gives the name of *Pinus Omorika*, has been discovered in the rugged mountain regions of south-western Servia. It belongs to the *Abies* section, and in affinity comes nearest to *Pinus orientalis*. *Omorika* is the Servian name of the tree, which Dr. Pancic describes as being of gigantic stature, equalling, if not exceeding, the loftiest of its European congeners. One of the most noteworthy characters pointed out resides in the glaucous upper surface of the leaves, but this is at present rather obscure, the position of the respective surfaces of the leaves of many species of this section being reversed by a twist of the petiole. According to Braun, *P. Omorika* differs in an essential character—that of having no stomates on the under-surface of the leaves—from *P. orientalis*, to which it is closely allied, agreeing in this respect with some of the species inhabiting Eastern Asia.

— THE award of a First-class Certificate to a *Gold-laced Polyanthus* is an event so novel at South Kensington that it deserves special mention. Mr. Smith's Duke of Wellington is probably but the beginning of a new break of a favourite but too long neglected florists' flower; others will probably soon follow in its wake, and the comparative regeneration of the gold-laced *Polyanthus* may thus become a pleasing reality.

— THE Messrs. Backhouse and Son, of York, have sent us specimens of the very beautiful *Primula spectabilis*, a dwarf hardy perennial, of Auricula-like habit, found on the Eastern Alps, and belonging to the section of Primroses with fleshy leaves. The form of the leaf is elliptico-lanceolate or lanceolate, and the margins are cartilaginous and entire. The flowers grow about six or eight in an umbel, and are about $\frac{3}{4}$ -inch across, and of a pure dense puce purple, very showy. According to the late Mr. Wood, it affects mountain gravel. It will be quite an acquisition amongst alpinists.

— SOME of the *Dwarf Campanulas*, chiefly of the *turbinata* section, make charming pot plants, and if the seed-pods are cut off, will bloom nicely a second time. No doubt if grown in a rich moist soil they would flower continuously for a long period, but as such spots are rare during a hot summer, there is thus a special fitness in growing them in pots. *C. turbinata Dicksoni*, *C. Hendersoni alba*, and *C. pumila alba*, all produce pure white flowers of varying size, and none exceeding 6 in. in height; *C. turbinata floribunda* and *C. turbinata caerulea* give charming mauve tints; and *C. turbinata*, *C. turbinata hybrida*, and *C. turbinata macrocarpa*, are blues of deep tint, and very showy and effective. Specially suitable for hanging-baskets and vases are *C. Barrellieri* and *C. fragilis*, both pale

blues, and have most elegant trailing habits. These are but a few of a pretty and extremely hardy section of perennials that are worthy the attention of lovers of hardy plants. The most favourable season for propagation is in the spring, when the young growth is well developed, and this taken off and pricked out into sandy soil will soon root and produce strong flowering plants. Most of these varieties also seed freely, and generally reproduce themselves from it, occasionally giving some intermediate forms.

— At the Bristol Nurseries, Messrs. Maule have introduced two *New Japanese Birches*, which from their large (male) catkins, and handsome appearance, are worthy attention. One of these Dr. Masters identifies as the *Betula utilis* of Don, or rather that form of it which Regel calls *B. Bhojpattra*, var. *subcordata*, an upright grower, with the young shoots brownish and dotted with resinous dots, the glabrous ovate irregularly serrated leaves gradually tapering to a long point or acumen, the nerves rather closely set and prominent, and the male catkins $2\frac{1}{2}$ inches long. The name *utilis* is preferred because it is the earlier name, and one not so uncouth to English ears; or for garden purposes perhaps the varietal name, *B. subcordata*, would be the most convenient. The second species is *B. ulmifolia*, var. *costata*, which might for garden purposes be called simply *B. costata*. It is a weeping form, with the young shoots brownish, sprinkled with resinous dots, the young leaves obliquely ovate cordate, rather shortly acuminate, serrate, thinly beset with pale appressed hairs, especially along the nerves, and covered on the lower surface with small circular glandular scales, and the male catkins nearly 3 inches long.

Obituary.

— DR. ALEXANDER BRAUN died at Berlin, on March 29, at the age of 72. He was one of the first of German botanists, and had for many years been Director of the Botanic Garden at Berlin, and an active worker in the Berlin Horticultural Society. The Algæ, Charas, and Equisetums were early subjects of his study, and to him we are indebted for the first descriptive enumeration of the Selaginellas cultivated in gardens.

— M. AUGUSTE RIVIERE, who had been for many years Superintendent of the Luxembourg Gardens in Paris, died on April 14, in his 56th year. He was a most accomplished gardener, and his lectures on fruit-tree culture at the Luxembourg were numerous and very useful. For some years past he had been at work on a richly-illustrated book on fruit-culture, and he had lately been drawing up a memoir on the Bamboos cultivated in France and Algeria. The collections of Orchids and Bromeliads under his charge were particularly noteworthy.

— MR. DAVID WAUGH CUNNINGHAM died on April 17, at the age of 57. He was for many years gardener to Lord Ebury, at Moor Park, Rickmansworth, by whom he was highly esteemed; and was formerly gardener to the Bishop of London, at Fulham Palace.

— MR. JOHN GAVIN died on April 20, at Melville Terrace, Edinburgh, in his 85th year. He had been for upwards of 43 years head gardener to the Earls of Moray, at Donibristle, Fifeshire.

— MR. ALEXANDER CRAMB, gardener to the Earl of Ducie, Tortworth Court, Gloucestershire, died suddenly of heart-disease, on April 27, in his 68th year. Mr. Cramb had been gardener to the Earl of Ducie for many years, and was held in high esteem by his noble employer, as well as by a large circle of horticultural acquaintances. Arrangements were, we believe, in progress for his early retirement.

— JOHN RUSSELL REEVES, F.R.S., F.L.S., of Woodhayes, Wimbledon, died on May 1, in his 73rd year. Mr. Reeves when in China was the means of introducing several fine plants to this country, some of which, such as *Reevesia thyrsoidea* and *Spiræa Reevesii*, bear testimony to his good service. He was always a zealous patron and promoter of horticulture, and his amiable manners and consistent principles procured him the respect of all with whom he came in contact.



Fitch, del.

Prodr. flor. terr. austr. 30. t. 29.

Boronia elatior.

BORONIA ELATIOR.

WITH AN ILLUSTRATION.

OUR plate by no means exaggerates the beauty of this recent addition to the ranks of hard-wooded greenhouse shrubs, which we are glad to see has also been recently strengthened by another good-looking recruit, the *Pultenaea rosea*, a free-blooming and sprightly novelty amongst the *Papilionaceæ*. Our subject belongs to the *Rutaceæ*, and forms a tall shrub, with hirsute branches, having pinnate dark-green leaves, the flat linear rigid leaflets varying in number from five to thirteen or more. The flowers are axillary and pedunculate, bell-shaped, of a lively rosy-carmine hue, fragrant, and very attractive, profusely decorating the branches. It is, indeed, one of the most beautiful of the *Boronias*, and is, as we learn from the Messrs. Veitch and Sons, by whom it has been introduced to public notice, a plant of remarkably easy cultivation. It was awarded a First-class Certificate when exhibited by them at South Kensington, in May, 1876.

Boronia elatior is a native of Western Australia, in which colony it is found at King George's Sound, on the Darling Range, and at the Franklin River. It was formerly named *B. semifertilis* by Von Mueller. The colour of the flowers is much richer and more striking than that of the other *Boronias* already in cultivation.—T. MOORE.

PEACH LEAVES BLISTERING.

OF late years this disease has been unusually destructive to Peach-trees, and as far as I have observed, there seems no remedy, either as a preventive or cure, for trees on open walls. Old and young suffer alike. This season it seems to have been very destructive. I have seen many trees which are so disfigured that they are not worth the space which they occupy on the walls, and they will have to be removed to make room for something more profitable or ornamental. The question is, Are cultivators justified in planting Peach-trees where they are not to be covered with glass? We have seen cases where glass copings have been placed so that they projected a foot, with nets fastened to them, and allowed to hang to the ground, but no beneficial results have been derived from the practice. Where glass is used as a wall-case, and properly managed, healthy trees and good crops of fruit may be expected. One mistake in airing is often met with, and is the cause of much mischief—viz., allowing the front ventilators to remain open during cold, biting weather. Another is to throw the lights open when the sun may come out bright, thus allowing a large volume of cold air to pass in over the tender foliage, subjecting the constitution of the trees to even a more severe ordeal than when they are growing without the aid of protection, and are at all times fully exposed to the weather. It appears to be from the extremes of temperature that Peaches suffer most, and the wood (from absence of fibre at the roots) finishes its growth in autumn with a large amount of pith. The following season, the trees, if they have not been lifted and replanted, are easily

excited into active growth, and are more liable to become attacked by disease, or to suffer from cold, than when furnished with ripened wood, which has been produced by fibry roots growing in firm but porous soil. I have many proofs of this before me at the present time; I planted a number of young Peaches last year, late in April, on southern and western aspects. The trees on the south wall are all more or less injured by blistering; on the west wall there is only one tree which has suffered, and it made a late unripened growth, and much pith is in the wood. The continuous easterly winds during April and May seemed to paralyse the trees facing the south.—M. TEMPLE, *Impney Hall*.

GENTIANA ACAULIS.

THIS fine old plant was formerly much used in "old-fashioned" flower gardens. It was generally planted as an edging for beds of hardy perennials, and when grown in a suitable soil and situation, was, during April and May, a beautiful object, from the brilliant azure of its flowers. I have grown it for some years in tufts on the front margins of beds and borders of hardy flowers. It is one of those subjects that likes a pure air and a good loamy soil, moderately moist. It is easily increased by parting the roots, but in order to flower it finely, it must not be too often parted or transplanted. The tufts produce an abundance of flowers, after they have been two or three years undisturbed. With an annual top-dressing of decayed leaf-soil or manure, they will continue to flower for some years undisturbed. It is a plant that merits a place in every garden.—M. SAUL, *Stourton*.

ROGIERA GRATISSIMA.

THIS is a plant much used with us here, and we find it of great service all the year over. By adopting a system of potting and stopping, it may be had in flower all the season, but it is essentially a winter-flowering plant. It gives great returns for the trouble it takes in growing, more so than most ligneous evergreen plants do. Its bunch of flowers is not unlike a fine *Laurus-tinus*, but with more pink in it, and being sweet-scented, it is most grateful in a nosegay. I don't know of a plant which is better adapted for those fan-shaped nosegays which are now becoming so fashionable. I once fringed a Court bouquet with about twenty trusses of its flowers, which had a most beautiful novel effect. We have plants from 7 ft. high down to 6 in., half of which are, more or less, in flower. One plant 5 ft. high has upwards of seventy flower-heads open and opening. A standard with a two-foot head is being pinched-in in order to get it in flower in October, with others smaller, and a large planted-out plant. I fancy the plant is not sufficiently well known, or it would be more grown than it is. It is of simple culture, and does admirably in an Azalea-house, though it does not require heat to grow in.

We grow it in soft fibry loam, with a dash of burnt ashes through it, and in this it thrives vigorously. We use a nice warmth to our Azaleas in spring, and

this extra heat suits the *Rogiera* well, and it bears more heat if you want it to flower earlier in winter—say, December.

I rank this plant certainly equal, and in some respects superior, to *Luculia gratissima*, as it is of better habit, being more comeatable; the leaves can be used in nosegays with their flowers, and it can be had in flower at all seasons. I got my stock from Linden, who sent it out some years ago, and I have not regretted keeping to my old love which, from the first, I pronounced to be a real gem. Whoever takes it in hand will, I am sure, thank me for bringing it to their notice, and more especially those who must have *choice* flowers to the fore for nosegays, &c. I am not too sanguine in saying that were I a florist and wanted a speciality, this certainly would be either first, second, or third on my list of pets. Several connoisseurs in plants going through here have remarked, “Yes! that is a good thing, but I have always seen it dying with too much heat, and surfeited with too much gouty peat, which is only verified by your plants.”—HENRY KNIGHT, *Floors Gardens*.

CHOICE OF MATERIALS FOR LEAF-BEDDING.

HAVE never admired the red leaves of the present day in flower-gardens, red paint is quite at home on a waggon-wheel, and dark-brown does its work at little cost on a field-gate; but the grand greens which we call “grass-green,” and “pea-green,” and “sea-green,” give us the normal colour of most healthy plants everywhere, and form by far the fittest foil to the fairest flowers, as witnessed in the case of the Rose and the Lily. So well does the exhibitor of Roses understand this, that we see the fair fronds of the Maidenhair fern, and the velvety moss, used as a carpeting for setting-off his prize-blooms.

There is a place for most things in a well-ordered garden, and we look with pleasure to see them each, as it were, at home. For instance, we admire the Houseleek on the cottage-roof, where it has held possession for perhaps 100 years, and we look for a kitchen-garden—the English equivalent expression for a Scotch kail-yard—to contain various pot-herbs, a principal one being kail of various forms and colours; but when we see the kail forsaking its proper home and taking to the flower-garden, for the sake of displaying its foliage there—for be it known that its homely yellow flowers produced in May are worthy of no such honour,

“The force of nonsense could no farther go;
They robbed the pot to make a gaudy show.”

—ALEX. FORSYTH, *Salford*.

BOUVARDIAS AS DECORATIVE PLANTS.

IT is only within the last few years that these charming plants have become popular favourites. Who amongst us, a dozen years ago, would have recognised, in the miserable straggling morsels of Bouvardias then generally seen, their capability of producing, by a better-understood system of cultivation, that compact and dense habit of growth, with fresh foliage

clothing the pot, and surmounted by numerous terminal clusters of blossoms of the most delicious fragrance, we now recognise in well-grown plants? It is true the hybridizer has effected much by cross-fertilisation, and several meritorious varieties have resulted, so that, altogether, the *Bouvardia* now finds a place amongst the most serviceable plants for general cultivation.

Although the Bouvardias are somewhat accommodating as to general management, still, to attain the greatest amount of success, they must be liberally treated throughout their season of growth by planting them in a rich, open soil, and by keeping them moving freely in a moist genial temperature until their growth has been well matured.

The Bouvardias are easily propagated, either by means of cuttings of young wood, or by cutting up the fleshy roots, and inserting them slightly in fine soil, with a brisk heat. An abundance of cuttings may, however, be had from old plants brought forward in heat during the spring months; and for winter blooming, young plants rooted annually are much to be preferred to old ones. It is desirable to have a sufficient number established by May, from which time they must receive every encouragement to make vigorous growth, as any sudden check would have a tendency to frustrate perfect development.

The Bouvardias delight in unrestricted root-action, and therefore they make the finest plants when planted out in pits or frames during the summer months; and the more tender varieties, particularly such as *B. jasminiflora*, will be benefited if afforded a slight bottom-heat to start with. The soil should be about six inches deep, and composed of about equal parts of sandy loam, peat, leaf-mould, and rotten dung, with a free admixture of sharp sand and charcoal. After planting, keep them moderately close until established, after which give an abundance of air, bearing in mind that the Bouvardia delights in a fresh humid atmosphere, and therefore should be frequently syringed, and receive every attention in respect to watering at the roots; under this treatment they make rapid progress, and as soon as they are perfectly established, the lights may be removed entirely during favourable weather. Thus managed, they not only make finer plants than if grown in pots, but are far less trouble.

I would here observe that one of the most important points to attend to in connection with their culture is attention to stopping the shoots, which should be closely observed during the early stages of growth, removing the points of the young growths at every second joint. Unless this is attended to, they do not attain that density of habit so desirable in perfect specimens.

During September, they should be taken up and potted, keeping them close until they have become established, when they may be placed in a pit or house, with a light airy genial temperature, and neatly staked. They do not succeed in a draughty house with ordinary greenhouse plants. Thus brought forward in a brisk heat, placing the plants close to the glass, and assisting with guano-water each time they require watering, they will produce an abundance of their

delicious blossoms for months in succession; and especially during mid-winter, when one is often perplexed to find a sufficiency of cut-flowers, they will be found to be unsurpassed for decorative purposes.



BOUARDIA HUMBOLDTII CORYMBIFLORA.

As regards the arrangement of pot-plants not planted out, much the same treatment must be pursued. They delight in a rich light soil, and should have an abundance of liquid manure as soon as the pots become well filled with roots, the young plants being shifted on as they require it during the early stages of growth. I find that 5-in., 6-in., and 7-in. pots are sufficiently large for every

purpose. Larger plants may indeed be grown for the summer decoration of greenhouses, for which purpose in early spring the old plants should be introduced into heat, cutting them freely back, and as soon as they make growth, the soil should be shaken from the roots, and the plants repotted in small pots according to the reduced state, and then encouraged to grow in a genial temperature. With attention they form fine large plants, which, gradually hardened off, make famous objects for conservatory embellishments during the warm months of summer. Green-fly and red-spider are apt to attack them, more particularly when allowed to become dry at the root, or if kept in a close dry atmosphere; but timely fumigation, and dusting with sulphur, or syringing with clear soot-water, will keep them in check. Amongst the most desirable varieties to grow are:—

BOUVARDIA JASMINOIDES LONGIPETALA.—A pure white, vigorous-growing sort, which produces large corymbs of bloom; one of the very best and most desirable varieties.

B. HUMBOLDTII CORYMBIFLORA.—Another of the *B. jasminoides* type; a strong growing variety, with snow-white fragrant flowers; the individual blossoms are of great size, and are exceedingly useful for using singly in getting up bouquets. (See figure.)

B. VREELANDII, alias DAVISONI.—A very useful decorative variety, which stands well, and flowers profusely; the blossoms are blush-white.

B. ELEGANS.—Scarlet; a vigorous grower, fine for winter blooming; one of the most desirable varieties.

B. LONGIFLORA FLAMMEA.—A handsome rose-coloured variety, of fine habit; one of the best for decorative purposes

B. HOGARTH.—Scarlet; fine habit.

These are six of the very best and most desirable kinds for general purposes; but should greater variety be an object, there is no lack of sorts to select from.
—GEO. WESTLAND, *Witley Court*.

ORCHIDS AS FLORISTS' FLOWERS.

NOTWITHSTANDING the grotesqueness of form and feature of the general run of Orchidaceous flowers, they are fast being elevated, as the florist would say—degraded, as the botanist *might* say—to the rank of florists' flowers. However startling this assumption may at first sight appear to many, it nevertheless can be supported by evidence, by irrefragable evidence, in fact. Take any popular species, for instance, and what do we find? Why, this, that the variety that will best stand the severe scrutiny of a florist's eye is by far the most valuable. The same law that enacts that form, substance, colour, and general symmetry shall take precedence over the general ruck of florists' flowers, holds good among all popular Orchids. Any one can find this out by going to market to purchase the rarities—not the rarities of species only, but the rarities among varieties of species. The fact is, so innumerable are the importations of recent years, and so very numerous the varieties of species, that two-thirds of the poor varieties—poor, recollect, from a florist's point of view—are all but unsaleable, at least, if people buy them, it is only to get rid of them as soon as possible after they have proved themselves. I recollect well when I began cultivating Orchids, I was most anxious to secure anything in the way of a species, no

matter what. Now-a-days, collectors find it to be both their interest and satisfaction in every way to secure first-rate varieties, very frequently at whatever cost. Take *Odontoglossum*, for instance, no matter whether it be *Alexandra*, *Pescatorei*, *triumphans*, *grande*, *citrosum*, *cirrhosum*, or any down the line of species in any catalogue, and some sorts, if they be known to be superexcellent, will bring as many pounds at a sale as others will bring shillings. And so it is with *Cattleya*, with *Vanda*, with *Aerides*, with *Saccolabium*, and as I said before with every popular Orchid. It may be form, or substance, or colour, or exquisite symmetry, or all combined, but the individual that possesses all these in greatest degree will be run upon by the *savans* in the question of flower-value, if I might so express myself.

And why should this be wondered at, when we look to other plants? Take the Flamingo plant (*Anthurium Scherzerianum*), for instance, and if you go to Stevens' one day, you will find a big plant of indifferent form or colour, or both combined, go, so to speak, for an old song; go another day, when such a variety as Mr. Ward's is selling, and one outbids another until a plucky member of the trade, by deputy, buys a not very big plant, but a plant unique in every other way, for *eighty guineas*. And this is rational bidding, too, for the worth of the money is there; very unlike the fever-heat I myself once saw running up, by what I thought at the time injudicious bidding, the price of an *unproved Dendrobium Wardianum* to one hundred guineas.

I have, therefore, to congratulate the "general assembly" of florists on the good work they have done, are doing, and doubtless will continue to do, in bringing together the whole family of plants, from the commonest border flower to the most aristocratic orchid, so as to subject them all to severe eye-criticism. It is only in this way that the best can be taken and placed, and the worst left and uncertificated. To my thinking, it will be an additional attraction to both your pictorial and descriptive pages, if you add a few choice *varieties* of Orchids to your excellent illustrations; it will only be carrying out and completing, as far as that can be done, up to the present time, the whole domain of florists' work which you have, in recent years, so ably and so well undertaken.—JAMES ANDERSON, *Meadow Bank Nurseries, Uddingstone, N.B.*

LINUM TRIGYNUM.

THIS plant, though introduced into the country during the last century, is not so often met with, at least in quantity, as it deserves to be. It is generally seen under adverse circumstances—a few old plants, it may be, dwindling in some corner of the stove, eaten up with red-spider, its chief enemy of the insect tribe. To have it in good condition, a young stock must be raised annually; cuttings should be inserted in silver sand, and placed in a brisk bottom-heat during March; a cucumber-frame at work will answer admirably for this. When sufficiently rooted, pot off singly into sixty-sized pots, using a compost of equal parts fibry loam, leaf-mould, and rotten dung, with a good

sprinkling of silver-sand. Some growers advocate the use of peat for this plant, but it is not at all essential to success. When potted, return the plants to a similar temperature, so that they receive no check; syringe twice daily during bright weather, and slightly shade when necessary. The shoots must from time to time be pinched back, in order to form bushy plants. In June they may be removed to a cold frame, standing the pots on ashes. Here they should be shut up early, so as to utilise sun-heat, and it will be necessary to continue syringing to keep down red-spider. Before the roots become matted, shift into pots of the size known as 48's, a very useful size for them to flower in. Towards the end of September they should be introduced into a temperature of 55°, or 60° by night; keep them close to the glass, to prevent them from becoming drawn. They will soon come into flower, if pinching is discontinued, and will make the conservatory gay for some time.—GEORGE POTTS, Jun., *Sundridge Park*.

COOL ORCHID CULTURE.

TIME was when Orchids were the exclusive property of the wealthy of our land, and the prices at which they were sold, and the heat which it was considered necessary to provide for them, rendered them obtainable only by the privileged few. Thanks, however, to the indefatigable exertions of some of our earliest growers, and of the Royal Horticultural Society, followed by our leading nurserymen, in sending out collectors to search out their native habitats, and send them home in quantities, we have now these beautiful plants placed within the reach of all who find pleasure in growing them, their prices now being brought to the level of those of ordinary stove and greenhouse plants. They are admitted on all hands to bear the most beautiful of flowers, and to possess in them by far the most lasting properties, many of them remaining in full beauty for six or eight weeks. They also emit or breathe the most delicate and beautiful perfume, and they may with care be kept in a room for a considerable period without injury. These are properties of no mean order, and should recommend them for general cultivation.

My remarks will be confined to cool orchids, generally those that require little more than greenhouse temperature for their successful culture, heat being only necessary during cold or damp weather, and in winter. As soon as a night temperature of from 50° to 55° can be kept up by early closing, the house-fires may be dispensed with altogether, and the plants will generally thrive better after this period than before.

The most convenient structure for the growth of cool orchids is a small span-roofed house, about 8 ft. high in the centre, and 4 ft. 9 in. at the sides,—viz., 3-ft. wall and 1-ft. 9-in. front sash and plates; 12 ft. wide, having a 3-ft. walk down the centre, and a shelf nearly 4 ft. wide on either side; two 4-in. pipes under the shelves on both sides will be quite sufficient to supply the necessary warmth. Ventilation should be supplied by means of shutters in the wall opposite the pipes, and also in the centre of the roof. I would prefer

a wooden trellised shelf, covered an inch or more thick with shell-gravel, to any other material, to stand the plants upon; the shell-gravel, being salt, keeps clean and sweet longer than any other material I am acquainted with. It will also hold a considerable amount of moisture, but the trellis being open, it can never become unhealthy or stagnant; and in winter it can be allowed to become as dry as it may be desirable to keep it.

Most of the Cool Orchids, especially the *Odontoglossums*, *Masdevallias*, and some of the *Cypripediums*, delight in a very moist atmosphere, as well as copious and frequent waterings at the roots; and means must be taken to allow this water to get away from the plants readily, for although all the Orchid family delight in plenty of water during the growing season, none of them can endure its remaining stagnant about their roots. In their natural habitats they are generally found growing on trees or on rocks, with perhaps a thin layer of vegetable refuse, consisting of decayed leaves and moss, and we cannot do better than imitate nature as nearly as we can, when cultivating them in our houses.

Most of the Cool Orchids may be grown to the greatest perfection in pots, and this is the mode I would always prefer, as it has a more tidy appearance than any other method. Care must be taken, however, that the pots into which they are placed are of the proper size. There is no greater error which we can possibly commit in Orchid-growing than over-potting them. If the plants be newly imported, they may be laid out singly on the shelf, and kept a little moist until they begin to grow; or they may be placed in small pots upon broken crocks, which should be washed perfectly clean before using them. As soon as they have commenced their growth and made new roots, they should have a small quantity of very fibrous peat mixed with sphagnum (in the proportion of $\frac{3}{4}$ of the former to $\frac{1}{4}$ of the latter, well broken up, and with a sprinkling of silver-sand) placed around them to the depth of about 1 inch, and this should be added to according to the after-growth of the plants. We will suppose the plants to be in 60-sized pots, filled within half an inch of the top with clean crocks. If they go on well, they will require a fresh pot the second season. This may be a small-sized 48, which should be filled about two-thirds full of clean crocks, the plant moved carefully from one pot to the other, and made up with the compost before named to a little above the rim of the pot. During the growing season the house should be kept closed (*i.e.*, free from cold draughts) and moist by frequently syringing amongst the pots, and if the weather be very hot and dry, a layer of sphagnum on the shelf among the pots will be found a good medium for retaining moisture and keeping the plants cool. This must be removed at the approach of winter, the shell-gravel only remaining. The moss should not be put under the pots, as that would interfere with the free egress of the water.

The potting of established plants would be proceeded with in the same way as the second potting above recommended, and care must be taken to keep the pots and soil scrupulously clean, and free from conferva, or any other green matter. The house must also be kept clean and sweet, if successful cultivation is to

be attained. The plants should all be examined twice in the course of the season, and repotted where necessary. In many cases it is advisable to remove the soil, and place the plant in a new pot, although probably not a larger one than it formerly occupied. This will happen, however, only in cases where a free growth has not been obtained, and will often have the effect of producing it. Plants in ill health should be treated as recommended for newly-imported ones; this will often prove the best means of resuscitating them.

The plants will require shading during the summer; and if the shading material be so arranged as to keep it six inches above the rafters, so as to allow a free current of air to circulate between the shading and the glass, it will be much preferable to its being placed close on the glass. Care must also be taken in giving air to avoid cold draughts, and the air should be taken away before the sun leaves the house, so as to secure a considerable amount of warmth, or, as it is usually designated by cultivators, "sun-heat." This warmth, being naturally produced, is much more congenial to the health of the plants than when created artificially. The plants will require copious waterings during the growing season, and the house should be kept moist by sprinkling the floor and the sides and among the pots three times a day—morning, noon, and afternoon, when the air is taken off. In winter very much less moisture will be required, but it should not be withheld altogether, as the plants we are now treating should by no means be allowed to get very dry. Generally speaking, the colder the weather the less moisture will be required; but the atmosphere should not be allowed to get dry and harsh, or the plants will immediately suffer. By strict attention to the foregoing directions, there will be no difficulty in the successful culture of Cool Orchids.

I append the following list, containing a selection of the best kinds suitable for the cool treatment here explained. Of course this list can be considerably amplified, if found necessary:—

Ada aurantiaca.	Lycaste Skinneri.	Oncidium crispum.
Cœlogyne cristata.	Masdevallia Harryana.	— obryzatum.
— cristata major.	— Veitchiana.	— ornithorhynchum.
Colax jugosus.	Mesospinidium sanguineum.	— Phalænopsis.
Cypripedium caudatum.	Odontoglossum Alexandræ.	— phymatochilum.
— insigne.	— bictoniense roseum.	Pescatorea cerina.
— — Maulei.	— Cervantesii.	Pilunna fragrans.
— Schlimii.	— — roseum.	Pleione humilis.
— villosum.	— grande.	— lagenaria.
Dendrobium chrysanthum.	— Hallii.	— maculata.
— infundibulum.	— luteo-purpureum.	— Wallichiana.
— Wardianum.	— nebulosum.	Polycyenis lepida.
Epidendrum prismatocarpum	— niveum.	Restrepia antennifera.
— vitellinum majus.	— Pescatorei.	Sophronites grandiflora.
Lælia albida.	— roseum.	Stanhopea oculata.
— majalis.	— triumphans.	— saccata.
— superbiens.	Oncidium Barkeri.	Trichopilia coccinea.
Lycaste aromatica.	— bifolium majus.	Warscewiczella aromatica.
— Deppei.	— cheirophorum.	Zygopetalum maxillare.

—G. EYLES, 44 Eardley Crescent, South Kensington.

RAISED BEDS FOR FLOWERS OBJECTIONABLE.

THE practice of heaping up soil like an oven-bottom cake, and planting it with gaudy plants, so as to show a glare from some vantage-ground, which one sometimes sees adopted, will, on near approach, always be found faulty, and is objectionable for weighty reasons. If a tall clump is wanted, why not have one? Roses, Dahlias, and Hollyhocks are to be had in plenty, and Jackman's Clematises will rise to any reasonable height. By this I mean that, in my opinion, if the plants require elevating or propping up at the base, they are too low for the situation.

I recollect some few years ago seeing an elaborate summer bed in Kew Gardens. It had few, if any rivals in the kingdom, and must have cost much skill and labour to construct it; but it was, after all, but a trial of what could be done with small herbaceous bedding plants, and one felt disappointed to see that so much botanical skill produced no bolder display. An immense number of succulents were used, but like the Fig-tree of Holy Writ, they had leaves only, which, however neat, were but leaves after all.—A. FORSYTH, *Salford*.

THE SAPONARIAS.

TO the natural order *Caryophyllaceæ*, or Cloveworts, our herbaceous and rock-gardens owe no inconsiderable debt of gratitude for their beautification, and to this order belongs the genus *Saponaria*, popularly known by the title of Soapworts, which genus I take as a text for a few remarks, which I trust may be of use to some of your readers.

There are few gardens wherein the old typical species, *Saponaria officinalis*, the plant from which originates its English title, Soapwort, may not be found. Its strong, vigorous growth, and its root-rambling propensities, render it, if associated with the more delicate denizens of the rock-garden, rather a nuisance than otherwise; but if given an out-of-the-way corner to itself in a wild part of the garden—and what garden, may I ask, is there without such corners?—it will soon be found that it has a value. Rambling amongst a group of old roots, and associated with the common and variegated *Vinca major*—both beautiful plants in their way—our old Soapwort will be quite at home, and as it is an autumn bloomer, it comes in most *à propos*, with its pink flowers rising well above the surrounding foliage. Singularly enough, the variety commonly met with is the double one, decidedly the most desirable for cultivation, as the blooms are not only more showy, but also more enduring than the single. The latter I obtained, after many years' seeking, quite by accident in a cottage-garden in the north of Yorkshire.

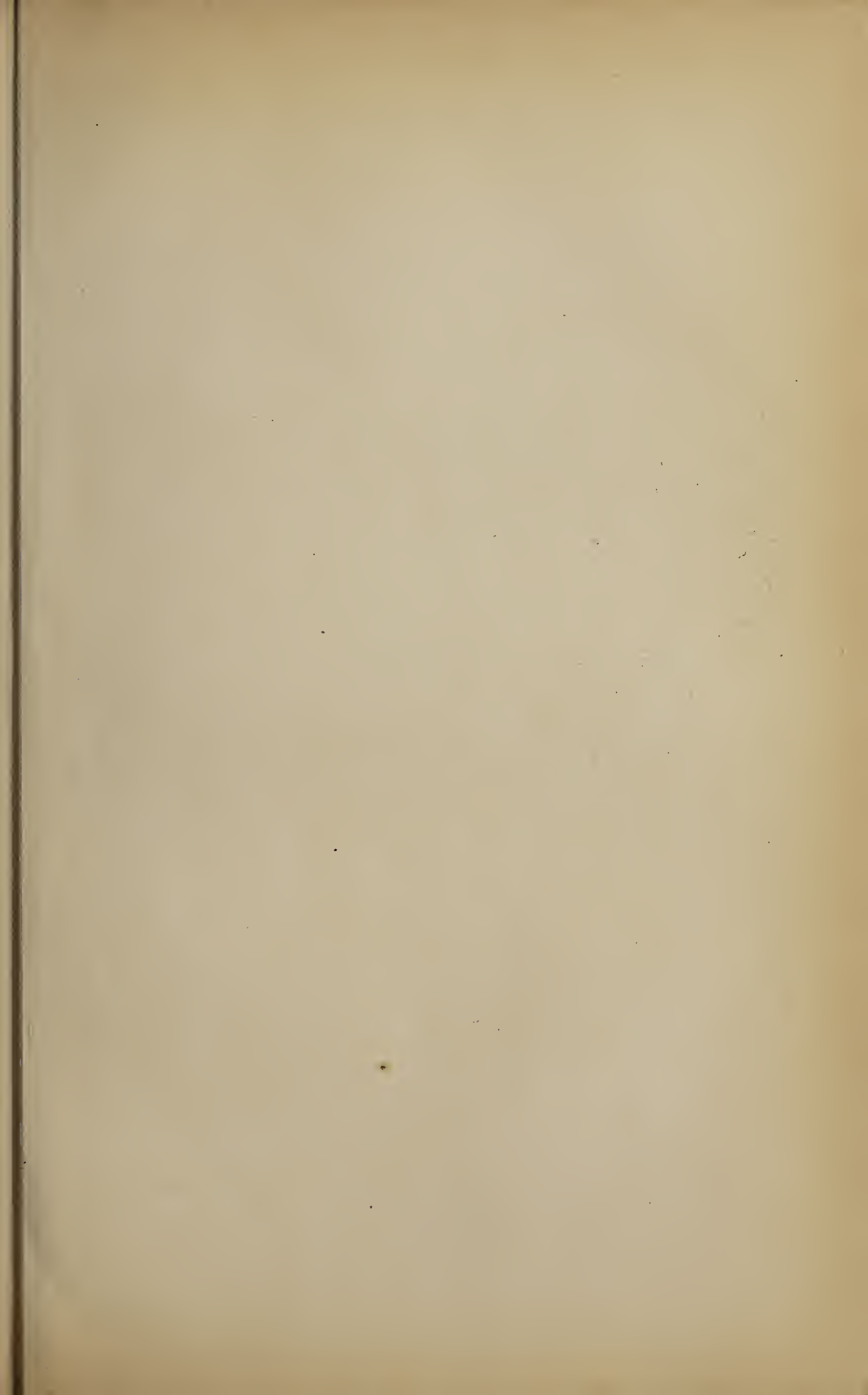
S. caucasica, though usually dignified by a specific title, is nothing more than a very dark rosy form of the old species, also double-blossomed, and flowering a little later than the typical species, of which undoubtedly it is but a variety, and a very desirable one too.

S. ocymoides is a trailing plant of great beauty, and which, when growing freely, presents a cloud-like appearance of delicate rose-tinted flowers, produced in succession throughout the greater part of the summer. A well-established plant will, from a somewhat woody root-stock, produce a sufficient growth to cover square yards of surface, and nowhere is it more at home than when rambling over and festooning the facings of an old root or a combination of roots.

As a rule, I am not a great admirer of such combinations, for which I presume the most appropriate title would be Rooteries, but there are conditions in which they may be used with advantage, and like the skeleton, their beauty will much depend on the taste and judgment exercised in placing appropriate materials at Nature's command wherewith to clothe them. The materials provided, the rest should be left to Nature; and amongst these materials none will be found more appropriate than this species of *Saponaria*. One essential point is that the position should be tolerably well exposed to the sun. Associated with it, I might suggest some of our lovely Clematises, now a numerous family, all of which thrive best when allowed to ramble in natural disorder; a few of the wild Foxgloves, or better still, some of the more improved garden forms interspersed, will add not only floral beauty to such a group, but give it a picturesque character, such as a few towering Lombardy poplars or lofty pines give to the landscape. To complete the picture, let the grass-line rising towards the base of the roots be crowned on its irregular undulating surface with a combination of the wild Bugle, *Ajuga reptans*, or better still, its alpine form, whose flowers are of a blue almost rivalling cobalt; and the *Lysimachia nemorum*, or Wood Money-wort, whose simple yellow flowers and fresh green foliage would add a beauty to such a group, such as could be obtained from few exotics. A plant or two of common wild Honeysuckle would add its fragrance as well as its beauty to the scene. With such garniture, the rootery, too often an eye-sore, would be metamorphosed into a "thing of beauty and a joy for ever," and amongst all the plants that combine to form the picture, our *Saponaria ocymoides* would be second to none.

S. ocymoides var. *major* is a decidedly superior form, the flowers being larger and more perfect in outline; it originated in Scotland, and is, I presume, a seedling variation. Whether it possesses the constitutional vigour of the old species I cannot say from experience, as I have only had it under pot-culture, but I see no reason why it should not.

S. cæspitosa is a most appropriate name, given on account of the tufty compact growth of the plant, to a rock-loving subject, a native of the Pyrenees. In size of bloom and general appearance it is a very close rival of the lovely Alpine Pink (*Dianthus alpinus*). This plant forms a thick, woody root-stock, developing from its summit a number of short prostrate branches clothed with almost linear leaves. The flowers are pink, and nearly an inch in diameter. Its true home is in the crevices of the rocks, where it will live for years. It enjoys and thrives well in a dry locality, being under those its natural conditions perfectly





L. M. 1796 del.

Pear: Peach (*Poire Pêche*).


hardy ; but when planted in damp soil it is sure to suffer, if it be not killed outright by our damp winters. It is not often met with in cultivation, but would, undoubtedly, be fully appreciated were its beauties more generally known.

S. lutea is a rare plant from the Maritime Alps, most unusual as regards colour in the natural order, but a difficult plant to establish, nor, as I have seen it, did it appear to indicate that beauty with which some writers have credited it.

S. calabrica, though only an annual, is one of the most charming of that too neglected class of plants. It enjoys such a wide popularity that, beyond the mere mention of it as a worthy representative of the genus, no further description will be necessary. The brightness of its myriad blossoms, and the cushion-like character of its growth, as well as its lasting properties, all commend it, and have contributed to render it a popular favourite.—JAMES C. NIVEN, *Hull*.

THE PEACH PEAR.

WITH AN ILLUSTRATION.


E adopt the above name, given to us by Dr. Hogg, for this useful but not very handsome summer Pear, with some hesitation, since other pomological authorities inform us it is not that variety. It was received under the name of Beurré Giffard, but that is certainly an error, the Beurré Giffard bearing a more highly-coloured pyriform fruit. We think it expedient to publish the figure now, in order to direct attention to it during the coming pear-season, and shall hope then to clear up the doubt as to its true name.

The Pear here represented ripens about the middle of August. It varies somewhat in shape, some of the fruit examined being slightly narrowed towards the base; the largest measured two and a quarter inches across near the upper end, and nearly three inches in length, both eye and stalk being set in shallow depressions, the eye closed, and the stalk of moderate thickness and about an inch and a half long. The colour of the skin was pale green, changing to yellow green, and freckled over with light brown spots, russety around the stalk. The flesh was melting and juicy, with a brisk sweet pear flavour.

Altogether the variety was a summer pear of considerable merit, and seemed to deserve the prominence which would be given to it by the publication of the accompanying figure, the drawing for which was made in August, 1874.—T. MOORE.

THE CARNATION AND PICOTEE.

CHAPTER XIX.—DESCRIPTIONS OF THE BEST VARIETIES, OLD AND NEW (*concluded*).

S a wind-up to a rather lengthy series of descriptive notes on the principal flowers cultivated at the present day, we come at last to those known as the

ROSE, SCARLET, OR SALMON-EDGED PICOTEES.

CHARLES WILLIAMS* (Norman).—Heavy scarlet-edged. A flower of the very largest size, with a short pod, which therefore requires careful tying and watching during the opening of the flower, to prevent its bursting. Has a fine large petal, and a broad plate of colour with a smooth edge. Being very late in bloom, it should be potted early, and have the

shelter of a frame during the spring months; will carry three or four flowers; must be bloomed upon a card.

CYNTHIA (Lord).—Light-edged. A seedling from Mrs. Bayley, a heavy purple edge, this variety exhibits the high quality and refinement of the parent, but unfortunately, like Prima Donna, I fear it is the product of an immature seed, as even at this early date (it was sent out in 1873, first bloomed in 1871) it has developed grievous indications of deficient stamina, and from the experience I have had, I fear it has seen its best days.

DAVID MOTLEY* (Adams).—Heavy-edged rose. A grand flower, good petal, good edge, with a rich feathered marginal colour of deep rose, without spot or bar. Sent out in 1875; not a robust grower.

EDITH DOMBRAIN (Turner).—Heavy rose. Following the phraseology of my friend Mr. Rudd, in describing David Motley, I shall say of Edith Dombrain, "A grand flower." Had it, indeed, a few more petals, and therefore a higher elevation in the crown, it would be the undoubted mistress of the class, as it possesses the broadest margin and the brightest colour of any known to me; but as it lacks this perfection of form, I give the first place to Miss Horner, a variety presently to be described. The balance of properties is, however, so fine, and several in this class, as in the purple and also red-edged section, exhibit so much excellence, that it is difficult to assign priority, and places will be changed without doubt from time to time, as seasons may more or less develop their special excellence. For myself, I rejoice exceedingly that such a wealth of beauty is poured out for our gratification, and with Captain Macheath, I can sing, "How happy could I be with either," but without wishing "t'other dear charmer away." Well done, and in good character, Edith Dombrain is a "rasper" (to quote Northern florists' phraseology, implying something "very bad to beat"), with a good petal, broad band of bright rose, fine white ground, good texture, smooth edges, and high quality. It also is a fine grower. First bloomed in 1870. Sent out in 1873. Mr. Turner does not know its origin, but I have little doubt, from its habit and grass, it springs from Kirtland's Elise.

EMPRESS EUGÉNIE (Kirtland).—Light edge. A variety of fair character, being very pure, smooth, well formed, and very delicately margined with a light bright rose, but the petals are too narrow to give it the *expression* required for first class.

ETHEL (Fellowes).—Raised at Shotesham Rectory. A light or medium-feathered edge. A most lovely variety, having a finely-formed petal well continued to the crown, with a rich lustrous white, fine texture, and a bright marginal colour of a winning rose. A good grower. Altogether, one of the best of the Shotesham seedlings, fine as many are. First bloomed in 1870, sent out in 1874.

FANNY HELEN (Niven).—Heavy rose-edge. By the same raiser as Mrs. Niven, purple-edge, and from seed harvested by Mr. Robert Marris, who believes Fanny Helen sprang from Elise. A grand flower, grand in every point, in growth, in form of petal, form, richness, and smoothness of texture and edge, the beauty of its marginal colour, and the purity of its white ground. Well done, it cannot but be appreciated, and as I have said above, the diadem of the class will be shifted from brow to brow, as seasonal influences or the grower's art may develop the special points of this and other lovely varieties.

FLOWER OF THE DAY (Norman).—Heavy-edged salmon. A flower of fair properties, having a good petal and a pure white ground, but is sadly lacking the lustrous richness of texture and colour required to entitle it to first class.

JULIANA (Turner).—Heavy scarlet-edge. A most brilliant variety, having a smooth, finely-formed petal, good white ground, fairly free from spots or bars, and great substance, with a broad margin of the brightest colour (a salmon-scarlet or orange-buff, these colours are so indescribable) of its class: yet wanting a few more petals to give it perfect form, I place it second to Miss Lee. Nevertheless, Juliana is a grand sort. A seedling, I make no doubt, from Kirtland's Obadiah, but an immense advance on that old variety, being smooth and much brighter. First bloomed in 1868. Sent out in 1873.

MISS HORNER (Lord).—Rose, heavy-edged. "Undoubtedly the belle of the class." This was my verdict in the review of the Carnation and Picotee bloom of 1876, and as, in my mind's eye, I go again over the lovely flowers of this especially lovely class, I find no ground to alter my opinion. But such is the excellence of her competitors, that it is only by minute points the first place falls to Miss Horner, though points worthy of note. Miss Horner is better crowned than Edith Dombrain, and is brighter and livelier in the marginal colour than Fanny Helen. But the three varieties may well indeed be described as the "three Graces," and a more lovely trio can hardly be imagined. Well grown, Miss Horner is superb; full, fine in form, and of good size; petal broad, smooth, of rich texture and the highest refinement; marginal colour of bright rose, evenly laid on, and the white ground without spot

or bar. Raised from seed taken from Kirtland's *Élise*, set with pollen from Flower of the Day. First bloomed in 1873. A good grower. Mr. Lord proposes, I believe, to distribute this variety in the coming autumn.

MISS LEE (Lord).—Another of the fine Todmorden varieties. Raised from Flower of the Day, crossed with pollen from *Élise*, we have here a paler marginal colour, generally described as scarlet or salmon, though to my eye the colour more closely approximates to a bright rosy-buff. Not so brilliant in colour as *Juliana*, but for symmetry of form, finely-formed petal, and regularity of marking, in combination with smoothness, rich texture, and good white, Miss Lee, with me, was unquestionably first. A good grower. First bloomed in 1871, sent out in 1873.

MISS SEWELL (Kirtland).—Light or medium-edged rose. A variety with a fine, large, symmetrically-shaped petal, good ground, and bright-feathered marginal colour, but much disfigured with bars, and what is yet worse, has developed during the autumn months such a disposition to canker that, in my collection, at any rate, its life cannot be for long.

MISS WOOD (Wood).—Light-edged rose. I have not bloomed this variety, my plants having been deftly shot off by a stone thrown by a mischievous urehin from a neighbouring garden, but I saw it in good character at Manchester, and incline to give it first place amongst the light edges, from the greater breadth of petal it possesses, as compared with Mrs. Allcroft.

MRS. ADAMS* (Adams).—Light-edged rose. Much in the style of Miss Wood, from which I assume it sprang, but lighter on the edge. A fine full flower, with deep-rose wire edge. Wants shading and good growing. Will carry two blooms. Sent out in 1875. Medium early in bloom.

MRS. ALLCROFT (Turner).—Light-edged rose. A large full flower, very distinct. Marginal colour, a light-rose, very evenly, though lightly, laid on. Apparently a seedling from *Empress Eugénie*, and an undoubted advance upon that variety. Guard petals large and well formed, but the centre petals are too small and narrow quite to realise my ideal of first-class. A good grower. Sent out in 1873, first bloomed in 1870.

MRS. DAVIES* (Norman).—Heavy-edged scarlet. Saving the difference in the marginal colour, this flower reminds me of *Edith Dombrain*, only the size is less. The petal is good, and the colour broad and evenly laid on; white, fair. Medium early in bloom. Not a good winter-doer.

MRS. FORDHAM (Turner).—Medium-edged scarlet. Very bright and attractive. For the button-hole or home-stage most effective, but does not attain to my standard of exhibitional requirements. It is of the largest size, the colour bright, and well laid on; the white ground pure, and the texture fine. But the centre of the flower is composed of small petals, and this is entirely opposed to the simplicity and order which are the characteristics of a first-class flower. First bloomed in 1870. Sent out in 1873.

MRS. LORD (Lord).—Heavy-edged rose. This, a seedling from Mrs. Bayley, is in every respect—in grass, habit, and flower—an exact repeat of the parent, save only that the marginal colour is a delicate rose, instead of a lilac-purple. Like its parent, it possesses refinement in the highest degree; an admirably formed, stout, and smooth petal, capital form, and a white ground that defies improvement. As the flower ages, the marginal colour, always delicate, slightly pales, but in every stage it is exquisite. A good grower, but being of an open and succulent habit of grass, it is much subject to the attacks of parasites. Will be found to do well from pipings, put in in early summer. First bloomed in 1871. Sent out in 1873.

MRS. NICHOLL (Simonite).—Light-edged rose, sometimes medium-edged. This, like all the Sheffield seedlings, has refinement in a very high degree, a fine broad smooth and stout petal, and is sufficiently full to produce a good crown. Habit of grass dwarf and bushy, and very prolific. Sent out in 1874. Raised from an unnamed seedling.

MORNING STAR (Norman).—With me this was by far the better of the late Mr. Norman's seedlings in this section. A fair-sized, full flower, with a well-shaped broad petal continued to the crown, white ground without spot or bar, and an evenly disposed medium marginal colour of rosy buff. Substance, texture, and quality good, though not of the highest merit. A good grower.

NORTHERN STAR (Wood).—Light-edged. Another variety I failed to bloom from the unlucky mischances to which suburban gardens are subject. Cats, dogs, and mischievous children are indeed sore trials to one's equanimity. But I saw it in fair character in the North, evidencing the possession of good properties, and hope to be more fortunate in the coming season.

OBADIAH (Kirtland).—A very telling flower, would take very high rank, but for one grievous drawback, the lack of a perfectly smooth edge. Full size, finely-formed petal, good form, good texture, good white, and a marginal colour of rosy-buff, very evenly laid on; it is

most unfortunate it should fail in smoothness, but so failing, it must be condemned to a very inferior place. A good grower. Very useful for bouquet purposes.

REGINA (Fellowes).—Another of the Shotesham Rectory Seedlings which I saw in good character at the Royal Nursery, Slough, in 1875, but, as in the case of Northern Star and Miss Wood, was prevented seeing it bloom in my own garden by the deft stone-throwing of an unlucky urchin from a neighbouring garden. A well-formed, medium-sized flower, with a pure white ground and a good heavy plate of rosy-buff, bright and smooth. Not so attractive to my taste as Ethel, and not so free a grower, but if well grown, I should expect to find it very effective. First bloomed in 1871, sent out in 1875.

TERESA (Simonite).—Light-edged rose. The nearest approach to a wire-edge yet attained in this very attractive class, with a finely-formed petal and lovely white ground, and when attainable, will, I think, be eagerly sought after. Unfortunately, despite his skill and patience, Mr. Simonite cannot shield his pets from the "murderous" influences, as a friend, unhappily, only too truly describes them, of that "black hole," Sheffield; and although Carnations and Picotees will not merely live, but thrive, where other flowers would dwindle and die, they are nevertheless very susceptible of such drawbacks to high cultivation, as Mr. Simonite has had much pitiful experience of, in the deterioration or death of many of his fine seedlings. Of late, I believe, some of his pets have been passed on to Kirkby Malzeard, and with the advantage thus gained, I trust no long time will elapse before many of his fine varieties, so long looked for and longed for, will be ready for distribution to his brother-florists.

A few remarks, in conclusion, may, perhaps, not unfitly be devoted to the consideration of the present position of these flowers, as compared with that of the past, and to the determination of the question,—has their progress towards perfection during later years been such as should satisfy those delighting in their development?

Canvassing during the early months of this year the respected treasurer of the Royal Horticultural Society for a subscription in aid of the fund for the special exhibition of these flowers, now shortly to be held, he replied "he would give me a guinea with pleasure, for the Carnation and Picotee were ever his favourite flowers, and he would give anything to see them again as he saw them forty years since." Mr. Webb is not alone, I am thankful to say, in his faculty of remembering vividly the beauty of the past, for it is of the mercy and beneficence of our Almighty Father that whilst our sorrows lose their sharpness and soften into sanctity, the "thing of beauty," the "joy for ever," grows brighter as the years wane, and the vista of the memory lengthens. But it would be a reproach, and a grievous one, did we, the florists of the present, stand still and merely seek to enjoy the work of our fathers. As Mr. Horner has so well said, in one of his admirable, I might fairly say, inimitable, papers on the Auricula:—"Where our florist-fathers rested in the evening of their day is the point we start from in the morning of our own, and we should ever have this purpose before us in our floral pursuits—to leave something added, something better than we found. So, when shadows are long upon the grass for us in turn, and we come to lay the old gentle pleasures by, with that same feeble consent in which we part from friends who cannot stay, we may be able to say we have done somewhat for the future in these quiet ways, as the past has done for us." This sets out a laudable ambition, and as a florist of matured years, able to remember many things during those forty seasons referred to by Mr. Webb, I have a great satisfaction in believing it will be recorded of the present generation that we have fairly fulfilled our duty.

Considering, in the Carnation more especially, the large attainments of our

predecessors, and the degree of perfection reached, it is little to be wondered at that its progress should be slow, and that to some minds, not carefully noting successive seasons' work, the advance should be imperceptible. But no one who gives an attentive consideration to the facts can fail to note, not only that an advance has been made, but that the rate of progress in everything that constitutes beauty in the flower, as stoutness of petal, breadth, smoothness, fine texture, richness and regularity of colouring, and harmonious distribution, has advanced and is yet advancing in a measure our forefathers knew not of; and I cannot hesitate to believe that this advance has been obtained by the better knowledge of, and the better practice followed in, seeding. Shortly after I was located at Derby, now closely verging upon the forty years I have already referred to, it was gravely suggested to me by the then supposed best-informed Carnation and Picotee-grower of the town, who observed my use of a small camel's-hair pencil in the fertilisation of the ovary, that "I was running a great risk, for nature had her own methods, and would not be interfered with, and I had far better leave the work to the bees or the wind." And it was many years before such crass ignorance could be dissipated. Now, we go forward, almost I might venture to say by regular steps, and though, of course, mistakes will be made, and disappointments come, as when long-continued in-breeding or immature seed develops disease or debility, yet we never go back to masses of confused narrow petals and broken markings, which were not unknown even in my younger days. Now, though our requirements are far more exacting, we obtain, not, as Hogg, who, in his day, was, I believe, the most advanced of florists, "one seedling in a hundred worth saving," and that "always a lottery," a thing of chance, but a progeny, as surely to be reckoned on as the produce of the most highly-bred herds, or other carefully selected and cultured stocks. This will go forward, possibly, if not probably, in an increasing ratio. And very grateful should we be to that Almighty Power which has placed within the reach of His creatures such a power to develop beauty, and such a source of innocent, untiring enjoyment.—E. S. DODWELL.

THE NORTHERN TULIP SHOWS.

THE Annual Exhibition of the ROYAL NATIONAL TULIP SOCIETY, which took place in the Manchester Botanical Gardens, was this year fixed for May 25, but was necessarily postponed till June 5, on account of the backwardness of the flowers; and even that date proved too early for many growers, who could then scarcely put in an appearance. The Society, under the able presidency and secretaryship of S. Barlow, Esq., of Stakehill House, Chadderton, is, we are glad to see, maintaining its ground, since it has increased its membership, notwithstanding heavy losses by death during the past few years. The following are some of the principal awards at the recent Exhibition:—

Twelve Dissimilar Tulips, two feathered and two flamed in each class:—1st, Mr. W. Whittaker, Salford, with Mrs. Lea and Industry, feathered, and Sarah Headly and Mrs. Lea,

flamed roses; Masterpiece and John Morris, feathered, and Sir J. Paxton and Ajax, flamed bizarres; Bessie and Violet Aimable, feathered, and Talisman and Bacchus, flamed byblœmens; Industry and Talisman were exceptionally fine, in a stand of very fine flowers. 2nd, Mr. D. Barber, Stanton-le-Dale, with Heroine, Industry, Clara, and Triomphe Royale, roses; Sir J. Paxton, both feathered and flamed; Dr. Hardy and a seedling, bizarres; and Norval, Mary Barber, Duchess of Sutherland, and Violet Sovereign, byblœmens. 3rd, Mr. S. Barlow, Chadderton, with Lady Grosvenor and Modesty, feathered, and Mrs. Lomax and Lady Sefton, flamed roses; Ashmole's 104, and Tiny Tim, feathered, and Ajax and Orion, flamed bizarres; Bessie and Martin's 101, feathered; and Bacchus and Adonis, flamed byblœmens; though generally undersized, these flowers manifested the splendid quality always characteristic of Mr. Barlow's productions. 4th, Mr. D. Woolley, Stockport. 5th, Mr. S. Cooper, Timperley.

Six Dissimilar Tulips, one feathered and one flamed in each class:—1st, Mr. C. Forman, Chellaston, with Heroine, feathered, and Triomphe Royale, flamed roses; Barlow's Sir J. Paxton, flamed, and Lord Byron, feathered bizarres; Jemima Forman, feathered, and Duchess of Sutherland, flamed byblœmens. 2nd, Mr. T. Haynes, Derby, with Heroine, feathered, and Aglaia, flamed roses; Sir J. Paxton, feathered, and the same variety flamed bizarres; Mrs. Pickerell, feathered, and Duchess of Sutherland, flamed byblœmens. 3rd, Mr. W. Whittaker, with Sarah Headly, feathered, and Mrs. Lea, flamed roses; Masterpiece, feathered, and Sir J. Paxton, flamed bizarres, Bessie, feathered, and Talisman, flamed byblœmens. 4th, Mr. S. Barlow, with Mrs. Lea, feathered, and Annie Macgregor, flamed roses; Storer's 3 A, feathered, and Masterpiece, flamed bizarres; Martin's 101, feathered, and John Peacock, flamed byblœmens. 5th, Mr. J. Thurston, Wolverhampton; 6th, Mr. J. Morris, Leigh; 7th, Mr. D. Barber.

Six Dissimilar Tulips (small growers):—1st, Mr. H. Housley, Stockport, with Aglaia, rose, shown both feathered and flamed; Masterpiece, feathered, and Sir J. Paxton, flamed bizarres; Violet Aimable, feathered, and Chancellor, flamed byblœmens. 2nd, Mr. H. Hill, with Heroine, feathered, and Mary Barber, flamed roses; Sir J. Paxton, feathered, and Dr. Hardy, flamed bizarres; Adonis, feathered, and Duchess of Sutherland, flamed byblœmens. 3rd, Mr. R. Yates, Leigh, with Mrs. Lea, feathered, and Lady Talfourd, flamed roses; Masterpiece, feathered, and Dr. Hardy, flamed bizarres; Violet Aimable, feathered, and Lord Denman, flamed byblœmens.

Three Feathered Tulips, one of each class:—1st, Mr. W. Whittaker, with Mrs. Lea, rose; Masterpiece, bizarre; and Adonis, byblœmen. 2nd, Mr. C. Forman, with Heroine, rose; Sir J. Paxton, bizarre; and Adonis, byblœmen. 3rd, Mr. T. Haynes, with Sarah Headly, rose; Sir J. Paxton, bizarre; and Mrs. Pickerell, byblœmen. 4th, Mr. H. Housley; 5th, Mr. D. Barber; 6th, Mr. S. Barlow.

Three Flamed Tulips, one of each class:—1st, Mr. J. Thurston, with Aglaia, rose; Sir J. Paxton, bizarre; and Talisman, byblœmen. 2nd, Mr. S. Barlow, with Annie Macgregor, rose; Sir J. Paxton, bizarre; and Bacchus, byblœmen. 3rd, Mr. T. Haynes, with Triomphe Royale, rose; Sir J. Paxton, bizarre; and Duchess of Sutherland, byblœmen. 4th, Mr. W. Wardle, Burton-on-Trent, with Triomphe Royale, rose; Dr. Hardy, bizarre; and Carbuncle, byblœmen. 5th, Mr. T. Mellor; 6th, Mr. D. Barber.

Two Tulips, one feathered, one flamed (maiden growers only):—1st, Mr. H. Hill, the only successful exhibitor, with Lord Lilford, bizarre, and Duchess of Sutherland, byblœmen.

Two Tulips, one feathered, one flamed:—1st, Mr. W. Whittaker, with Masterpiece and Sir J. Paxton, both bizarres; 2nd, Rev. F. D. Horner, Kirkby Malzeard, with Mrs. Lomax rose, and Bacchus, byblœmen; 3rd, Mr. W. Wardle, with Industry and Aglaia, both roses; 4th, Mr. D. Woolley, with Dr. Hardy, bizarre, and Talisman, byblœmen; 5th, Mr. D. Barber; 6th, Mr. C. Forman.

Single Blooms:—*Flamed Bizarre*: 1st, Mr. J. Turner, with Sir Joseph Paxton. 2nd, Mr. T. Haynes, with Dr. Hardy. 3rd, Mr. J. Turner, with Sir J. Paxton. 4th, Mr. W. Whittaker, with Orion. 5th, Mr. J. Hague, with Masterpiece. 6th, Mr. C. Forman, with the same. 7th, Mr. J. Thurston, with Ajax. 8th, Mr. D. Woolley, with Captain White. 9th and 10th, Mr. W. Whittaker, with Ariosto and Smith's Prince of Wales.—*Feathered Bizarre*: 1st, Mr. H. Housley, with Royal Sovereign, and 4th with Lord Byron. Mr. W. Whittaker, 2nd, with Masterpiece, 3rd with Sir J. Paxton, 5th with Field-Marshal, 7th with George Hayward, and 8th with Magnum Bonum. 6th, Mr. J. Turner, with Real Gem. 9th, Mr. C. Forman, with Demosthenes. 10th, Mr. R. Yates, with Sir C. Campbell.—*Flamed Roses*: Mr. D. Woolley, 1st and 2nd, with Aglaia. 3rd, Mr. T. Mellor, with Mabel. 4th, Mr. W. Whittaker, with Madame de St. Arnaud. 5th, Mr. H. Housley, with Triomphe Royale. 6th, Mr. W. Wardle, with Industry. 7th, Mr. S. Barlow, with Lady Sefton, and 9th with Rose of England. 8th, Mr. S. Cooper, with an unnamed variety. 10th, Mr. W. Whittaker, with Sarah Headly.—*Feathered Roses*: 1st, Mr. H. Housley, with

Mabel, 5th with *Aglaia*, and 7th with Mabel. 2nd, Mr. W. Whittaker, with a seedling, 4th with Mrs. Lea, 8th with *Industry*, and 10th with Mrs. Headly. 3rd, Rev. F. D. Horner, with *Modesty*. 6th, Mr. C. Forman, with *Heroine*. 9th, Mr. S. Barlow, with *Little Annie*.—*Flamed Byblœmen*: 1st, Mr. W. Whittaker, with *Talisman*, 2nd with *Duchess of Sutherland*, and 5th with Headly's *Adonis*. 3rd, Mr. S. Barlow, with *Talisman*. 4th, Mr. T. Haynes, with *Clarke's Thalia*. 6th, Mr. D. Woolley, with *Lord Denman*. 7th, Mr. John Morris, with *William Bentley*. 8th, Mr. T. Haynes, with *Salvator Rosa*. 9th, Mr. H. Hill with *Chancellor*. 10th, Mr. S. Barlow with *David Jackson*.—*Feathered Byblœmen*: 1st, Mr. Whittaker, with Headly's *Adonis*, 3rd, with the same, and 4th, with *Violet Aimable*. 2nd, Mr. C. Forman, with *Mary Forman*. 5th and 6th, Mr. D. Woolley, with *Bessie* and *Talisman*. 7th, Mr. J. Hague, with Mrs. Allsop. 8th, Mr. T. Mellor, with *Angolina*. 9th, Mr. S. Cooper, with *Sarah*. 10th, Mr. D. Barber, with Mrs. Piekerell.—The *Premier Feathered Tulip* was *Heroine* rose, shown by Mr. D. Barber; and the *Premier Flamed Tulip*, *Sir Joseph Paxton*, *bizarre*, shown by Mr. C. Forman.

Breeder Classes:—Mr. Barlow has for some years past ranked as the champion cultivator of breeder tulips, and some flowers of extraordinary beauty were to be found amongst those exhibited by him on this occasion. In the class for six blooms he was awarded the 1st prize for Mrs. Barlow and *Lady May*, rose; *Lord Provost* and *Richard Yates*, *bizarre*; *Glory of Stakehill* and *Talisman*, *byblœmen*, a very fine lot indeed. 2nd, Mr. D. Barber, with *Dr. Hardy*, *Adonis*, *Queen of England*, Mrs. Barlow, and two seedlings. 3rd, Mr. J. Hague. 4th, Mr. W. Whittaker. In the class for three blooms the best came from Mr. T. Haynes, who had *Beauty of Litchurch*, Mrs. Bright, and *Dr. Hardy*. 2nd, Mr. S. Barlow, with *Alice Grey*, *Annie MacGregor*, and *Sir J. Paxton*. 3rd, Mr. H. Housley, with *Sulphur*, *Mabel*, and *Duchess of Sutherland*. 4th, Mr. W. Whittaker. 5th, Mr. T. Mellor. 6th, Mr. J. Hague. In the class for single blooms of *Bizarre* breeders, Mr. D. Barber was 1st, with *Sir Joseph Paxton*, followed by *William Willison*, *Dr. Hardy*, *Excelsior*, and seedlings. The best *Rose-breeder* was Mrs. Barlow, from Mr. S. Barlow, followed by *Annie Macgregor*, *Lady Grosvenor*, *Atkins's* seedling, *Mabel*, *Lady May*, and Mrs. Bates. The best *Byblœmen* breeder was *Beauty of Litchurch*, from Mr. T. Haynes, the other flowers being seedlings. The *Premium Breeder Tulip* was Mrs. Barlow, a very fine rose, from Mr. S. Barlow's collection.

The fourth annual show of the NORTHERN COUNTIES TULIP SOCIETY—a contemporary, but not a rival of the National Society, and one which had its origin in a series of small Tulip shows held about Manchester, but too closely identified with ale-house associations—was held a few days later, June 8, at the Abbey Hey Hotel, Gorton, near Manchester. S. Barlow, Esq., is also President of this Society, and Mr. J. Wild, Ashton-under-Lyne, Secretary. The following are the winning flowers in the principal classes:—

Six Tulips, one of each class:—1st, Mr. W. Whittaker, Salford, with *Sir J. Paxton*, very fine, *flamed*, and *Masterpiece*, *feathered bizarres*; *Mabel*, *flamed*, and *Industry*, a delicately beautiful new variety shown in fine condition, *feathered roses*; *Talisman*, *flamed*, and *Bessie*, very fine, *feathered byblœmens*. 2nd, Mr. T. Mellor, Ashton, with *Sir J. Paxton*, *flamed*, and *Charles X.*, *feathered bizarres*; *Duchess of Sutherland*, very fine, *flamed*, and *Agnes*, *feathered byblœmens*; *Mabel*, *flamed*, and *Heroine*, *feathered roses*. 3rd, Mr. S. Barlow, Chadderton, with *Sir J. Paxton*, very fine, *flamed*, and *George Hayward*, *feathered bizarres*; *Countess of Sefton*, *flamed*, and *Heroine*, *feathered roses*; *John Peacock*, *flamed*, and *Bessie*, *feathered byblœmens*. 4th, Mr. J. Morris, Leigh.

Six Tulips, one of each class (small growers).—1st, Mr. J. Hulme, with *Sir J. Paxton*, *flamed*, and *Charles X.* *feathered bizarres*; *Mabel* *flamed*, and *Heroine* *feathered roses*; *Chancellor*, *flamed*, and *Violet Aimable*, *feathered byblœmens*. 2nd, Mr. J. Leigh. 3rd, Mr. R. Ashton. 4th, Mr. J. Heap.

Three Feathered Tulips.—1st, Mr. W. Whittaker, with *Masterpiece* *bizarre*; *Violet Aimable*, very fine, *byblœmen*; and a very good and promising high-coloured rose seedling. 2nd, Mr. J. Hulme, with *Masterpiece*, *Violet Aimable*, and Mrs. Lea. 3rd, Mr. T. Mellor, with *Sulphur*, *Norval*, and *Heroine*. Two other prizes were awarded.

Three Flamed Tulips.—1st, Mr. W. Whittaker, with *Sir J. Paxton*, *bizarre*; *Talisman*, very fine, *byblœmen*; and *Aglaia* rose. 2nd, Mr. J. Turner, with *Sir J. Paxton*, very fine; *Duchess of Sutherland*, and *Triumpho Royale*. 3rd, Mr. S. Barlow, with *Sir J. Paxton*; *Nimbus*, a new particularly effective *flamed byblœmen* of the late *Dr. Hardy's* raising, not yet distributed, and *Aglaia*. 4th, Mr. T. Mellor.

Two Tulips, one feathered, one flamed.—1st, Mr. J. Turner, with *Dr. Hardy*, *flamed*

bizarre, and Heroine, feathered rose, both small flowers. 2nd, Mr. J. Hulme, with Dr. Hardy, flamed bizarre, and Violet Aimable, feathered byblœmen. 3rd, Mr. J. Hague, with Dr. Hardy, flamed bizarre, and George Hayward, feathered bizarre.

Single Blooms.—*Flamed Bizarre*: 1st, Mr. W. Whittaker, with Sanzio; then followed Sir J. Paxton, Lord Warden, Dr. Hardy, Sanzio, Ariosto, Lord Delamere, the first broken flower that has yet been shown, and Orion. *Feathered Bizarre*: 1st, Mr. W. Whittaker, with Masterpiece; 2nd, with the same variety; and 3rd with Lord Byron; 4th, Mr. J. Knott, with Surpasse Catafalque, one of the oldest tulips in cultivation; 5th, and following Mr. W. Whittaker with Richard Yates, Lord Ratcliffe, a flower that broke in character the first time of blooming, style of Masterpiece, but paler in colour, a very fine show variety; Magnum Bonum, and Sir J. Paxton.—*Flamed Byblœmen*: 1st, Mr. W. Whittaker, with Duchess of Sutherland, and 2nd with Talisman; following these were Duchess of Sutherland, Bacchus, Adonis, Norval, and Violet Aimable.—*Feathered Byblœmens*: Mr. W. Whittaker was 1st, 2nd, 3rd, 4th, and 5th with Headly's Adonis, Violet Aimable, Agnes, Bessie, and Adonis; then followed William Bentley, Angelina and Edgar.—*Flamed Roses*: Mr. S. Barlow was 1st, with Annie Macgregor, and 2nd with Mrs. Lomax; then followed Lovely, Aglaia, Triomphe Royale, Madame de St. Arnaud, seedling, and Agnes Strickland.—*Feathered Roses*: Mr. Whittaker was 1st and 2nd, with Mrs. Lea and Industry, then followed Andromeda, Mrs. Lea, Heroine, Aglaia, Rachel, and a seedling.

Breeder Classes.—Here the flowers were very fine. With six, Mr. S. Barlow was 1st, with Richard Yates and Sir J. Paxton, bizarres; Talisman and Glory of Stakehill, a splendid flower, byblœmens; Annie Macgregor and Hepworth's Lady May, one of the finest of rose-breeders in cultivation, roses. 2nd, Mr. T. Mellor, with Dr. Hardy and Flirt, bizarres; William Bentley and Bridesmaid, byblœmens; and Lady Grosvenor and Annie Macgregor, roses. 3rd, Mr. J. Hague. 4th, Mr. W. Whittaker. With three, one in each class, Mr. Barlow was also 1st, with No. 2 seedling bazaar, Glory of Stakehill, byblœmen, and Annie Macgregor, a beautiful rose-breeder for colour. 2nd, Mr. T. Mellor, with Storer's seedling, Adonis, and Annie Macgregor. 3rd, Mr. W. Whittaker, with Sir J. Paxton and two seedlings. For a single rose-breeder, Mr. S. Barlow was 1st, with Mrs. Barlow, 2nd with Mabel, and 3rd with Annie Macgregor; then came Olivia, Nanny Gibson, and Mrs. Bates. For a byblœmen breeder Mr. James Turner was 1st, with William Bentley, a position which should have been held by Mr. S. Barlow, with Alice Grey, which was placed 4th, with Talisman 5th. For bizarre breeders Mr. S. Barlow was 1st, 2nd, 3rd, and 4th, with Sir J. Paxton, Richard Yates, seedling, and Mrs. Lea; Sulphur and Hepworth's seedling were also shown.

The *Premier Feathered Tulip* was Industry, rose, shown by Mr. W. Whittaker, perfect in every respect; the *Premier Flamed Tulip*, Sanzio, bizarre, shown by the same exhibitor; and the *Premier Breeder*, Lady May, rose, from Mr. S. Barlow.

PHŒNIX RUPICOLA.

THIS beautiful Palm, the analogue of *Cocos Weddelliana* amongst the *Phœnices*, was described by Dr. Anderson in a paper read before the Linnean Society, published in the Society's *Journal* (xi., 13). It was found by him in the valley of the Teesta, at from 400 ft. to 1,500 ft. elevation. It is of slender habit, with a stem 15 ft. to 20 ft. high, and a diameter of eight inches in its full-grown state. The leaves are nearly ten feet long, elegantly drooping, with a compressed petiole, and trigonous rachis, bearing numerous flaccid linear-ensiform, acuminate, alternate or sub-opposite pinnae, a foot and a half long, green on both sides, conduplicate at the base, and from a quarter of an inch to an inch in width.

Dr. Anderson remarks that *P. rupicola* is distinguished from all others of the genus, by its long slender stems, without adherent petioles, except immediately under the old fronds; by the soft delicate foliage, like the leaves of a cocoa-nut; and by the elongated, much flattened spadices, bearing a few fasciated spikes on the sharp edges near the apex. The plant was seen by him only on the steep, almost inaccessible sandstone cliffs at the exit of the Teesta from the hills into

the plains, though Griffith seems to have met with it in Bhotan and in the Mishmi hills.



PHENIX RUPICOLA.

We are indebted to Mr. Bull for the annexed illustration of this most graceful palm, young specimens of which are described in his catalogue as acaulescent, with wide-spread arching leaves, broadly lance-shaped in outline, and having the lower pinnæ gradually reduced to spines. It will be quite an acquisition amongst the more elegant small-growing cultivated palms.—T. MOORE.

VILLA GARDENING FOR JULY.

The villa gardener need not sit down and fold his hands at this season of the year, for July is a month of great activity in the garden, and from early morn till dewy eve there is something in need of being done.

The Greenhouse.—As in 1876, so again in June of the present year, we are experiencing a spell of east winds. They are cooling, but they are excessively drying, and plants in pots under glass require plenty of attention in the matter of watering. Newly-potted plants require shading from the heat of the sun, even if there be no means for shading the whole house. A greenhouse exposed to the sun should, if possible, have a roller-blind, but the roller should be heavy enough to keep the blind steady when down, while rough winds are blowing. A blind is to be preferred to whitewashing the roof of a greenhouse, because the white-wash makes the house too dark in dull weather, but it is better than having no shading at all. The leading plants in the greenhouse should now be Show, Fancy, and Zonal Pelargoniums, Fuchsias, Lilies, Lantanas, Mimulus, Petunias, Balsams, &c., and these will require attention to watering and keeping the plants clean. If a few Pelargoniums, Fuchsias, and Petunias are kept pinched back a little later than usual, they come into flower later, and maintain the succession. The old Musk, for its charming perfume, some Mignonette, and the Lemon plant, as it is termed (*Aloysia citriodora*), should be grown for the perfume they give forth, and Harrison's New Musk is to be commended on the same ground. Turn the plants occasionally, so that they may grow regularly all round; they make much handsomer specimens than when permitted to be drawn one way.

Chinese Primroses and Cinerarias from the first sowing should now be potted as soon as large enough, and placed in a cool frame and kept shaded. Calceolarias may be similarly treated. A few cuttings of Zonal Pelargoniums may be taken to have plants to flower in September. Towards the end of the month some cuttings of the best decorative Fuchsias should be put in, to make good specimens for next summer.

Cold Frames.—The cold frame is now proving very useful for the accommodation of plants that have gone out of flower, while the drying east winds last; they are better in the frame, where they can be sheltered from sun and wind. A piece of tiffany, sufficiently wide, can be stretched along the lights after they are tilted for the admission of air, and fastened at each end. Such hardy plants as *Anemone fulgens*, *Dodecatheon Meadia*, *Triteleia lilacina*, *Iberis gibraltarica*, *Saxifraga granulata flore-pleno*, *Phlox verna*, various Primulas, &c., are better in a frame than in the open ground, because in exposed places they dry so quickly, and are apt to be neglected. Auriculas should be repotted without delay and placed in the cold frame. If there is no cold frame, an ash-bed a foot in depth, made up in a shady corner, is a good substitute, and if not much exposed to the sun, the plants are better simply stood on the ashes than plunged in them. If the plants must occupy an exposed place, they are better plunged in cocoa-nut fibre, which serves to keep the soil about the roots cool and moist.

Flower Garden.—The principal work in the garden is tying up plants, keeping them clean by picking off dead leaves, pegging down such plants as require it, removing decaying flowers, and keeping the flower beds and borders clear of weeds and the surface-soil stirred. Some persons in making their flower-borders are fond of sloping them towards the edge, and the consequence, even if the surface is not kept loose by stirrings is, that when heavy rains come they run off from the soil instead of passing into it. The flower-beds will require constant attention, for

the newly-planted plants will flag under the influence of hot sun and drying winds, even if kept moist at the roots. A sprinkling overhead of an evening with water exposed to the sun during the day is of great service, giving an occasional watering at the roots when the weather is dry.

In the mixed border, Stocks, Asters, Marigolds, and indeed all newly-planted subjects will require careful attention as to watering; everything of this character should now be planted out, or they will be late in blooming.

Pink pipings should be put in under hand-glasses on a shady border, using a sandy soil, and towards the end of the month Carnations, Cloves, and Picotees may be layered. In dull moist weather Roses should be budded. The grass-plot should now be kept smooth and nice, and the gravel-walks clear of weeds, as well managed paths and lawns greatly enhance the appearance of the flower-garden.

Kitchen and Fruit Garden.—Broccoli, Cabbage, and Cauliflower should be got out without delay, as soon as the ground can be cleared, and rain is falling. It is a good plan to stop the points of the Scarlet Runners, as the plants branch out towards the bottom. The shoots of Longpod and Windsor Beans are best picked off; this should be done when the lowermost flowers begin to fall. A little Early York or Improved Nonpareil Cabbage should be sown during the month, for spring use. The runners of Ridge Cucumbers and Vegetable Marrows need to be thinned out, and the points of the lowest shoots pinched out. Turnips and Turnip Radishes and a little Summer Spinach may be sown for successive crops. As soon as the ground is cleared of crops, it should be dug and replanted. Use the hoe among all growing crops, stirring the soil, and keeping it free from weeds.

Peach and Nectarine trees on walls require attention, thinning-out useless shoots, and laying-in those required for fruiting-wood. Vines should have the lateral shoots broken off; and when the fruit has set, occasional syringings may be given with advantage. Tomatos should be kept nailed to walls, pinching out the laterals, and giving the fruit space. Blight of all kinds is sadly affecting fruit-trees, and leaves affected by it should be picked off, and the trees frequently syringed. Cleanliness is indispensable to the well-being of fruit-trees.—D.

GARDEN GOSSIP.

IT was noticed last autumn that the setting of the blossom-buds on the *American Plants* was profuse, and the consequent promise for the present season's bloom much greater than it had been for many years past. This promise has been realised, the present year's show of Rhododendrons at Knap Hill, their headquarters in England, has been more than usually gorgeous. The bloom has been brilliant, notwithstanding that it has not altogether escaped injury from the bitter cold of May 4, the effect of which, though not noticeable to the general observer, was to be seen in the occasional want of the terminal flowers, or their stunted and crumpled appearance. Fortunately, the hardy Azaleas, which have for several years been so unlucky as to be severely punished by the late spring frosts, have this season escaped injury, and the consequent glorious masses of their brilliant colours more than compensate for any little damage sustained by the Rhododendrons.

— SOME beautiful new *Aquilegias* have been recently shown by Mr. James Douglas, of Loxford Hall, Ilford—*A. hybrida cœrulea*, the result of a cross between *A. cœrulea* and *A. chrysantha*, and exactly intermediate between the two, the spurs and sepals being pale blue in colour, and the petals yellow; and *A. hybrida*

californica, a cross between *A. californica* and *A. chrysantha*, the flowers in this case being larger than those of its first-named parent, the petals being yellow, and the sepals and spurs dark crimson. In habit these hybrids are intermediate in character between the parents, and what is most curious in connection with them is, that from the same pods of seed, a great proportion of the progeny prove to be identical.

— **DR. HOOKER** has been made a Knight Commander of the Star of India, and thus Sir Joseph Hooker now presides over the Royal Society. It is a matter for sincere congratulation to horticulturists and botanists in particular, that their acknowledged chief, the Director of the Royal Gardens, Kew, should have been thus honoured; and there is peculiar significance in the affiliation of Sir Joseph Hooker, K.S.I., to the Order of the Star of India, as it was in India that he consolidated the reputation he had early won in the Antarctic regions; it was in India that he made his largest scientific collections; and it is in connection with India that he has so largely worked in scientific matters since his return, a quarter of a century ago.

— **THE Metropolitan Shows** of the present season have been above average merit. Those of the Royal Botanic Society have been exceedingly good, and being supplemented by the fine displays of Clematis by Mr. G. Jackman, and of Rhododendron by Mr. A. Waterer, have afforded great pleasure to the visitors. That of the Royal Horticultural Society, held on the 19th ult., the only large show of the season at South Kensington, was satisfactorily filled, mostly by collections sent by nurserymen, and by the exhibitors of the Pelargonium Society. Beautiful as have hitherto been the shows thus improvised, the reliance on the trade to produce a display when wanted, must not be pushed too far, as already there are rumours that such arrangements cannot last much longer.

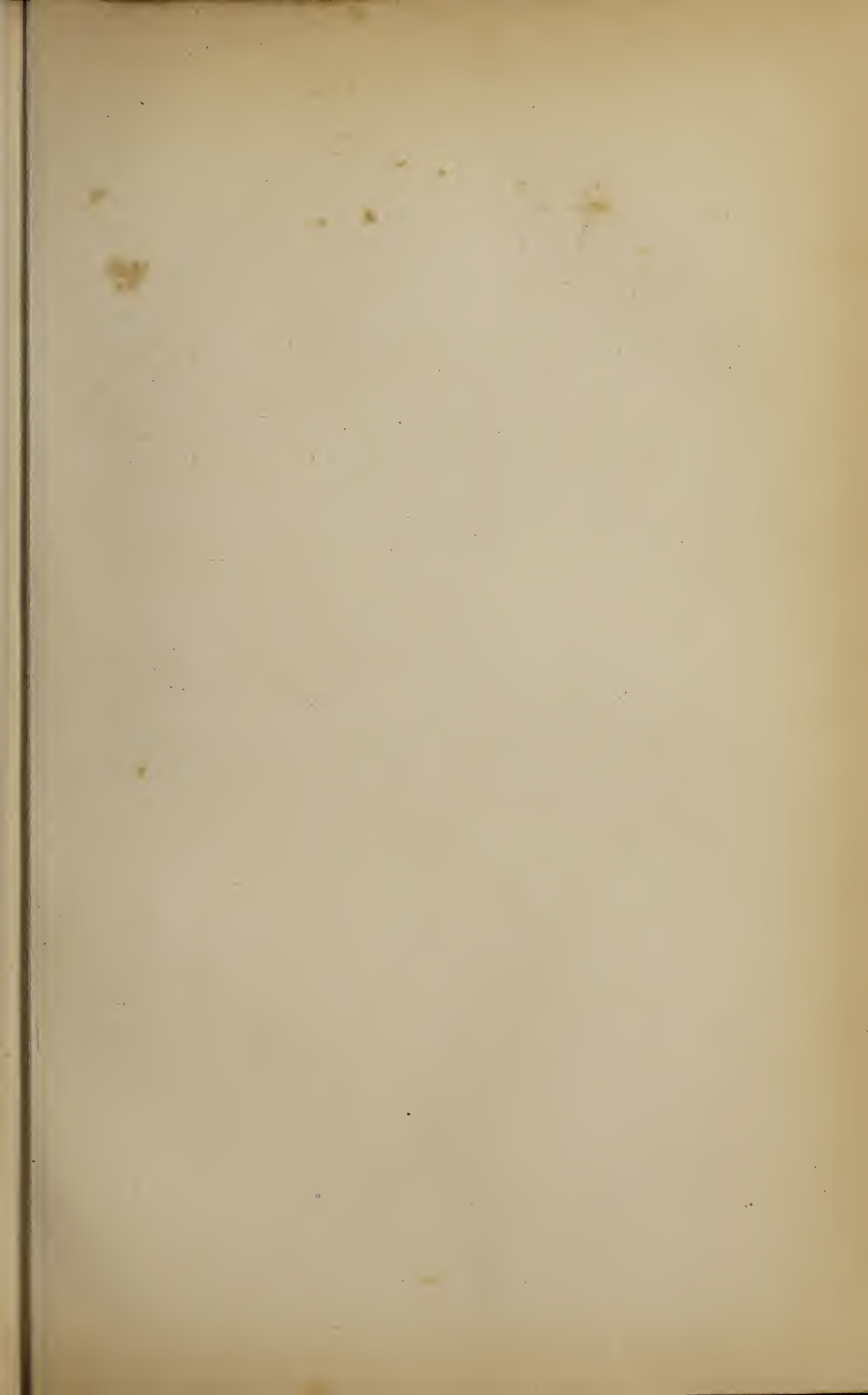
— **THE** fifth edition of Mr. Williams's *Orchid-growers' Manual* has recently been published in a revised and extended form, with many illustrations. This work professes to describe the orchids most worthy of cultivation, and to give general instructions for their management. The fact that it meets with so ready a sale shows it to be a book which supplies a want, and speaks with much more force as to its merits than any commendatory words of ours. It is nicely got up and conveniently arranged, while the instructions it contains are sound and practical.

Obituary.

— **MR. FREDERICK MOORE** died on May 1, at Newcastle-on-Tyne, aged 75. He was for some years gardener to the Earl of Auckland, at Eden Lodge, Kensington; and subsequently for twenty-five years to Earl Grey, at Howick Hall, where he was held in high esteem, and enjoyed the respect of all with whom he came in contact. He was an excellent gardener, and did much for the improvement of the gardens and grounds at Howick. About three years since he retired on a pension from Earl Grey.

— **MR. JAMES BARNES**, the far-famed "Barnes of Bicton," died at Exmouth on May 23, aged 71. He was born at Farnham, Surrey, in 1806, and came to London in early life, being employed by Mr. Moore, of Chelsea, and Mr. Stone, of Peckham, a great Grape and Mushroom grower, and subsequently took the superintendence of a market garden at Bermondsey. He was successively gardener at Crawford House, Ilford, to Sir Herbert Jenner at Chislehurst, and to Lord and Lady Rolle, at Bicton, whose service he entered in 1839. Mr. Barnes continued to manage the gardens at Bicton with great credit to himself and advantage to his employer till within a few years ago, during which he has lived in retirement at Exmouth. He has been for many years a contributor to the pages of the *FLORIST*.

— **MR. ROBERT WHITE**, the much-respected proprietor of the Poole and Parkstone Nurseries, Dorset, died on May 28, at his residence, Constitution Hill, Parkstone, in his 67th year.





W.H. Fitch del.

1. Tulipa Eichleri. 2. T. Hageri.

NEW BORDER TULIPS.

WITH AN ILLUSTRATION.

SOME time since we gave an illustration of a remarkable new species of *Tulip*—*Tulipa Greigi*—a very choice addition to the not too abundant hardy ornamental bulbs in cultivation in our gardens. We have now the pleasure of introducing figures of two other new species, namely, *Tulipa Eichleri* (fig. 1), and *Tulipa Hageri* (fig. 2). These are all of a type altogether distinct from the Tulips of the florist, and may rather be classed amongst our hardy border flowers—which have the advantage of being everybody's flowers.

Tulipa Eichleri is a native of Georgia, where it was discovered by M. Eichler, after whom it is named. It has small ovate bulbs; one-flowered pubescent stems, 6 in. high; alternate, lanceolate, minutely pubescent, glaucous-green leaves; and broadly-campanulate flowers 3 in. in diameter, the perianth segments obovate, of a deep crimson, “with a broad wedge-shaped dark violet-blue spot at the base, which is margined with yellow,” as described by Dr. Hooker, in the *Botanical Magazine* (t. 6, 191), where it is figured from specimens obtained from H. J. Elwes, Esq., with whom it flowered during the spring months in great beauty.

Tulipa Hageri is a more slender-growing but very beautiful species, from the mountains of Attica in Greece, also figured in the *Botanical Magazine* (t. 6, 242) from Mr. Elwes' specimens. In this the bulb is ovoid, the stem smooth, one-flowered, 6 in. high, the leaves linear-lorate, green and glabrous, and the flowers broadly campanulate, each perianth segment light crimson on the inner surface, and tinged with yellow exteriorly, and having a rhomboid purple-black blotch with a distinct yellow border at its base.

Writing of M. Leichtlin's garden in one of our contemporaries, Mr. Elwes observes that, “The culture of bulbs, though very much gone out of fashion in England, is one extremely well adapted to all amateurs whose aspirations rise beyond the common ‘bedding decorative stuff.’ They require none of the training, pruning, syringing, and constant trouble which many greenhouse plants give. They take up very little space, and though their flowers are not as a rule very lasting, yet there is a constant succession at all seasons. If one can only learn when and how to water them, the secret of their culture is in most cases attained, but watering too much at one season, and too little at another, is, I believe, the cause of death in nine cases out of ten.” He goes on to say that M. Leichtlin considers it advantageous, though not in all cases necessary, to lift such bulbs as *Fritillarias*, *Colchicums*, *Tulips*, &c., every year, and if they are kept in pots of sand and planted early, they are never injured by it. “With the bulbs of most *Amaryllidaceous* plants it is, however, very different; their roots are thick, fleshy, and do not perish, so that, though it is necessary in most cases to give them a season of rest and drought, it is better to disturb the roots as little as possible,” while the drying must not be carried to excess.—T. MOORE.

THE OLD HAMMERSMITH LETTUCE.

HAD we not sown the Hammersmith hardy green Lettuce in the open ground in August, last year, we should not have had a lettuce out-of-doors this spring, almost every one but this having succumbed to the winter. It was sown in a row at the bottom of a plum-wall in the third week of August, and thinned out so that those left stood in quincuncial order, forming a zigzag row, two inches apart or so. In April hundreds of people envied my row of Hammersmith hardy green Lettuce, for it was a long row of some 120 yards, and we had them in great quantity during April and May. Being a dwarf green cabbage Lettuce, a great many can be grown in a small space. It is an old-established friend, which I used to be very fond of, and this year it was a friend indeed, for I was in need. It is all very good having an eye to those big crisp Lettuces from France, but when we gardeners in the North find ourselves minus of these, we naturally fall back on our old acquaintances, and this is indeed a veritable and faithful one, being the hardiest and most distinct type of cabbage Lettuce—one which every gardener would be the better, and certainly none the worse, for having.—HENRY KNIGHT, *Floors Gardens*.

THE ANÆCTOCHILUS.

THESE most exquisitely beautiful of all variegated plants would seem doomed to die out in this country. The many fine collections that were at one time to be met with—where are they? If you ask those who grew them, the reply almost invariably is, “They did well for a time, and then gradually became diseased, and ultimately died out.” Yet why should these be an exception to other plants that we cultivate, that after their requirements are sufficiently understood and attended to, go on continuously, and thrive in most cases as well—often better—than when in their native habitat? When any plant or family of plants grow unexceptionably, and also increase, as do these *Anæctochili*, for a time, and then, without any alteration in their treatment or inattention on the part of the cultivator, begin to sicken and refuse to grow, we may rest assured that they have existed, as it were, upon their own vitality, and that the conditions under which they have been placed, though such as sufficed for a time to support them in a luxuriant state, were yet so far opposed to their general requirements as to have undermined the constitution of the plants, which ultimately has broken down altogether—just as we find with animal life, if we place any of our domestic animals under conditions that for a time favour even extraordinary development, but which is wanting in some essential, so that health after a time gives way.

From experience and personal observation, I have come to the conclusion that the rock upon which the great majority of growers of these plants split, is the want of keeping them sufficiently cool for a time during the autumn or winter, to induce a state of total rest. I can best illustrate my views by stating my own

failures, as well as success. It is now many years since I began their cultivation. I commenced with the best form of *A. setaceus*, *A. xanthophyllus*, *A. intermedius*, *A. Lowii*, *A. Lobbii*, *A. Petola* (*Macodes Petola*), and the two silver varieties, *A. argenteus* and *A. argenteus pictus*. Of these, I had small bits. I was perforce compelled to grow them in a house which, so far as my ideas at that time went, was far from being what I should have liked, inasmuch as through the winter season I could not maintain anything near the temperature which I, along with the majority of growers, supposed requisite for their well-being—coming, as they do, the silver varieties from the hot districts in Brazil, and the golden kinds from the still hotter countries, Java and Ceylon. The house was a narrow lean-to, facing the south, in which was grown a small collection of East-Indian orchids; it was heated by a flue badly arranged, running along the back first, and thence round the front; consequently, as might be supposed, the front of the house was the coldest. The heating power was also so deficient that I could not keep up a temperature in cold weather through the winter higher than from 55° to 60° , generally nearer the former than the latter. I grew them in small pots, plunged in sphagnum, in shallow pans covered with the usual bell-glasses; they stood on a shelf running along the front of the house as near as possible to the upright glass, where, of course, they were subject to a good deal of light, which had full access to them, except when the sun shone on the glass, when thin sheets of tissue-paper were laid on the bell-glasses at the side next the sun. Despite their cool winter quarters for the five years they stood in this house, they grew remarkably well, and increased so fast that at the end of that time I had a couple of pans of each of the golden-veined varieties, *A. setaceus*, *A. xanthophyllus*, and *A. intermedius*, each a foot across, the plants standing as close as they could grow, the individual crowns almost as strong as a well-managed *Goodyera discolor*. *A. Lowii* and *A. Lobbii* were equally good, but, of course, from their slower habit of increase not so numerous. The silver-leaved varieties grew like weeds, till I had more than I knew what to do with. Yet well as they did, I was continually wishing that I had been able to keep them warmer through the winter, under the impression that they would then do still better.

At this time we moved to another place, where the houses were better constructed, and where I had a stove in which there was no difficulty in keeping up a temperature of 70° through the winter, but in this house I could not stand them where they would receive nearly so much light as they had previously all along been subject to. Here I expected to have improved upon the cooler treatment, but I was doomed to disappointment, as at the end of the first winter they began to exhibit the fatal signs of small damp blotches, that eat their way through the texture of the leaves, and afterwards made their appearance on the soft succulent stems, where they had a similar effect, causing them to rot off in the way they usually go. I repotted them, tried different places in the house, and did all I possibly could, but to no purpose; they grew gradually less, little by little, till at the end of two years I had scarcely a bit of the best varieties left.

Yet during the time it never occurred to me that the high winter temperature had anything to do with the disease. Then—I am speaking of over twenty years ago—orchid-growers generally were so impressed with the idea of the necessity of a high temperature for East-Indian species even in the winter, that the supposition was that success depended upon it.

Shortly before this time a neighbour of mine began to grow them, and his success was so complete, under a system of management so different from that they are usually subjected to, that it altogether changed my views as to the conditions necessary to keep *Anæctochili* for a continuance in a good healthy state. They were grown in three vineries, transferred from one to the other as circumstances rendered necessary. To make his treatment more intelligible, I must begin with the autumn, when he closed his earliest house with a little fire-heat about the middle of November. The plants were then stood at the west end of the house, on a shelf immediately against the upright glass; the night temperature at first would be about 50° , or a degree or two less, with a little more in the day-time, as is usual in starting early Vines; gradually this was increased when the Vines had broken, and went on through the winter and spring, with more heat and moisture as the days lengthened and the crop advanced; they were kept in this house until the middle of April, when the grapes began to colour, and then transferred to the second vinery, which at that time was about coming into bloom. Here they remained until midsummer; they were then moved into the latest house, where, as all along, they were just subjected to the temperature and atmospheric moisture that the Vines received, the houses always being closed early in the afternoon, with a good deal of sun-heat, and a little fire in dull weather; the *Anæctochili* being all the time under bell-glasses, slightly tilted. By the middle of August the grapes in this house began to colour, when, as a natural consequence, it became necessary to give considerably more air in the day-time, with a little as well at night; and as no fire-heat was used, except in dull, damp weather, it will be evident that they from this time were in very cool quarters. Here, too, they occupied a shelf at the end of the house, with the bell-glasses shut close down, except for a short time in the middle of the day, when the temperature was raised by sun-heat. From the time the grapes were ripe, about the middle of September, all through October till the middle of November, when the early vinery was started, they were literally in a cold house, and as a natural consequence, had a season of complete rest.

Few people who are acquainted with the species of *Anæctochilus* grown, under the usual treatment, and who had not seen these plants, with a certain knowledge of the way in which they had been treated, would credit that plants of such a character as these, indigenous to the hottest parts of the Eastern hemisphere, would have stood so low a temperature; yet during the seven or eight years they were under the management of the gardener who had commenced with them, I never saw a stronger or a finer-grown collection. They consisted of *A. setaceus*, *A. xanthophyllus*, *A. intermedius*, *A. Petola*, and the two common silver kinds. Since then

I have remarked that wherever these plants continued to succeed well, it was invariably where they had to submit to a much lower temperature in the night, and both day and night in winter, with considerably more light than when subjected, as they usually are, to the heat and general conditions of an East Indian orchid-house; and my decided conviction is that if thus submitted to cooler treatment, with a greater amount of light, which more than any other element imparts strength and substance to vegetable life, there would be no difficulty in keeping these, equally with the almost innumerable other species and varieties of plants we grow in artificial heat, in a state of continued health and vigour.—T. BAINES, *Southgate*.

DAHLIAS UNLIFTED.

IT is not a common practice to allow Dahlias to remain in the ground all the winter, but where land is well drained it answers well. The plants grow much stronger, and the flowers are larger, and the great strength of the stems is in their favour when exposed to wind. When the plants begin to shoot up, the stems may be reduced to one or more as desired, a quantity of manure may then be forked into the surface, and the stakes placed in position, one to each plant, and with the exception of tying the stems securely, there is little more trouble necessary: A small mound of ashes placed over each crown as protection in winter, generally keeps the roots safe and sound. We have known them in the midland counties of England and Ireland stand ordinary winters without any protection whatever.—K. T. I.

LAXTON'S NEW PEAS—HARBINGER AND MARVEL.

AT the last great trial of Peas at the Royal Horticultural Society's Gardens at Chiswick, Harbinger is said to have been three or four days earlier than any other in that great collection. I have grown it for some time, and can bear testimony to its hardiness. This season, sown on February 7, it is now (June 9) ready, while William I. and Little Gem are only just coming into bloom. The style of growth is rather straggling, about $2\frac{1}{2}$ ft. high, with from four to five pairs of pods on each stem, and averaging from four to five peas in each pod. As an early Pea it is a gain, though the produce is sparing, but gardeners should bear in mind that if Peas can be had that much earlier, it is certainly an acquisition.

Marvel is also noted at the great Pea trial, and I believe received a First-class Certificate. It is, I fully believe, the most productive of any pea of my acquaintance, growing from $3\frac{1}{2}$ ft. to 4 ft. high, and the peas hanging literally from top to bottom. It bears some resemblance to the variety called Dr. Maclean, but produces the pods in pairs instead of singly, as in Dr. Maclean, and has from eight to nine peas in each pod, green as a leek, and of the very highest flavour; the seed is green and white, and wrinkled, but the plant is hardy. Sown

here on December 12, it has battled bravely with this cold spring, and is now (June 9) in pod.

These two new Peas are not yet let out to the public, but are in the hands of Messrs. James Veitch and Sons, who will doubtless bring them out in due time.

Touching the peas raised by this clever but unfortunate man, I may mention that Standard is a superb variety, growing from 3 ft. to 3½ ft. high, averaging nine peas in each pod, and these so tightly packed when allowed to grow as to burst each other, but when gathered young they certainly are the right thing. If we take Harbinger as a first crop, Standard and Marvel as second, and that fine Pea, Omega, as the latest, no other four sorts could successfully compete against them. I must, perhaps, except Dagmar, and the Baron, Peas of which more will be heard at some future day.—R. GILBERT, *Burghley Gardens, Stamford.*

PEACH BLISTER.

EVERY one who is acquainted with Peach trees is probably equally well acquainted with the disease of the leaves known as Peach Blister. This disfiguring disease of the foliage is not confined to the Peach, but occurs on Almonds and allied plants, is generally most common in spring and early summer, and makes itself manifest by large leathery red wrinkled blisters on the leaves. A fungus known as *Ascomyces deformans* (syn. *Taphrina deformans*) frequently or invariably accompanies this red blister of the leaf; it grows upon the blister, generally upon the lower surface, but not unfrequently upon the upper side. At times, the fungus may be sought for in vain; in fact, judging from our own experience, the blister is far more common than the fungus which is said to produce it. This led Mr. Smee, who made careful observations on a large number of growing Peach trees, to say that the distorted leaves are caused by an injury inflicted by an aphis, and he stated his belief that the aphis is constantly present, and that the fungus is but rarely so. An opinion, too, has recently been printed, from an authority equally good with Mr. Smee, that the blistering is "caused by spring frosts rupturing the sap-vessels," "and that the fungus lives upon the extravasated sap."

De Bary, on the contrary, describes and figures the fungus in an early state as living inside the leaf amongst the cells, and at length only emerging to perfect itself on the exterior. This seems very reasonable, and would in a way account for the discoloured cells in the blister, which change in the diseased state from green to vinous red. A similar discoloration, not red, but blackish-brown, takes place amongst the cells in Potato-leaves, when they come in contact with the corrosive spawn of the fungus which is supposed to cause the murrain.

We have recently had a good opportunity of examining this Peach-leaf fungus when in the best possible condition, and give a figure of it, as seen under the microscope. To make the parasitic fungus at once clear to the mind, we have engraved a single blistered leaf natural size (A), with the fungus at B, which is almost invisible to the unaided eye, and can only be seen with a strong lens as



PEACH BLISTER AND ITS ACCOMPANYING FUNGUS.

a fine white pulverulent stratum. To get a really good view of this damaging fungus, it is necessary to cut an almost inconceivably thin transverse slice out of the lamina of the leaf. It is not every one who can perform this feat to perfection, but practice and perseverance at length overcome all difficulties. At c c is shown one of these extremely thin transverse slices from a part of the leaf where there is no disease, and D D shows a similar section, but cut out of the thick, leathery blister, with the fungus *in situ* on the top. c c and D D show respectively the thickness of the diseased and healthy portions of leaf, and this shows how very small the fungus is in comparison with the thickness of the leaf.

The section from the uncontaminated quarter of the leaf needs no comment, but it will be seen at a glance that the whole of the cells in the diseased portion are morbidly enlarged in size and materially increased in number. If our figure had been coloured, the cells would all be green in the healthy slice, and corroded to crimson in the diseased one. The fungus is clearly capable of exciting a morbid growth, both in the number and size of the component parts of the leaf.

The *Ascomyces* belongs to the same order with the large and delicious Morel, and the various species of *Peziza*, some members of the order being amongst the largest of known fungi, whilst *Ascomyces* is amongst the smallest, and, says Mr. Berkeley, "the lowest form to which the Ascomycetes can be reduced." The white pulverulent stratum, when enlarged to 200 diameters, is seen as shown at E, and consists of a basement of threads, from which arise numerous sacs (asci), intermixed with necklace-like organisms, which latter, when broken up, doubtless form a second form of fruit. The true sporidia are contained in the asci, eight in a sac, and this latter membranous receptacle at a certain moment of excitement opens a sort of mouth at the top, and discharges the sporidia into the air, as is shown in the engraving. The sporidia (= spores, or analogues of seeds) are seen to better advantage at F, where they are still further enlarged to 800 diameters, to better show the one, two, or three nuclei with which they are furnished, and which remind the botanist of a similar structure in the sporidia of the genus *Propolis*. There are various other species of *Ascomyces* met with in this country, on the leaves of the Pear, Walnut, &c., and one on the Continent, with which we are acquainted, which grows upon the leaves and fruit of the Plum. The latter we have not at present seen recorded from this country.

* * * The foregoing is the substance of a paper by Mr. W. G. Smith, in the *Gardeners' Chronicle*, whence the accompanying woodcut is also derived. Whether or not the disease is to be directly attributed to the action of the fungus, or whether to ungenial climatal conditions favourable to the development of the fungus, there can be no doubt it is usually present. As a remedial measure, the affected leaves should be removed, and at once burnt, so as to destroy the germs of the fungus, as should also be done with that more formidable enemy, the Potato fungus. If attacked by the disease, the haulm should be removed at the earliest moment it can be spared—in the case of a virulent attack, it should be cut away at once—and as soon as possible purified by fire.—ED.

THE HARDY FRUIT CROPS IN 1877.

IN this district of North Nottinghamshire the failure in the crops of Pears, Cherries, Plums, and Apples is greater than I ever experienced before, and this seems to be the case in all the Midland Counties. The trees were abundantly covered with blossoms, and promised, had the fruit set well, to produce heavy crops. The Apples were later than usual in flowering, and the frosts in the first week in May could not have injured them much, but the blossoms opened paler in colour, and smaller in size than is usual in the different varieties, and the fruit set badly, and most of it dropped when young. I see in many orchards that the Apple-trees are much blighted at the present time, by the foliage being curled up and falling off.

There is little doubt but that the past abnormal winter has been one of the causes of the hardy fruit failing so much, for we had a spring temperature in January, February, and March, combined with excessive moisture. The circulation of the sap in many kinds of fruit-trees was then active, but afterwards cold east winds, with frosty nights and mornings, prevailed in April and at the beginning of May, causing a stagnation in their growth.

In general, the hardy bush fruit, such as Gooseberries, Currants, and Raspberries, are bearing abundant crops here, the frosts in May only injuring them a little on the top of the bushes. Strawberries are likewise bearing well this year, that prolific and excellent variety, *Viscomtesse Héricart de Thury*, especially being more prolific than usual.—WILLIAM TILLERY, *Welbeck*.

THE CULTURE OF WALL FRUITS.

CHAPTER X.—THE PEACH AND NECTARINE (*continued*).

FROM the very time that the young trees commence making their growth after planting, they become the subjects of much anxiety to the careful cultivator. So many enemies to a healthy development seem to crop up at various times to neutralise our best efforts, that there needs a considerable amount of foresight to guard against them, and a constant look-out to detect the first indications of their appearance becomes almost imperative. Besides, a little time spent in the beginning, to counteract evil influences, will often save much after-labour.

To begin at the beginning, the Peach is one of those trees which always start early into vital action, and if in the early spring, when the sap is on the move, they should become exposed to severe frosts, the most disastrous consequences will follow; the vessels of the young wood will frequently burst, through expansion, and from these spots, in process of time, large exudations of gum will take place, which is not only unsightly, but injurious. It is, however, on the embryo foliage that the greatest amount of mischief results. The young leaves become so deranged in their natural functions, that when the sap arises freely on the advent of a higher temperature,

they cannot properly elaborate it; the flow of the sap is checked, but cannot be stopped, in consequence of the pressure from below, and the result is seen in the growth of thick-fleshed abortions, commonly called curl and blister, which are very injurious to the well-doing of the young wood, causing it to become thick and compressed at the point where the leaves have suffered injury, and although in the process of time the sap will find itself a channel through these gouty excrescences and begin a healthier development of wood, it is a question whether, the mischief being done, it would not be better in the end to cut the young abortive shoot back to its base; and run the chance of a healthy shoot breaking out later in the season. This I have often known them to do, and thus in some measure retrieve the misfortune, particularly if the finger and thumb is kept pretty well at work amongst the stronger growths of the summer, so as to encourage the weaker later growth. These, however, are only remedies when the means and time at command have not been available for prevention, which is the great object in view; and as the Peach is a very tender tree in most parts of this country, this can only be satisfactorily attained by the command of efficient means of protection.

Granting then, at the outset, that in most of the less favoured parts of this country, protection in the early stages of growth is an absolute necessity, the question arises, how is it best applied? And as this is one which touches the pocket, it is at once obvious that it must be regulated thereby. Under strictly economical circumstances, there are certain hap-hazard means of catching a crop in an emergency, generally to be found in most places where there are plantations and shrubberies of any age and extent, such as the long branches of Spruce and silver Firs which we have occasionally found very effective when fastened to the top of the wall with the points hanging downwards. Yews, again, afford an excellent temporary protection, the flat branches being particularly well adapted for sticking in between the shoots and the wall with the points downwards, so as to lap over the young growth. These and similar appliances can, however, only be looked upon as temporary makeshifts, to be made use of only in the event of any sudden occurrence of severe frost, since they cannot be left on long without doing injury the other way, by rendering the young growth tender, and keeping out the light, which is so essential to the formation of a sturdy growth. We may therefore conclude that although such temporary appliances are useful in emergencies, they are not to be depended upon; and that the protection afforded should be more permanent, and less liable to cause injury in its application, for which purpose it must be moveable at pleasure. Thick folds of netting, which are often used, are of very little use, as they cause a permanent shade; not being movable very readily, they cannot even be called economical. It will therefore be right to conclude that glass must stand at the head of the list for protective purposes and although it may be most expensive at first, it is most economical in the long-run.

I have also found stout and very thick canvas in the shape of curtains to be a very efficient protection. The curtains are suspended by rings on iron rods, which

are fastened along the front of a coping-board, the latter secured on brackets under the coping of the wall, and projecting about a foot. The rods are of half-inch diameter iron, 10 ft. long, with a hole at each end and one in the middle, and are fastened on to hooks screwed at the requisite distances into the coping-board; at every 10 ft. an upright length of wood, 1 in. thick by 4 in. wide, is fastened edgewise from the coping-board to a post driven into the ground at 18 in. from the base of the wall, and to these uprights the outside edges of all the curtains must be tacked. I usually stretch a piece of list or broad tape down the outside and tack through it to prevent tearing. The curtain-rings should be large, so as to run freely, and where the curtains meet in the middle when drawn at night, they should be tied together by long pieces of broad and very strong tape, which also serves, when the curtains are drawn back, to fasten them to the upright boards to prevent them from being blown about by the winds; large and strong hooks-and-eyes are also frequently used for fastening the curtains together when drawn at night. With care such coverings will last many years, and I have proved them to be very effective in securing a crop under adverse circumstances. At the same time, they will not be found equal to glass, of which more anon.—JOHN Cox, *Redleaf*.

THE NATIONAL ROSE SOCIETY.

NEVER before probably has there been a finer gathering of Roses than that which was to be seen at St. James's Hall on the 4th of July, under the auspices of this Society. The date had been successfully fitted to the backward season, and the rose-growers generally seemed anxious to give their enthusiastic support to the new or newly-organised Society, so that all who could show did show. The weather also just set in propitious; rain and sunshine brought forth flowers, and such flowers as in many cases had rarely been seen before. So much for the Roses. The Hall was all but universally condemned as an exhibition-room, the space being too limited and the lights extremely bad; but the best was made of it, thanks to the good management of Mr. Newman, to whom the details of arrangement were entrusted, and the show passed off without a hitch, except that it left a deficit in the exchequer. A better place must be found another year, one in which a show worthy of being called "national" in the public sympathy it would command, could be carried out to a successful issue. This, indeed, was an impossibility, in a confined space like St. James's Hall on a hot July day, and so the splendid show of roses was left pretty much to be admired by those who staged them. There could, indeed, have scarcely been a better show, though something is still wanting to improve the arrangement. The stands must retain their formality, and in the interests of correct adjudication scarcely admit of much variation of position. Perhaps some improvement would result from adopting—if the space permitted—a circular centrepiece, the outer tables being placed to form a square with sufficient openings for exit, instead of being ranged in long parallel lines, the centre being also

kept low. If a supply of nicely-grown China and Fairy Roses in pots, or a neat lot of two-year-old Teas, could be provided to form the divisional lines, they would add much to the interest of the whole, and would be strictly in keeping with the cut-flowers. Baskets, vases, epergnes, &c., filled with Roses, to supply variety of height and outline, have been invited, but have never yet met the want—perhaps climbing roses specially grown for the purpose might do so. These hints may help to remedy the defective mode of setting-up, but in whatever way the improvement comes, it must be by developing a decorative element which shall not interfere with the competitive branch of the show:—

The Classes devoted to NURSEYMEN were filled with blooms of unusual excellence, and formed the backbone of the show. So fine a lot of flowers could scarcely have been expected after the unfavourable springtide. As it is, the first-prize lots will afford a good guide in the selection of sorts, and this being so, we shall here give the names of the winning varieties. For 72 single trusses, Messrs. Paul and Son, Cheshunt, were deservedly placed first, having a stand of grand flowers, remarkably well set up. Mr. Cant, Colechester; Messrs. Cranston and Co., Hereford; and Mr. Keynes, Salisbury, won the other prizes in this class. Messrs. Paul and Son showed the following:—Alfred Colomb, Annie Wood, Antoine Ducher, Abel Grand, Auguste Rigotard, Centifolia rosea, Clotilde Rolland, Comte de Serenyi, Camille Bernardin, Catherine Mermet, Charles Lefebvre, Comtesse d'Oxford, Captain Christy, Dr. Andry, Duke of Edinburgh, Duchess of Edinburgh, Duchesse de Caylus, Duchesse de Valombrosa, Elie Morel, Etienne Levet, Edward Morren, Emily Laxton, Exposition de Brie, Felix Genero, Ferdinand de Lessops, François Michelin, Henri Ledechaux, Horace Vernet, Jean Liabaud, Jean Soupert, John Bright, La France, Lord Macaulay, La Ville de St. Denis, La Havre, La Duchesse de Morny, Louis Van Houtte, Lælia, Madame C. Wood, Madame Vidot, Madame Hippolyte Jamain, Madame la Baronne de Rothschild, Madame Naehury, Madame Ferdinand Jamin, Madame Lacharme, Marie Baumann, Mdlle. Marie Cointet, Mdlle. Marie Finger, Marguerite de St. Amand, Marguerite Brassae, Marquise de Castellane, Marquise de Gibot, Marquise de Ligneris, Maurice Bernardin, Marchioness of Exeter, Maréchal Niel, Miss Ingram, Mrs. Baker, Mons. Boncenne, Mons. Noman, Mons. E. Y. Teas, Mrs. George Paul, Niphotos, Olivier Delhomme, Peach Blossom, Princess Beatrice, Paul Verdier, Robert Marnock, Sénateur Vaisse, Star of Waltham, Victor Verdier, Xavier Olibo.

The Class for three trusses of 48 brought out five competitors, and here again Messrs. Paul and Son were first. They showed:—Abel Grand, Alfred Colomb, Annie Laxton, Annie Wood, Charles Lefebvre, Catherine Mermet, Camille Bernardin, Centifolia rosea, Comtesse d'Oxford, Devienne-Lamy, Devoniensis, Duchesse de Valombrosa, Dr. Andry, Emily Laxton, Exposition de Brie, Etienne Levet, Edward Morren, François Michelin, Ferdinand de Lesseps, Horace Vernet, Henri Ledechaux, La France, La Rosière, Louis Van Houtte, Madame la Baronne de Rothschild, Madame Naehury, Madame Hippolyte Jamain, Madame C. Wood, Madame Lacharme, Mdlle. Eugénie Verdier, Mdlle. Marie Finger, Marie Baumann, Mdlle. Marie Rady, Mdlle. Marie Cointet, Marchioness of Exeter, Marguerite de St. Amand, Marquise de Ligneris, Maurice Bernardin, Mrs. George Paul, Maréchal Niel, Mons. E. Y. Teas, Nardy Frères, Niphotos, Star of Waltham, Sénateur Vaisse, Souvenir d'un Ami, Victor Verdier, Xavier Olibo. The other prizes in this class were awarded to Mr. Turner, Slough, Mr. Keynes, and Messrs. Cranston and Co.

The first prize in the Class for three trusses of 24 fell to Messrs. Cranston, who showed:—Annie Laxton, Antoine Ducher, Baron Bonstetten, Beauty of Waltham, Centifolia rosea, Duchesse de Caylus, Exposition de Brie, Fisher Holmes, François Michelin, Général Jacqueminot, La France, Lord Macaulay, Marquise de Gibot, Maurice Bernardin, Mdlle. Marie Cointet, Madame Lacharme, Madame la Baronne de Rothschild, Marquise de Castellane, Mons. Noman, Marie Baumann, Marquise de Mortemart, Marguerite de St. Amand, Princess Beatrice, Xavier Olibo. The three next prizes were awarded to Messrs. Paul and Son, Mr. Cant, and Mr. Turner. Two other classes were from 48 and 24 single blooms respectively, the first prizes being taken by Messrs. Cranston and Co., and Messrs. Curtis Sanford and Co., Torquay.

In the Class for 12 Tea or Noisette Roses, Mr. Cant was first, having beautiful blooms of Catherine Mermet, Devoniensis, La Boule d'Or, Madame Bravy, Madame Caroline Kuster, Madame Willernoz, Niphotos, Rubens, Souvenir d'un Ami, Souvenir d'Elise, Vicomtesse de Cazes, and beating six other competitors.

The AMATEURS' CLASSES were well filled, the flowers being marked by wonderful freshness, and being of good average quality. In the class for single trusses of 48, the premier

prize, a handsome fifty-guinea challenge cup, given by Messrs. Cranston and Co., of Hereford, was awarded to Mr. J. Jowitt, of Hereford, who showed blooms of excellent quality and also in good variety, being of the following sorts:—Annie Wood, Annie Laxton, Alfred Colomb, Camille Bernardin, Captain Christy, Cheshunt Hybrid, Devoniensis, Dupuy Jamin, Duke of Edinburgh, Duchess of Edinburgh, Dr. Andry, Exposition de Brie, Édward Morren, Elie Morel, Ferdinand de Lesseps, François Michelin, Général Jacqueminot, Hippolyte Jamain, Jules Margottin, La France, La Esmeralda, Louis Van Houtte, Lælia, Louisa Ward, Lord Herbert, Marquise de Castellane, Madame C. Crapelet, Madame Clémence Joigneaux, Madame la Baronne de Rothschild, Marie Van Houtte, Mdlle. Marie Cointet, Mdlle. Marie Rady, Marguerite de St. Armand, Marie Baumann, Madame Nachury, Madame Bellon, Mons. Noman, Maréchal Niel, Madame Boutin, Madame Hippolyte Jamain, Mdlle. Marie Finger, Princess Mary of Cambridge, Prince Camille de Rohan, Prince Arthur, Sir Garnet Wolseley, Souvenir d'un Ami, Xavier Olibo, and a deep rose seedling shaded with violet. The 2nd, 3rd, and 4th prizes were severally awarded to Mr. R. N. G. Baker, Heavitree, the Rev. Canon Hole, Cauntton Manor, and the Rev. J. B. Camm, Monckton Wyld, there being fourteen competitors.

In the Class for single trusses of 36, which brought out seventeen exhibitors, Mr. Baker took the first place, with remarkably fresh blooms of Alfred Colomb, Auguste Rigotard, Baron de Bonstetten, Comtesse d'Oxford, Charles Lefebvre, Camille Bernardin, Dr. Andry, Duke of Wellington, Edward Morren, Etienne Levet, Exposition de Brie, Fisher Holmes, Ferdinand de Lesseps, Louis Van Houtte, La France, Lord Macaulay, Mons. Noman, Marquise de Gibot, Madame la Baronne de Rothschild, Madame Victor Verdier, Madame Charles Wood, Miss Hassard, Marguerite de St. Amand, Marquise de Mortemart, Marquise de Castellane, Marie Baumann, Mdlle. Eugénie Verdier, Maurice Bernardin, Mdlle. Marie Rady, Pierre Notting, Prince Camille de Rohan, Royal Standard, Sir Garnet Wolseley, Souvenir d'un Ami, Victor Verdier, Xavier Olibo. Mr. J. Brown, Reigate, was 2nd; Rev. E. A. Pochin, Barkby Vicarage, 3rd; Rev. J. B. Camm, 4th.

In the Class for 18 single blooms, Mr. H. Atkinson, Brentwood, was first, with Anna de Diesbach, Charles Lefebvre, Camille Bernardin, Comtesse d'Oxford, Dr. Andry, Dupuy Jamin, Duchesse d'Aoste, Duke of Wellington, Duke of Edinburgh, Edward Morren, François Michelin, Fisher Holmes, Henri Ledechaux John Hopper, Jules Margottin, Louis Van Houtte, La France, Marguerite de St. Amand, Madame la Baronne de Rothschild, Madame Clémence Joigneaux, Marquise de Castellane, Marie Baumann, Mons. Noman. Mr. Baker was 2nd; Mr. Jowitt, 3rd; and Rev. E. N. Pochin, 4th. The class for twelve sorts in threes, brought Mr. Baker the 1st prize, with:—Charles Lefebvre, Camille Bernardin, Dr. Andry, Etienne Levet, Ferdinand de Lesseps, Louis Van Houtte, Marquise de Castellano, Marguerite de St. Amand, Madame Victor Verdier, Madame la Baronne de Rothschild, Sir Garnet Wolseley, and Xavier Olibo. Mr. J. Ridout, Woodhatch, was 2nd; Mr. J. Scott, Warrington, 3rd; and Mr. Jowitt, 4th. The class for single trusses of 12 brought twenty-seven competitors, Mr. J. J. Smallbones, Chatteris, being placed 1st, with Abel Grand, Camille Bernardin, Dupuy Jamin, Duke of Edinburgh, Etienne Levet, La France, Louis Van Houtte, Madame la Baronne de Rothschild, Mdlle. Marie Rady, Marquise de Castellane, Marie Baumann, and Prince Camille de Rohan. Mr. Pemberton, Havering, was 2nd; Mr. D. Sewell, St. Neots, 3rd; and Mr. H. Benstead, Rochester, and Rev. W. H. Benn, Churchover, equal, 4th. The smaller classes were also well contested.

In the OPEN CLASSES, were brought together the new Roses, and the competitions with twelve blooms each of various specified varieties, and this formed a particularly interesting feature of the show. The class for a dozen new varieties not in commerce previous to 1874, brought into competition Messrs. Turner, Paul and Son, Curtis Sanford and Co., and Keynes, who took the four prizes. Mr. Turner had a most interesting lot, containing fine blooms of Miss Hassard; Prince Arthur, a dark rich crimson; Mrs. Baker, Star of Waltham, Duchesse de Valombrosa, Sir Garnet Wolseley, Oxonian, Madame Prosper Langier, Duke of Connaught, Royal Standard, J. Stuart Mill, and Triomphe de France. Messrs. Paul and Son had fine blooms of Marchioness of Exeter, Avocat Duvivier, Madame Ferdinand Jamain, Marguerite Brassac, Comte de Serenyi, La Rosière, Star of Waltham, Emily Laxton, Abel Carrière, Mons. E. Y. Teas, and Duchesse de Valombrosa. The most noteworthy blooms in the other stands were Marshal Von Moltke, a full bright crimson; Perle des Jardins, a beautiful Yellow Tea; Mons. Fournier; Amelie Hoste, a pale pink very full deep rose, with very broad petals; and La Souveraine, a large, full, and well-built globular flower, of a bluish tinted pink colour, more singular and distinct than pretty.

Remarkably good flowers of Alfred Colomb were shown in twelves by Messrs. Paul and Son, and Messrs. J. Laing and Co., who were 1st and 2nd respectively. Seven dozen blooms of La France, mostly first-rate in quality, were staged, the 1st-prize lot, from Mr. R. W. G. Baker, being of splendid quality, and those from Professor Adams, Cambridge, being almost equally good, 2nd. The class for Maréchal Niel brought out five competitors, and the 1st prize went to a magnificent lot of blooms from J. H. Arkwright, Esq., Hampton Court,

Leominster; the 2nd to Mr. Turner. Marie Baumann was grandly shown by Mr. B. R. Cant, and Messrs. Paul and Son, Mr. Cant's flowers being of extraordinary size and form, and perfect wonders of freshness and brightness of colour. The splendid dark-coloured Louis Van Houtte was shown by five exhibitors, and Mr. Cant again came in 1st, with unexceptionable flowers, and Mr. R. N. G. Baker 2nd. The class for Madame la Baronne de Rothschild was perhaps the finest of all, so numerous, large, and fresh were the flowers staged; of grand size and form, and splendid as to foliage, were those forming the 1st-prize lot, from Mr. R. N. G. Baker; and another very fine stand was the 2nd, shown by Mr. Scruby. Mr. R. N. G. Baker took Messrs. Fisher Holmes and Co.'s prize for a dozen nice blooms of Fisher Holmes; and the 1st prize, offered by the Rev. Canon Hole for a similar number of Reynolds Hole, was won by Messrs. Paul and Son. In the class for any variety not named above, Messrs. Curtis Sanford and Co. came in first with a magnificent lot of François Michelin; a but slightly inferior stand of the same variety, from Messrs. Paul and Son, was 2nd, and Mr. Turner came in 3rd, with Mdlle. Marie Cointet. For three trusses of any new seedling Rose, Messrs. Paul and Son were 1st, with the fine glowing crimson, John Bright, which is bright indeed, though of the flat or expanded type; and Mr. Turner 2nd, with Penelope Mayo, a fine flower of the type of Marie Baumann.

THE SEASON TO POT CAMELLIAS.

IT has been frequently hinted by experienced men that the proper time to pot Camellias is just before the flower-buds begin to open, the reason being that the roots remain active and are not injured by breakage when the growth of the wood takes place. I never had practised the system to a large extent before this season. In the early part of February we purchased about half a hundred large and small plants, and to make the best of them for another season, they were potted soon after their arrival, regardless of the flowers which were open and opening on most of the plants. None, however, dropped, and all seemed to be benefited by the shift, and plenty of blooms were cut as late as the end of April.

A number of summer-flowering *Heaths*, *Epacris*, *Cytisus*, *Neriums*, and other greenhouse plants were also potted as they were coming into flower, and it seems to have benefited the flowering and the growth of wood alike. *Rhododendrons* I have often lifted from the open ground and potted as they were coming into flower, and they seemed to do better than their contemporaries left behind them. It has been written more than once by one of the most successful plant-growers of the present time, that it is a great mistake to tear out the roots of pot-bound plants, with the view of making them take quicker to the new soil. Pot-bound plants when thoroughly moist through the ball and potted firmly, will send roots to the sides of the new pots quicker than the balls of roots which have been mutilated with the view of allowing them to root quickly into the new soil. But on the other hand, if the solid ball should be at all dry and the potting is done loosely, instead of using the ramming-stick to make all thoroughly firm, success is impossible.—J. M. P.

APRICOT DISEASES.

WE hear something every season of the dying-off of the branches of Apricot trees, and there has not, as far as I am aware, been any specific suggested to arrest the progress of this—one of the worst pests which is known in connection with fruit-tree culture. In those districts where apricots

are most plentiful, and of the finest quality, this disease is not so general, and it is comparatively less destructive than in localities where apricot-culture is a real difficulty. Where there is much lime and chalk in the soil, this fruit seems to thrive best, and we often see very old trees in such positions yielding heavy crops, almost every season. The roots are found firmly embedded in the soil; the annual growth is very small, both as regards root and branch, and pruning is practised to a very small degree, only simply because there is little to cut away. I have lifted trees which were dying off piecemeal, and replanted them above the level of the surrounding ground, ramming the soil firmly in as planting went on, especially under the roots, before they were stretched out into their permanent positions, and good results have followed. A quantity of brick rubbish mixed with the soil seems to suit the trees well. Stones are not at all objectionable, as they seem to increase fibre, and prevent the feeders running out like thongs, which pump up much more water into the branches than is necessary, increasing pith, and preventing the ripening of the wood. In trees thus circumstanced growth begins early, and is followed by the dying off branches, rendering the trees permanently useless.

Last season we planted a number of young apricots, and this year, to carry out some alterations, a number of the trees had to be lifted. They were replanted, as before, into firm open soil, and the growth, though not so rank as those which were not lifted, is firm; there is little pith, and the foliage is fine, and very healthy. I have faith in commencing to lift trees early, and doing it periodically, so as to prevent rank watery growth, and keep the pith at a minimum. It is better to have the walls covered by a slow process than to have rapid growth, which brings the trees to a premature end.—M. T.

VILLA GARDENING FOR AUGUST.

ST. SWITHIN has been true to the tradition which surrounds this historical personage, and his anniversary was celebrated with showers of refreshing rain, which have inaugurated a grateful revival in Nature; there is the smile of a beautiful freshness on every plant and tree and flower.

The Greenhouse.—What have we in flower at this time of year in an ordinary greenhouse? There are show *Pelargoniums*, conspicuous among them being such fine varieties as *Triomphe de St. Maude*, *Heroine*, *Rob Roy*, *Duke of Cambridge*, *Empress*, and a few others. As soon as they go out of flower, water will be withheld, and the plants stood out-of-doors to ripen their growth. Early in August cuttings will be taken off and put into store pots, six or nine in a pot; the plants shaken out, the long roots cut away, and then repotted in a smaller sized pot than that in which they were previously growing, using a soil made up of yellow loam, dung, leaf-mould, and rough silver-sand. *Fuchsias*, which are staple decorative plants at this season of the year, may be kept on blooming freely by picking off all decaying flowers, and giving occasional doses of liquid manure. *Calceolaria*-seed should be sown without delay; the seed germinates surprisingly quick when sown in an ordinary seed-pan, and kept cool and moist.

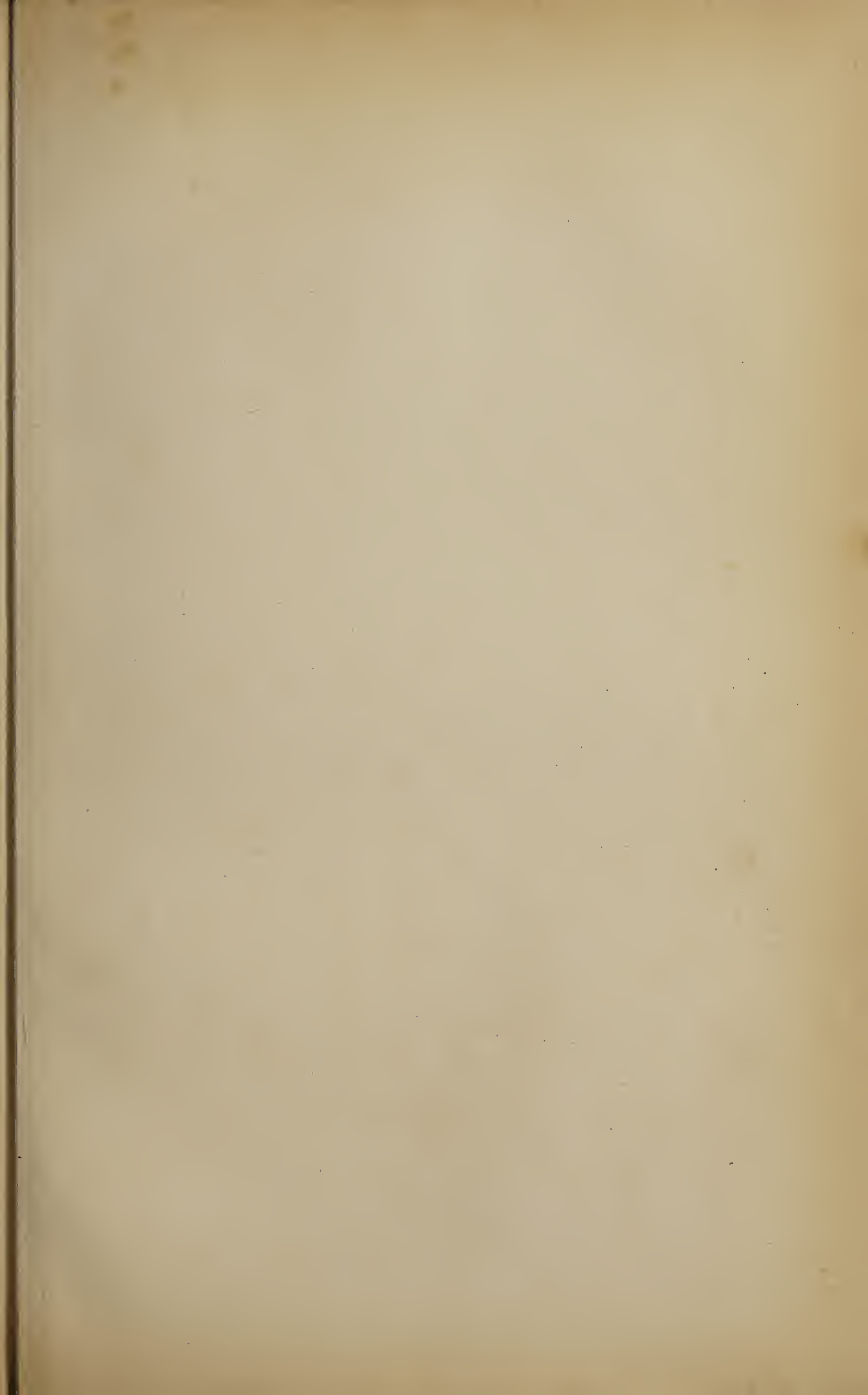
There is nothing like properly maturing the wood of ordinary greenhouse

plants in the autumn, so as to ensure a good head of bloom in spring. All early flowering plants of this character, such as *Epacris*, *Azalea*, and the early flowering *Heaths* which have made their growth, should be placed somewhat thinly on the greenhouse stage, and the house kept well ventilated, and the plants not be allowed to suffer for want of water. Among the plants that are gay in the house at this time of the year may be mentioned *Lilium auratum*, *L. eximium*, and *L. japonicum*, *Plumbago capensis*, *Nerium Oleander*, Harrison's new Musk, Balsams, Petunias, Cockscombs, Celosias, Zonal Pelargoniums. None of these should be allowed to suffer for want of water.

Cold Frame.—None of the plants placed here for their summer quarters must be allowed to suffer through neglect. They should be kept clear of weeds, and be watered as required. *Chinese Primulas*, *Cinerarias*, *Cyclamens*, and other plants from seed which come under the denomination of greenhouse biennials, can now occupy the frame, but need to be well looked after, so as not to suffer from green-fly or for want of water.

Flower Garden.—Where bedding out is done, the flower garden should be at the height of its beauty during August. The general effectiveness can be helped by constantly looking over the beds, keeping the plants clear of decaying leaves and seed-pods, and the grass verges and edgings neat and trim. Cuttings of any plants that are difficult to propagate, or that are not common, may be put in now, so as to secure a supply for next year. *Pelargoniums* and *Calceolarias* should be struck from cuttings in autumn, but *Verbenas*, *Petunias*, *Senecios*, &c., which are rapid growers, and make plenty of young wood for cuttings in spring, may be propagated then. *Pelargoniums* and *Calceolarias* will strike readily if the cuttings be put in the open ground, so long as some special soil is mixed for the purpose. *Chrysanthemums*, both in pots and in the open ground, need to be staked, or the shoots soon snap when blown about by wind or bent down by wet. Seeds of hardy perennials should be sown without further delay, such as *Antirrhinums*, *Canterbury Bells*, *Delphiniums*, *Aquilegias*, *Potentillas*, *Sweet Williams*, *Foxgloves*, &c. As a general rule these things are sown too late in the season, and the plants fail to flower satisfactorily in consequence. *Roses* should be budded without delay; it is best done in dull weather, and the buds take best after heavy rain.

Fruit and Kitchen Garden.—All wall-trees should be neatly trained, and woodlice, earwigs, and snails should not be suffered to find resting-places among the branches. They do great injury to the fruit when it commences to ripen. *Tomatos* on walls should have the lateral branches taken out, so that the fruit may ripen as soon as possible. *Cauliflower* should be planted out on a south border for late autumn use. Some *Celery* may still be put out for a late crop, and the earliest crop should be encouraged to grow on quickly into size. Some of the best plants of *Parsley* may be planted out under a south wall or on a warm border for winter use. Beds intended for *Strawberries* should be prepared, by trenching the ground deeply and working in plenty of manure. As soon as the runners are strong enough, the plants should be put out; they will then grow into size and fruit freely next season. A little *Cabbage* should be sown early in the month, and *Tripoli Onions* the last week in the month. Sow also *Prickly Spinach* and *Hardy Green Cabbage* and *Black-seeded Bath Cos Lettuce* to stand the winter. A little *Turnip Radish* may be sown for succession, and a few white *Turnips* on spare pieces of ground. The tops of spring-sown *Onions* should be beaten down, as it serves to direct the energies of the plants to swelling the bulbs. Weeding and hoeing are necessary every day, as during moist weather weeds grow rapidly. Late *Peas* require to be watered during dry weather to keep them robust, otherwise they become subject to mildew, and the crop is nearly lost.—D.





F. Rosenberg sculp.

Dymond Peach.

THE DYMOND PEACH:

WITH AN ILLUSTRATION.

OUR figure of this fine mid-season Peach was made from specimens which ripened on the open wall about the middle of September. It will be seen that it is a large and handsome fruit, and being at the same time a variety of hardy constitution, a healthy and robust grower, producing fruit of excellent quality, it is a variety which can be recommended for general cultivation. It appears to have been sent out by Messrs. Veitch and Son, of Exeter, some years ago, but to have been since somewhat overlooked, amidst the flood of novelties which has latterly poured in upon us.

The fruit is above medium size, roundish, somewhat flattened, with a well-marked suture, and a terminal depression. The skin is finely downy, pale greenish-yellow where shaded, marbled and mottled with dull rosy crimson on the sunny side, passing to Venetian red where most exposed. The flesh is greenish-white, very slightly stained with red next the stone, from which its parts freely; it is melting and very juicy, with a fine, brisk flavour. A really good peach, combining size, with high quality in its fruit.

The leaves are strongly serrated, but bear no glands that we could discover; there are, however, one or two enlarged teeth developed towards the base of the leaf. The healthy robust habit of the tree is, of itself, a recommendation of no mean value; and altogether the *Dymond* is a variety which may be planted with advantage.—T. MOORE.

CISSUS DISCOLOR AS A WALL PLANT.

DON'T mean merely to be trained on walls, unless against those painted or washed very white. This exquisite *Cissus* is rather tame on ordinary dirty or dark walls, if merely trained against them in the usual way. The most effective example of this the writer has seen, was that of a wall clothed with alternate broad bands in longitudinal lines of *Cissus discolor* and *Stephanotis floribunda*. When the latter was in full flower, the effect was rich and beautiful in the extreme. *Clerodendron Balfourianum* would no doubt be nearly as effective as a contrast to the *Cissus*. It would not, however, equal the *Stephanotis*, as the red corolla would reduce the strength of the contrast. A silver-leaved *Cissus* is nearly of equal beauty with the dark velvety variegation of the *C. discolor*. Perhaps the plant that contrasts best with the *Cissus* alike in style and character is the *Discorea argyrea*, and that is by no means equal to the *Cissus*.

But neither the *Cissus*, nor its best contrasts, trained against walls, is the purport of this short note, but rather to commend in the highest terms the *Cissus discolor* as a wall-furnisher, when planted in pockets as small specimens, and allowed to depend over the projections of cork, or other rusticated walls. Treated thus, the *Cissus* becomes virtually a new plant in the hands of the

decorator, and develops a grace and beauty, and even a richness of colouring hardly ever seen when the plant is either trained against walls or on trellises.

Plants for the purpose of thus furnishing walls should be frequently stopped when in a young state, so as to force them to break into six or more shoots; the more shoots—and I had almost written, the weaker—the more effective the *Cissus* becomes as a pocket-plant. The effect of numbers of *Cissus* in full growth, with all its tendrils and young leaves intact, looked at in contrast, say, with plants of *Pothos argyrea*, *Maidenhair*, and other delicate ferns, is rich and satisfying in the extreme. Caught in the light of the setting sun, or between the eye and the light at any period of the day, perhaps there is no plant so exquisitely beautiful. The grace and elegance of the *Cissus* treated in this way are as charming as the colouring is rich. The *Cissus* looks well on any rough or rusticated wall, but when light stone, spar, scoriæ, or pieces of white coral, or marble, or ice-like stalactites, are employed to break or enrich the surface of walls, rocks, &c., the effect of the graceful spray and beautiful leaves of the *Cissus* is the more strikingly beautiful.

As few plants are more easily propagated, there can be no difficulty in furnishing walls in this way. There are numbers of attempts of this sort on low walls, but in many old-fashioned houses, if sufficient material could be found, with taste to use it to artistic advantage, the whole of the back-wall of a lofty roofed house might be rusticated and covered with creeping plants, ferns, &c. The higher the plants above the eye, the more pleasing to note the very varying play of light and shade on and among them; and few plants can bear the ordeal of being looked up to better than the *Cissus discolor*.—D. T. FISH, *Hardwicke*.

THE NATIONAL CARNATION AND PICOTEE SOCIETY'S SOUTHERN SHOW.

THIS Exhibition, so long looked for, has come and gone, and despite the difficulty of a season unpropitious beyond all living memory, may fairly be said to have been a great success. If we may paraphrase the language of an old writer, who declared of his hero, he had “compelled death to wait on victory,” we may say with truth the cultivators of these lovely flowers had “compelled success to wait on effort,” for never were finer specimens seen than those produced by Mr. Turner and Mr. Douglas, whilst those of the other contributors, who had less convenience for the development of the blooms, were most commendable. Carnations and Picotees and Roses were in pleasant alliance, and this, with the kindly feeling displayed by the several growers, and the admirers of the flowers, contributed to produce a meeting, the pleasure of which will be long remembered. Florists came from all points of the compass, the North being well represented by Messrs. F. D. Horner, B. Simonite, Robert Lord, George Rudd, and Thomas Bower. Eleven exhibitors took part in the competition, three others, Messrs. Llewelyn, of South Wales, Jones, gardener to J. J. Colman, Esq., M.P., of Norwich, and Tyler, of Cambridge, being unable at the last moment to contribute,

owing to the unusual lateness of the season. The show took place on the 18th and 19th ult., at the Royal Aquarium, Westminster.

In the afternoon the judges, executive, and some of the principal exhibitors, to the number of thirty, invited thereto by Mr. W. W. Robertson, the spirited Managing Director of the Aquarium, lunched together in one of the principal rooms of the refreshment department, and very pleasant courtesies were interchanged between the growers of the Rose and the Carnation and Picotee.

At the request of our friend and contributor, Mr. Dodwell, who proposes at a future opportunity to offer some comment on the show, we record the winning flowers of the leading collections, in the order in which they were set up, premising that Mr. Turner's were exhibited in stands of four sixes, whilst those of Mr. Douglas were in three rows of eight each. For the remarks on the flowers we are indebted to Mr. Rudd.

Class A.—24 CARNATIONS, not less than 12 dissimilar blooms. Equal first: Mr. C. Turner, Royal Nursery, Slough, and Mr. J. Douglas, gardener to F. Whitbourn, Esq., of Loxford Hall. Mr. Turner showed Sibyl, R.F., ex.; Ajax, P.F.; John Keet, R.F., fine; Florence Nightingale, P.F.; J. D. Hextall, C.B., a fine flower; Sibyl, R.F., good; Eccentric Jaek, C.B.; Duke of Edinburgh, S.B.; Florence Nightingale, P.F.; Sibyl, R.F.; Squire Trow, P.F.; Eccentric Jack, C.B.; James Douglas (Simonite), P.F., very fine; Merrimae, R.F.; Sportsman, S.F.; Flora's Garland, R.F.; Annihilator, S.F.; Sibyl, R.F., fine; Mary Ann, R.F., a superb flower; John Bayley, S.F., fine; Ajax, P.F.; Eccentric Jack, C.B.; Mary Ann, R.F., again fine; and Admiral Curzon, S.B., good,—a stand of fine flowers, well done, and barely possible to be surpassed. Mr. Douglas's stand contained: Clipper, S.F., very large and fine; Juno, P.F., fine; Mars, S.B.; John Keet, R.F., fine and large; Dreadnought, S.B., fine; Samuel Newman, a light R.F., ex.; J. D. Hextall, C.B., good; James Douglas, P.F., very large; Marshal Ney, C.B.; James Taylor, P.P.B., ex.; Sarah Payne, P.P.B.; Sportsman, S.F.; Falconbridge, P.P.B.; Rifleman, C.B., a grand flower, pure in colour and very bright; Rose of Stapleford, R.F., large; Admiral Curzon, S.B.; Admiral Curzon, S.B., good; Lord Raglan, C.B., very bright and finely marked; John Bayley, S.F.; Earl of Stamford, P.F., very nice; True Briton, S.B.; Premier, P.F.; Mr. Battersby, S.F.; Lovely Ann, R.F., a remarkable flower, fine in shape and marking,—like Mr. Turner's, an unbeatable collection. Second: Mr. Dodwell, with James Merryweather, R.F., a fine large flower; Mars, S.B., fine in colour; Marshal Ney, C.B.; James Douglas, P.F.; Florence Nightingale, P.F.; Marshal Ney, C.B.; Lord Milton, C.B., very fine; Mayor of Nottingham, P.F., very large; Falconbridge, P.P.B.; Marshal Ney, C.B.; Sportsman, S.F., very bright; E. S. Dodwell, R.F. (Bower), fine; Sportsman, S.F.; Rifleman, C.B.; Falconbridge, P.P.B.; Eccentric Jaek, C.B.; Mrs. Dodwell, R.F. (Lord), very fine; Admiral Curzon, S.B.; J. D. Hextall, C.B., very good; True Blue, P.F.; James Merryweather, R.F.; Lord Raglan, C.B., an extra fine flower; John Bayley, S.F.; and Squire Trow, P.F., very bright,—a good stand, but wanting more growth. Third: Mr. T. S. Ware, Tottenham. Fourth: Mr. H. Hooper, Bath.

In Class B, 12 CARNATIONS, open to Amateurs only, Mr. Douglas was 1st with fine well-grown specimens of John Keet, R.F., an immense flower; James Douglas, P.F., fine in colour, and very large; Clipper, S.F., good; Mary Ann, R.F., one of the best flowers in the stand; Marshal Ney, C.B., large and good; True Briton, S.B., very good; Rifleman, C.B., bright; Satisfaction (Bower), P.P.B., very nice and beautifully scented; Admiral Curzon, S.B., very fine and large; J. D. Hextall, C.B., extra; Sportsman, S.F.; and Premier, P.F., very bold in marking. Mr. Dodwell was 2nd with Jas. Merryweather, R.F.; True Briton, S.B.; Mrs. Dodwell, R.F. (Lord), very fine; Mayor of Nottingham, P.F., large; William Murray, C.B., very fine; John Keet, R.F.; Admiral Curzon, S.B., fine in colour; Albion's Pride, C.B.; Mars, S.B., extra fine; Sportsman, S.F.; J. D. Hextall, C.B.; and James Douglas, P.F. Mr. John Hines, of Ipswich, was 3rd, in whose stand were fine specimens of Mayor of Nottingham, P.F.; Marshal Ney, C.B.; Sarah Payne, P.P.B.; and Sir J. Paxton, S.B. Mr. Samuel Buttram, Burgh Mills, Woodbridge, was 4th: his best flowers were Premier, P.F.; Rainbow (Buttram), extra,

a new rosy-crimson Bizarre, very bright and promising; Beauty of Woodhouse, P.F.; and Dante, R.F. (Buttram). 5th, Mr. John Buxton, Wandsworth Road; and 6th, Mr. H. Catley, Bath.

In Class C, 6 CARNATIONS, Mr. Arthur Medhurst, Priory Road, Wandsworth Road, was 1st, with very beautiful flowers of James Douglas, P.F.; Mars, S.B.; John Bayley, S.F.; John Keet, R.F.; Admiral Curzon, S.B., extra fine; and J. D. Hextall, C.B., very good. Mr. Ellison, of Wandsworth Road, was 2nd, with John Keet, R.F.; Mars, S.B.; Mayor of Nottingham, P.F.; James Merryweather, R.F.; Clipper, S.F.; and Premier, P.F. Dr. Abercrombie, of Cheltenham, was 3rd, with Superb, S.F.; Duke of Edinburgh, S.B.; and four seedlings.

In Class D, SINGLE SPECIMENS. *Scarlet Bizarres*—Mr. Douglas was 1st and 2nd, with fine flowers of Admiral Curzon, and 3rd, with Campanini. Mr. J. Hines was 4th, with a bright bloom of Lord Raneliffe; and Mr. Douglas 5th, with Admiral Curzon. In *Crimson Bizarres*, Mr. Turner was 1st and 2nd, with fine flowers of Unexpected (Turner), and J. D. Hextall; Mr. Douglas 3rd, 4th, and 5th, with Marshal Ney, J. D. Hextall, and Graceless Tom. In *P. and P. Bizarres*, Mr. Turner was 1st and 2nd, with James Taylor; 3rd, with Sarah Payne; 4th, with James Taylor; and 5th, with Sarah Payne. In *Purple Flakes*, Mr. Turner was 1st and 2nd, with True Blue and James Douglas respectively; Mr. J. Hines was 3rd, with Mayor of Nottingham; Mr. Chas. Turner 4th and 5th, with James Douglas and Ascendant. In *Scarlet Flakes*, Mr. Chas. Turner was 1st, with Sportsman; Mr. J. Douglas 2nd and 3rd, with the same; Mr. Chas. Turner 4th and 5th, with Annihilator. In *Rose Flakes*, Mr. Chas. Turner was 1st, with Sibyl (also selected as the premier flower of the exhibition); 2nd, Mr. Hines, with Sibyl; 3rd, 4th, and 5th, Mr. Turner, with Sibyl, Mary Ann, and John Keet.

In Class E, for 24 PICOTEES, not less than twelve dissimilar, Mr. Douglas was deservedly first, with remarkably fine specimens of John Smith, H.R., very large and fine, subsequently selected as the premier flower of the whole exhibition; Ann Lord, L.P., very fine; Mrs. Allcroft, L.Rose, fine; Mrs. May, H.P.; Princess of Wales, H.R., very fine; Mrs. Bower, L.R., large and fine; Mrs. Allcroft, L.Rose; Picco, H.P., fine; Piceo, H.P.; Ethel, L.Rose, large and fine; Obadiah, H.S.; Princess of Wales, H.R.; Ann Lord, L.P., a beautiful flower; Edith Dombrain, H.Rose; Mary, L.P.; Mrs. Bower, L.R.; Juliana, H.S.; Ganymede, L.P., very fine; Lord Valentia, H.R., fine; Mrs. Little, L.P.; Miss Small, H.R.; Prima Donna, L.P.; John Smith, H.R.; and Obadiah, H.S. 2nd: Mr. Turner, with Zerlina, H.P. (Lord), a very fine flower; Rival Purple, H.P.; Her Majesty, Med.P., very large; Portia, H.R.; Rival Purple, P.P.; Emily, Med.R.; Eve, Med.R.; Her Majesty, Med.P., fine; Miss Small, H.R., large and good; Leah, H.P., very pure; Jessie, L.P.; Isabella, H.P.; Peeress, H.R.; Frances, M.P.; Miss Wood, L.Rose, very fine; Peeress, H.R.; Norfolk Beauty, H.P.; Miss Wood, L.Rose, fine; Mrs. Allcroft, L.Rose, very nice; Leonidas, H.S.; Isabella, H.P., extra; Alice (Lord), L.P., a beautiful flower; J. B. Bryant, H.R.; and Miss Small, H.R.,—a good stand and well set up. 3rd: Mr. Dodwell, with J. B. Bryant, H.R., fine; Juliana, H.S.; Princess of Wales, H.R., very fine; Edith Dombrain, H.Rose; William Summers, Red P.; John Delaforce, H.P., with a great breadth of colour; Miss Small, H.R.; Ann Lord, L.P., fine; Countess of Wilton, H.R.; Ann Lord, L.P.; Juliana, H.S.; Edith Dombrain, H.Rose; Mrs. Niven, H.P., pretty; Seedling No. 28 (Lord), L.P., an extra fine flower, but too young; Miss Horner, H.Rose, with a fine broad petal; Cynthia, L.P. (Turner); Miss Horner, H.Rose; Miss Small, H.R.; Zerlina, H.P., very young, a mere bud; Regina, H.Rose; Alice, L.P., pretty; Fanny (Lord), Purple, promising, but too young; Zerlina, H.P., young; and Mrs. Niven, H.P.,—a good stand, but even more noticeable than the Carnations by the same grower, wanting development. 4th: Mr. Thos. S. Ware, Hale Farm Nursery, Tottenham.

In Class F, 12 PICOTEES, open to Amateurs only, Mr. J. Douglas again was first with John Smith, H.R., immensely large and fine; Mrs. Allcroft, L. Rose; Mrs. May, H.P.; Mrs. Bower, L.R.; Ann Lord, L.P., extra; Piceo, H.P., good; Wm. Summers, M.R.; Princess of Wales, H.R., very fine; Ethel, Rose, large and fine; Miss Small, H.R.; Juliana, H.S.; and Mary, L.P. Mr. Dodwell was second, with J. B. Bryant, H.R., fine; Miss Horner, H. Rose; William Summers, M.R., large; seedling H.R. (Flowdy); Alice, L.P., young; Juliana, H.S.; Countess of Wilton, H.R., fine; Rev. F. D. Horner, L.R.; Peeress, H.R., good; Mary, L.P.; Edith Dombrain, H.Rose; and Alliance, H.P. Mr. John Buxton was third; his best flowers were Wm. Summers, Norfolk Beauty, Ann Lord, Peeress, and John Delaforce, H.P. Mr. S. Buttram was 4th, with, amongst others, fine examples of the following:—Lavinia, H.P. (Buttram), a novel and beautiful strain of colour; and

Col. Clarke, H.R. Dr. Abererombie, of Cheltenham, was fifth, with seedlings; and Mr. Hines sixth. Mr. H. Catley, Bath, also exhibited.

In Class G, 6 PICOTEES, Mr. A. Medhurst was 1st with Leonora, H.R.; Juliana, H.S.; Mrs. Niven, H.P.; Clara, L.R.; Alice, L.P.; J. B. Bryant, H.R. Mr. Ellison was second with Juliana, H.S.; Mrs. Little, L.P.; Picco, H.P.; Princess of Wales, H.R.; Ann Lord, L.P.; and Mary, L.P. Mr. Gibson, gardener to T. F. Burnaby Atkins, Esq., Sevenoaks, was third.

Class H, SINGLE SPECIMENS. *Heavy Red*—Mr. Buttram was 1st with Colonel Clarke; 2nd, Mr. J. Douglas, with Princess of Wales; 3rd, Mr. Chas. Turner, do.; 4th, Mr. Hines, do.; 5th, Mr. Chas. Turner, with Rev. J. B. M. Camm (Fellowes). In *Light Reds*, Mr. Dodwell was 1st, with Thomas William, the only flower shown in this class. In *Heavy Purples*, Mr. C. Turner was 1st, with Leah; Mr. J. Douglas, 2nd, with Chantieleer; ditto, 3rd, with Mrs. May; Mr. Chas. Turner, 4th, with Cynthia; Mr. J. Douglas, 5th, with Chantieleer. In *Light Purples*, Mr. Douglas was 1st, with Mary; 2nd, Mr. Chas. Turner, with Cynthia; Mr. Douglas, 3rd, with Mary; Mr. Turner, 4th and 5th, with Mrs. Harland and Alice respectively. In *Heavy Roses*, Mr. Turner was 1st, with Lady Louisa (Abererombie), fine; ditto, 2nd, with Leonidas; Mr. Hooper, 3rd, with Princess Alice; Mr. Turner, 4th and 5th, with Venus (Fellowes) and Gem of Roses respectively. In *Light Roses*, Mr. Jas. Douglas was 1st, with Mrs. Allcroft; Mr. Jas. Douglas, 2nd, with Ethel; Mr. Turner, 3rd, 4th, and 5th, with Miss Wood, Mrs. Allcroft, and Miss Wood. In *Yellow Picotees*, Mr. Turner was 1st, 2nd, and 3rd, with Prince of Orange, ditto, and Goldfinder.

The premier prize for the best Carnation selected from the whole Exhibition was awarded to Mr. Charles Turner for an extra fine specimen of Sibyl (Holmes), R.F.; and the premier prize for the best Picotee, also selected from the entire exhibition, went to Mr. Douglas, for a superb bloom of John Smith (Bower), H.R. First-class Certificates were awarded to Mr. Charles Turner for Lady Louisa, H. Rose (Abererombie), a novel and beautiful variety; and for Mrs. Matthews, a very pure and smooth white Self; also to Dr. Abererombie, Cheltenham, for a rosy-pink Self, very soft and attractive, the two latter being of course rewarded as decorative varieties. Dr. Abererombie also showed a very promising heavy rose Picotee in the style of Edith Dombain, only broader and brighter in the edging, and possibly scarcely so smooth as that variety on the edge, at least this was the opinion of some of the gentlemen in office, though the fault was not perceptible to our eyes. Another season will probably determine this.

The judges in the open class were Mr. Ben. Simonite, Mr. George Rudd, and Thomas Moore, Esq.; in the amateurs' division, the Rev. F. D. Horner, Mr. Charles Turner, and Mr. John Ball; and for single specimens, Mr. Robert Lord, and Mr. Thomas Bower. By this division the work was rapidly performed, and from many remarks we subsequently heard, gave the completest satisfaction.

THE SCOTTISH PANSY SOCIETY.

THE thirty-third annual competition of the Scottish Pansy Society was held in Edinburgh on June 15. The show was more of a success than was anticipated from the backward spring, the flowers exhibited being on the whole remarkably fine, a great variety being submitted to the decision of the judges by nurserymen, gardeners, and amateurs. Many of the exhibits were from comparatively distant localities.

At a general meeting of the Society, held in the afternoon, Mr. Wm. Paul, Paisley, president, in the chair, it was agreed to hold next year's show a week later than usual, in order to induce a larger number of competitors to come forward; and the entry-money of 1s., payable by competitors on entering each exhibition-stand, was abolished. The prize-list is as follows:—

SHOW PANSIES.—*Nurserymen*—24 dissimilar blooms: 1, and silver medal, William Paul, Crossflat and Greenlaw Nurseries, Paisley; 2, Dicksons and Co., Pilrig Nursery,

Edinburgh.—*Practical Gardeners*—18, 12, and 6 dissimilar blooms: 1, A. Dougall, Beeslack.—*Amateurs*—12 dissimilar blooms: 1, L. T. Fleming, Berwick; 2, R. Ritchie; 3, J. Kidd, Rothesay. Six dissimilar blooms: 1, J. S. Ritchie, Denny; 2, John McKenzie; 3, John Kidd.—*Open to All*—2 yellow, 2 white, and 2 dark selfs: 1, R. Ritchie.—*Selected from any stands in the exhibition*—Best dark self, Wm. Paul, with a mauve seedling, named Michael Saunders; best white self, W. Barr, Paisley, with Princess Beatrice; best yellow self, L. T. Fleming, with Zama; best blue self, Dicksons and Co., with Sunnypark Rival; best white ground, L. T. Fleming, with Jeannie Fleming; best yellow ground, R. Ritchie, with Robert Burns; best flower in the room, Wm. Paul, with Michael Saunders.

FANCY PANSIES.—*Nurserymen*—24 dissimilar blooms: Silver medal, Dicksons and Co.—*Practical Gardeners*—18, 12, and 6 dissimilar blooms: A. Dougall.—*Amateurs*—12 dissimilar blooms: 1, J. Skinner; 2, L. T. Fleming; 3, R. Ritchie. Six dissimilar blooms: 1, L. T. Fleming; 2, R. Ritchie; 3, J. Skinner.

SPECIAL PRIZES.—*Practical Gardeners*—Twelve dissimilar Show Pansies: A. Dougall. 12 Show and 12 Fancy Pansies, dissimilar: A. Dougall.—*Practical Gardeners and Amateurs*—12 Show and 12 Fancy Pansies, dissimilar: L. T. Fleming.—*Open to All*—12 Show and 12 Fancy Pansies, dissimilar: 1, W. Paul; 2, Dicksons and Son; 3, A. Dougall.—*Amateurs*—6 Show and 6 Fancy Pansies, dissimilar: 1, R. Ritchie; 2, W. Barr, Paisley.—*Gardeners and Amateurs*—12 Show Pansies, 6 varieties: 1, L. T. Fleming.—*Open to All*—3 Seedling Show and 3 Seedling Fancy Pansies, dissimilar: Dicksons and Co. 24 Bedding Violas, dissimilar: Dicksons and Co. 12 Bedding Pansies: Dicksons and Co. White, sky-blue, and crimson Violas: Dicksons and Co. Yellow, blue, and white Violas: Dicksons and Co. Dark Self Pansy (shown separately): W. Paul, with Michael Saunders. Fancy Pansy: Dicksons and Co. Bouquet of Pansies: 1, Dicksons and Co.; 2, W. Barr.—*Open to Lady Members*—6 dissimilar blooms of Show Pansies: Miss J. Fleming. 6 dissimilar blooms of Fancy Pansies: Miss J. Fleming.

Silver Medal to competitor who takes most prizes: Dicksons and Co. First Class Certificate was awarded to Mr. W. Paul, Paisley, for 3 blooms of seedling white ground pansy Annie Wood Paul; and certificates of merit to Mr. Todd, Newmilns, for one bloom of seedling yellow ground, Rev. J. T. Burton; and to Mr. Paul, for one bloom of mauve seedling Michael Saunders.

The following were among the finest named blooms:—

FANCY PANSIES.—The Bride, Jas. Grieve, Jas. Taylor, J. B. Downie, Lizzie Cowan, Isa McMeeking, Rev. H. Dombrain, Miss Wallace, Mrs. Taylor, Buttercup, Wm. Nimmo, M. Scott, Auntie Cuckoo, Wm. Melville, Thos. Grainger, John Currie, F. W. Leland, Wm. Broadfoot, Kirbie, Adonis, Mrs. Jas. Watt, Jas. White, Portia, Miss McNutt, Countess of Strathmore, Mrs. Birkmyre.

SHOW PANSIES.—Jessie Foot, Robt. Black, Jenny Anderson, Robert Burns, Bessie McAslan, Mrs. Arthur, Miss Hope, Annie Wood Paul, Miss Rogers, May Queen, Michael Saunders, Mauve Queen, Sir Peter Coats, Geo. Steedman, Princess Beatrice, Zama, Jeannie Fleming, Mrs. Fraser, Mrs. Horsburgh, D. McHutcheson, Royal Blue, D. Sutherland, Ebor, John Waterston, Capt. Knowles, Jeannie Grieve, Rev. J. T. Burton, Sunnypark Rival.—P.

GARDEN GOSSIP.

THE National Carnation and Picotee Society (Northern branch) will hold its annual exhibition on the 4th, 6th, and 7th of August, in conjunction with the Great Cottagers' Flower-show of the Manchester Botanical and Horticultural Society, in the Botanical Gardens, at Old Trafford. The following rules have been issued:—1. Any flower or stand containing a mutilated flower, *i.e.*, one with a false pod, petals clipped smooth, or calyx clipped, will be disqualified; 2. The committee have power to make rules and bye-laws for the management of the Exhibition, and settlement of any question or dispute arising; 3. The flowers to be shown on cards, size optional; 4. Names of flowers to be plainly written and easy for reference to the blooms. Exhibitors are requested to write their exhibition number on the face of the class-cards with which they will be supplied on application to the secretary, and write their own names legibly on the *back* of these cards; 5. Flowers having self petals, or bizarre petals in flakes, or inserted petals, will be disqualified; 6. Certificates of merit for high-class seedlings, not less than two blooms; 7. Premier Carnation and Picotee, selected from the whole Exhibition, 5s. in addition to any other prize it

may have won; 8. In single blooms an exhibitor may win any number of times in a class; and one variety may win as often as it can in the classes. The attention of exhibitors is most particularly called to the important matter of uniformity in the stands used for collections of twelve and six. The secretary requests that the standard of dimensions given below, which was discussed at the General Meeting in January, 1876, will be adopted by all the exhibitors this year:—Collections of twelve must be shown in boxes of *three fours*, of the following dimensions, viz., from centre to centre, $3\frac{3}{4}$ inches; from centre to outside, $2\frac{1}{4}$ inches; outside length, $15\frac{3}{4}$ inches; width, 12 inches; depth, $4\frac{3}{4}$ inches; to be painted a bright green. Collections of six blooms, in boxes of *three twos*, of similar distances with those of the twelve-blooms class. An unregulated size of stands interferes seriously with the good effect of the show, and this matter is now upon so prominent a footing that flowers shown on stands not in accordance with the society's regulations are liable to disqualification.—F. D. HORNER, *Hon. Secretary, Kirkby Malzeard, Ripon, July, 1877.*

— ONE form at least of the *Cucumber-disease* would seem to be curable by Mr. W. G. Smith's new remedy, *Salus*. Mr. D. T. Fish states that his plants were affected almost beyond hope of remedy; they were as bad as they well could be, and as this seemed a favourable opportunity for experiment, they had *Salus* broth, instead of pure water or sewage, every time they wanted water. The plants were soon almost cured by the application of *Salus* to the roots only. The cure was brought about by *Salus* alone applied to the roots, for the leaves and stems were so badly affected that it was impracticable to dress them with sulphurous acid, as recommended by some courteous correspondent. The *Salus* may also probably claim credit for the perfect freedom of our young Cucumber plants from any symptom of disease at the present time, all our young plants in pits or houses having been treated with *Salus* at the roots, and all being clean and remarkably healthy. It is, however, not quite clear whether what is called Cucumber disease is always the same affection.

— THE *Kalmia latifolia*, when grown in a situation congenial to it, is one of the most beautiful of the New World evergreens which we call American plants, and one of the situations most congenial to it, we should imagine, must be the grounds at Bearwood, the magnificent country seat of John Walter, Esq., M.P. Here the Rhododendrons and hardy Azaleas grow with remarkable vigour, and the *Kalmias*, when we saw them, were also particularly fine, and showed considerable variety as regards the tinting and arrangement of the flowers, some of the blossoms measuring nearly $1\frac{1}{2}$ inch across, and all growing in massive trusses, which freely covered the surface of the plants. These beautiful grounds, which are charmingly varied by water and woodland and a boldly undulating surface, have undergone great changes during the past few years, and bear witness to Mr. Walter's fine taste. In the pleasure-grounds are many handsome specimens of choice trees, notably of *Araucaria imbricata*, *Cryptomeria japonica*, *Picea Pinsapo*, and last, but not least, a fine seven-limbed Birch, the principal stems of which spring near the ground from one main stock. In the park a prominent feature is an avenue of *Wellingtonias*, leading from the main entrance to the mansion; and a fine avenue of these trees, of considerable length, also planted by Mr. Walter, on the roadside near the Wellington College, at Sandhurst, are doing remarkably well, and will soon form a prominent feature of the district.

— SOME remarkable instances of the occasional *Slow increase of Tulips* have lately been recorded. Mr. Whittaker, of Salford, one of the leading Tulip-growers of the North, has grown the feathered byblöemen Rutley's Queen for the space of twenty years, and has never in all that long period succeeded in getting a second bulb. As is usual with Tulips, the old bulb decays every year and a new one is formed, but during that period no second bulb had been formed. Mr. H. Goldham, of Mitcham, a name well known to Tulip-growers of the South, has in his possession a bulb of the variety called *Rose Lac*, which he has grown for thirty-five years without obtaining any offset, though the plant has continued to grow and bloom healthily during all this period. On one or two occasions only has there been an indication of an abortive attempt to form offsets.

— AT the Crystal Palace Rose Show, the class for *New Roses sent out in 1875-6* brought out two competitors. Messrs. Paul and Son, who were placed first, showed *Avocat Duvivier*, *Miss Hassard*, *Madlle Prosper Langier*, *Marchioness of Exeter*, *Marguerite Brassac*, *Duchesse de Valombrosa*, *Abel Carrière*, *Emily Laxton*, *Sir*

Garnet Wolseley, Souvenir de Arthur Sansal, Sultan of Zanzibar, and Oxonian. The blooms of Emily Laxton and Sultan of Zanzibar were particularly fine of their kind, the last-named being very rich in colour. Mr. Turner had Royal Standard, Prince Arthur, Miss Hassard, Mrs. Baker, Rev. J. B. M. Camm, Maréchal Robert, John Stuart Mill, Duchesse de Valombrosa, Madame F. Jamin, Mons. Fournier, Oxonian, and Souvenir de Arthur Sansal.

— THE following is a well-proved recipe, and one for which we can vouch, for making *Tomato Sauce*:—Select sound ripe fruit, and boil them without water for at least six hours till they have become wasted by evaporation. The pulp is then to be rubbed through a hair-sieve till nothing but the skins and seeds remain. To a quart of this pulp add half-a-dozen pickling onions or shallots, 1 oz. of bruised ginger-root, two blades of mace, a tablespoonful of white pepper, and two tablespoonfuls of Chili vinegar, and then boil up again for half an hour, or until it is of such a consistency as to adhere to the spoon. It must be kept well stirred, and should be made in a glazed saucepan, kept uncovered. When of the right consistency—that is, when not at all watery—it is ready for use. For keeping, it should be bottled, and kept air-tight; small bottles are best. A few chilis may with advantage be dropped into each bottle. Thus made, it will keep for seven years.

— M. LINDEN has recently issued a coloured figure of a new Orontiad, *Anthurium Andraeanum*, which is likely to attract much attention, and may be as popular as *Anthurium Scherzerianum*. The new plant is said to be of tufted habit, with ovate lanceolate deeply cordate green leaves, and slender spadices, surmounted by an open cordate-ovate orange-red leathery spathe, 3—4 inches across, placed at the base of a cylindrical spadix of a yellow colour, with a broad central band of white. M. André met with it in the province of Choco, in New Grenada.

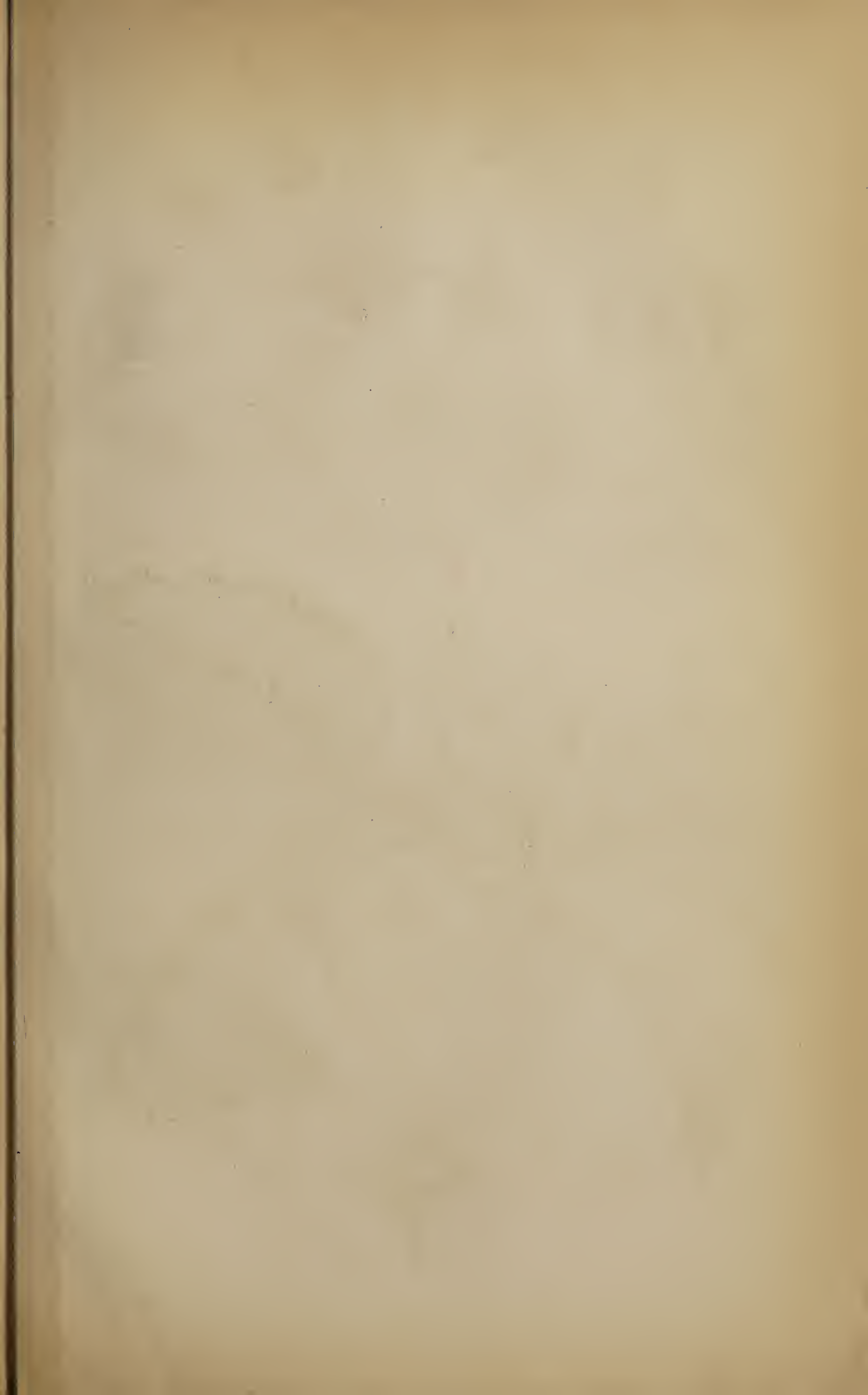
— FROM Messrs. Dicksons and Co., of Waterloo Place, Edinburgh, we have had samples of *Double Cinerarias* of very superior quality, the flower-heads being of large size, and as fully double as the best forms of double *Jacobæa*. Pilrig Beauty, Pink Perfection, and the Prince are of different shades of magenta, and Queen of Violets is of a rich purple-violet hue. The plants are of dwarf stocky habit, and these double-flowered varieties should presently become popular amongst those who grow plants for decorative uses.

— M. ZOLLER found, in the course of a series of experiments on *Mushrooms*, that by placing the spores in water containing ammonia and other substances occurring in the ash of the plants, and adding thereto a little acetic or malic acid, he obtained an abundant crop.

Obituary.

— MR. JOSEPH WALKER, a most worthy and successful florist, well known in his particular sphere, and respected by many attached friends among Auricultivators, died at Eccleshall, near Sheffield, on June 1, aged 62. From his earliest years he had a love for gardening, and especially for florists' flowers. Many years ago, when gardener at Banner Cross, he was famous as a Polyanthus grower. Afterwards he removed to Ford Hall, Chapel-le-Frith, with the family with which he was living, carrying with him his stock of plants; and whilst there he purchased a few Auriculas, not more than half a dozen, from which he raised the following fine seedlings:—George Levick, John Simonite, Peveril of the Peak, Nimrod, and several others, which he lost. Those named are very fine flowers, at present in the hands of a few only, but they will be distributed as soon as the stock of plants in cultivation will admit of its being done.

— MR. CHARLES LIDGARD, of Albion Road, Hammersmith, one of the older members of the metropolitan fraternity of florists, died on June 20, in his 68th year. He was a sound and conscientious judge of most of the popular florists' flowers, and as one of the representatives of this department of floriculture was selected, many years since, as a member of the Floral Committee of the Royal Horticultural Society. In former days, he was a grower and exhibitor of Auriculas and Pansies, and latterly has been a cultivator and exhibitor of Celery.





Macfarlane, del.

Pelargonium Princess of Wales

Chromo. Severeys.

PELARGONIUM PRINCESS OF WALES.

WITH AN ILLUSTRATION.

THIS belongs to a small group of crispate varieties which are fast gaining ground in public favour, and which Mr. Bull, who has sent out most of them, calls Regal Pelargoniums. The appearance of some of the varieties, is almost that of double flowers, so complete is this frilling of the edges often accompanied by an increase in the number of petals. The varieties known as Captain Raikes, fiery-crimson; Queen Victoria, vermilion, edged with white; and Beauty of Oxtou, maroon-crimson, edged with white, are familiar examples of this group, in which Mr. Bull also offers *Elegantissimum*, vermilion, edged with white; Madame Evrard, purplish-crimson; Marie Augis, light rose-colour; Prince of Pelargoniums, vermilion-scarlet, with violet veins; Prince of Wales, bright vermilion, with light edge; and Princess of Wales, represented in the accompanying illustration, the two latter being new varieties of the present year,

We have to thank Mr. Bull, of Chelsea, for the opportunity of preparing the figure now published, and we quote the following description of it from his catalogue for the present season:—

“An extremely beautiful variety, with very large and effective flowers, which are of a most pleasing colour,—rosy-lake, marbled and reticulated with white, large, clear, and distinct white centre, all the petals margined with white, and the upper ones blotched with maroon. An exceedingly attractive flower.”

Mr. Bull adds that this and the bright scarlet Prince of Wales may be pronounced two of the “gems of the season.” They are certainly very handsome varieties of a most attractive group of novelties of the popular and highly-varied genus *Pelargonium*, which has taken such a position in our gardens that a special Society—the Pelargonium Society—has been founded to promote its cultivation and exhibition.—T. MOORE.

NOTES ON TULIPS.

WITH A BRIEF DESCRIPTION OF THE BEST FLOWERS IN EACH CLASS.

AUGUST and September are the months during which the Tulip-grower is generally actively at work in making additions to his collection. The present time is therefore opportune for publishing for his guidance the following lists of varieties in general cultivation. The sorts given are all pure and of good form, except when otherwise stated, and all are well worth growing.

A very important matter should be kept in mind by the Tulip-collector, and that is, to buy only the best “strains,” *i.e.*, the finest rectifications or breaks of each variety—those which have proved themselves fairly constant in their character. It is far more easy to get the variety in a coarse state than in a very refined one. The best plan is either to buy them in bloom, or to order from a grower of known good character who has the fine “strains,” and who can be depended upon to supply the very best that he possesses.

I have given the rows in which each should be planted. Tulips are generally planted seven in a row, the most dwarf being outside and the tallest in the middle. "First row" applies to one and seven, "second row" to two and six, "third row" to three and five, and "fourth row" to the centre.

RECTIFIED BIZARRES.

SIR JOSEPH PAXTON (Willison).—A grand flower, too well known to need description, and as it has won the premier prize at the Royal National Exhibition every year for the last eight years for the best flamed flower in any class, it must be pronounced indispensable. It is also one of the best feathered bizarres in cultivation. Third row.

AJAX (Hardy).—A noble pan-flower, evidently a seedling from and a great improvement upon Polyphemus; base and ground-colour, fine clear yellow, with a dark chestnut-brown feather, and in the beam of the flamed variety a fine rich mulberry-colour. When in the feathered state the pencilling is very beautiful, but its best character is that of a flamed flower;—indispensable. Third row.

MASTERPIECE (Slater).—A black feather upon a deep rich yellow ground; it is very fine, both as a feathered and as a flamed flower, but is most valuable in the feathered state. This variety, when opening, has the edges of the outer petals turned inside, and unless they are opened out, these outer petals stand out from the inner ones, and the flower has an ugly, slovenly appearance. When well finished, it is perhaps the best feathered bizarre that has yet been raised. Second row.

GEORGE HAYWARD (Lawrence).—This is a very fine Bizarre in the feathered state; it is also good as a flamed flower, although inferior to Sir J. Paxton and Ajax in that state. Although a noble pan-flower in the feathered state, the feathering has little of the refined pencilling which adds so much to the beauty of a feathered flower, but is what is termed a "plated" flower. This variety is very inconstant, sometimes feathered and sometimes flamed, and sometimes out of all character, and this from *the same bulb*. Third row.

GARIBALDI (Ashmole).—In the feathered state, a beautiful pan-flower; colour, a rich yellow; feathering, a peculiarly bright chestnut-brown. Although the feather is apt to come a little top-heavy, it is, when in a fine state, beautifully pencilled. Rather inconstant and worthless in the flamed state. Second row.

DR. HARDY and **ORION** (Storer).—These two stand a long way in advance of all other varieties, in the class known as red bizarres, of which Bowler's Everard may be taken as a type. Dr. Hardy is the better of the two, and to look inside a well-flamed flower of this variety is a treat; the purity and brilliance of the yellow has no equal in any other variety, and this is well matched by the intense richness of its markings, of which the colour is also unique. I think this is the finest flamed bizarre that has ever yet been raised. Orion is only a little inferior to Dr. Hardy in the brilliance of its yellow, and the intensity of its colouring; they are, in sooth, a noble pair. The northern growers used to have a great objection to red bizarres, and not without some reason, as the red bizarre of thirty years ago had usually a weak, washed-out appearance; but Dr. Hardy and Orion have revolutionised all this, and no bed is considered complete without them. Dr. Hardy, second row; Orion, third row.

DEMOSTHENES (Headly).—A very fine feathered bizarre, very similar to the old Royal Sovereign, very often seen in the winning stands; worthless as a flamed flower. Fourth row.

SURPASS POLYPHEMUS.—Broken from a breeder sold to me as Polyphemus. A most superb break, and has bloomed very constantly for twenty years. It has a much better base than Polyphemus, both base and stamens being always pure; a good pan-flower; has never bloomed in a feathered state. Third row.

COMMANDER (Marsdon).—A fine heavy feathered Bizarre, in the way of, but a great improvement upon, the old variety Catafalque Superior or Rising Sun; this sort has bloomed this year slightly stained on the stamens in most of the flowers, a peculiarity I have never observed before. Second row.

LORD BYRON (Ashmole).—Broken by the late Wm. Lea from a breeder which he purchased from Ashmole. This is, no doubt, a fine strain of Ashmole's Lord Raglan, feathered and very constant; other breaks have been made of Lord Raglan both feathered and flamed, and have been exhibited in fine condition; but this, Lord Byron, appears to be the most constant as a feathered flower. Synonyms ought not to be permitted, and this flower ought to be, and I hope in the future will be, always named by its true name, Lord Raglan. Second row.

RECTIFIED BYBLØEMENS.

TALISMAN (Hardy).—The markings of a very refined character; colour, a fine violet, almost black, on a very pure white ground. The finest flamed Bybløemen in cultivation; is sometimes caught in a very fine feathered condition, but all the feathered breaks, so far, have shown no stability, but have passed into flamed flowers. The flamed state is evidently its best one. Second row.

BESSIE (Hepworth).—Colour nearly black, on a good white ground, which needs a little bleaching after opening; a most noble feathered flower when well grown; is sometimes seen flamed, but the feathered is its true strong character. First row.

DUCHESS OF SUTHERLAND (Walker).—A most charming, well known, flamed flower; colour, a beautiful dark purple, on a white ground, unsurpassed in purity. Its faults are a want of form, the petals being rather narrow, and a little too long. Nevertheless it is a variety which ought to be in every good collection. Third row.

ADONIS (Headly).—Good both in the feathered and in the flamed states. Very often seen in winning stands, and at the head of the classes. The feathering is black, on a somewhat creamy-white ground, which does not quite disappear with growth; the base of the feathered flower is also to some extent disfigured by a drabby-coloured white, technically termed "greasy." In the flamed flower these defects are not so obvious. Notwithstanding these defects, Adonis is a very fine variety, and should be grown by all. Fourth row.

CARBUNCLE (Headly).—A variety, resembling in some respects Adonis. Indeed, some growers think it is only a very fine flamed strain of Adonis. I am of opinion that it is a distinct variety. Its beam is wider and more solid than that of Adonis. The flame-colour in the beam is a peculiarly rich carbuncle-colour, and the white of the flower and the base are unexceptionally pure. Third row.

BACCHUS (Dutch).—A fine flamed variety, never seen feathered. The colour is a rosy purple, but still a decided bybløemen one. The markings are in fine strains, very correct, although not much "work," *i.e.* fine pencilling, in them. It blooms early, but stands to the last, and although we have some flowers which in many points surpass it, yet Bacchus is still a very useful variety, and worthy of a place in the most select collections. From its standing so long in bloom, it sometimes, when very old, owing to flies, bees, &c., scattering the pollen from the anthers, and the pollen liquefying on the white base, a slight bluish tinge is given, and hence in some quarters a most absurd prejudice has been raised against it, and at Birmingham it was declared "not pure." This is most unjust; Bacchus is a perfectly pure flower, and more than nine-tenths of the flowers shown are unexceptionable. Even when the blue tinge is on the white, it is much less objectionable than the yellow whites of Mrs. Pickerill, Adonis, and flowers of that class. Third row.

LORD DENMAN.—A frequent winning variety; colour, rosy bybløemen; character, flamed; markings very good, most beautifully level on the top of the flower, but the base is very narrow, and the flower, although often seen pure, is too often impure on the stamens, with a greenish greasy base. I cannot give this flower a high position, and have almost discarded it. Third row.

SALVATOR ROSA (Brown).—When in fine strain, a first-class flower, fine in colour, marking, form, and purity; scarcely surpassed by anything; there are some strains of this variety very poor in marking, and it has never been the writer's good-fortune to bloom a flower of Salvator Resa worth looking at. Second rows.

VIOLET AMIABLE (Haigh).—A rather uncertain variety, both feathered and flamed; colour, fine purple; the feather-marking plated in character; the white needs a few days' bleaching after opening. Although occasionally this variety is seen very fine, yet it can scarcely be called first-class. Third row.

MAID OF ORLEANS (Gibbons).—This old and well-known variety is now but seldom seen as a winner. The feathered strains seldom produce the old character of feathered flowers, they are usually so splashed with colour inside. The flamed flower is a little too heavily marked to stand high in the class, now that we have so many good varieties in flamed bybløemens, still the purity of this kind is so charming, that a few bulbs should be grown of the best feathered and flamed strains that can be procured. Fourth row.

RECTIFIED ROSES.

HEROINE.—A fine old variety, still far from being superseded, and found more often as a winner than any other feathered rose grown; this, of course, is partly owing to the stock of it being more abundant than that of any other kind, but still on its merits it holds a place in

the front rank. The colour is a deep rose, the white unsurpassed in purity, and the feathering boldly laid on; in form it is rather too long, and the petals are a little too narrow, and the outer petals slightly pointed; but with these drawbacks it is still indispensable, for in the best we have not attained perfection. In the flamed state it is known as "Triumph Royal," and is a useful and much-esteemed flower in the flamed-rose class. First row.

ROSE CELESTIAL (Walker).—A very fine flamed rose; colour rather dark, about the same shade as Aglaia, the markings very refined. Occasionally wins as a feathered flower, but the flamed state is its best. Third row.

AGLAIA.—A fine old variety, too well known to need description, and is still, as the returns of our best exhibitions amply show, yet a long way from being superseded. This variety is very abundantly grown, and is very useful, both in the flamed and the feathered states. Fourth rows.

MRS. LEA (Lea).—A fine rose; good bright scarlet colour, on a pure white ground; petals a little too narrow, and cup rather too long. A frequent winner in the feathered state, but is even better as a flamed flower; should be in every collection. Second row.

INDUSTRY (Lea).—Perhaps the very finest feathered rose in cultivation; colour a bright carmine-scarlet, on the purest of white grounds. I am not aware that it has ever bloomed in a flamed state. This variety in fine strain is not plentiful, but as it increases, and is more generally grown, it will take a very high position. The flower exhibited by Mr. Whittaker at the Northern Counties Show, and which won the premier for the best feathered flower in any class, will not seem to be forgotten by those who had the pleasure of seeing it. Third row.

MODESTY (Walker).—A very fine feathered rose on a pure white ground; colour almost as fine as Industry, and when well grown a very first-class variety. It is worthless in the flamed state.

MABEL, MRS. LOMAX, CHARMER (Martin).—These are thought to be one variety, and as regards Mrs. Lomax and Mabel, it is certain that they are one and the same. Charmer may be a very fine feathered strain of the same, but I am inclined to doubt this; the colour is a bright rosy-red, on a fine white ground; they are all worthy of a place in the most select collection, although the cup is rather long, and the petals turn in a little at the top of the flower. Second row.

LADY SEFTON (Martin).—A flamed rose of the highest quality; colour, a very bright carmine-scarlet; quite unique, and especially in the brilliant carmine colour of the beam; this and Annie Macgregor are, perhaps, the two best flamed Roses in cultivation, but are far from plentiful. Second row.

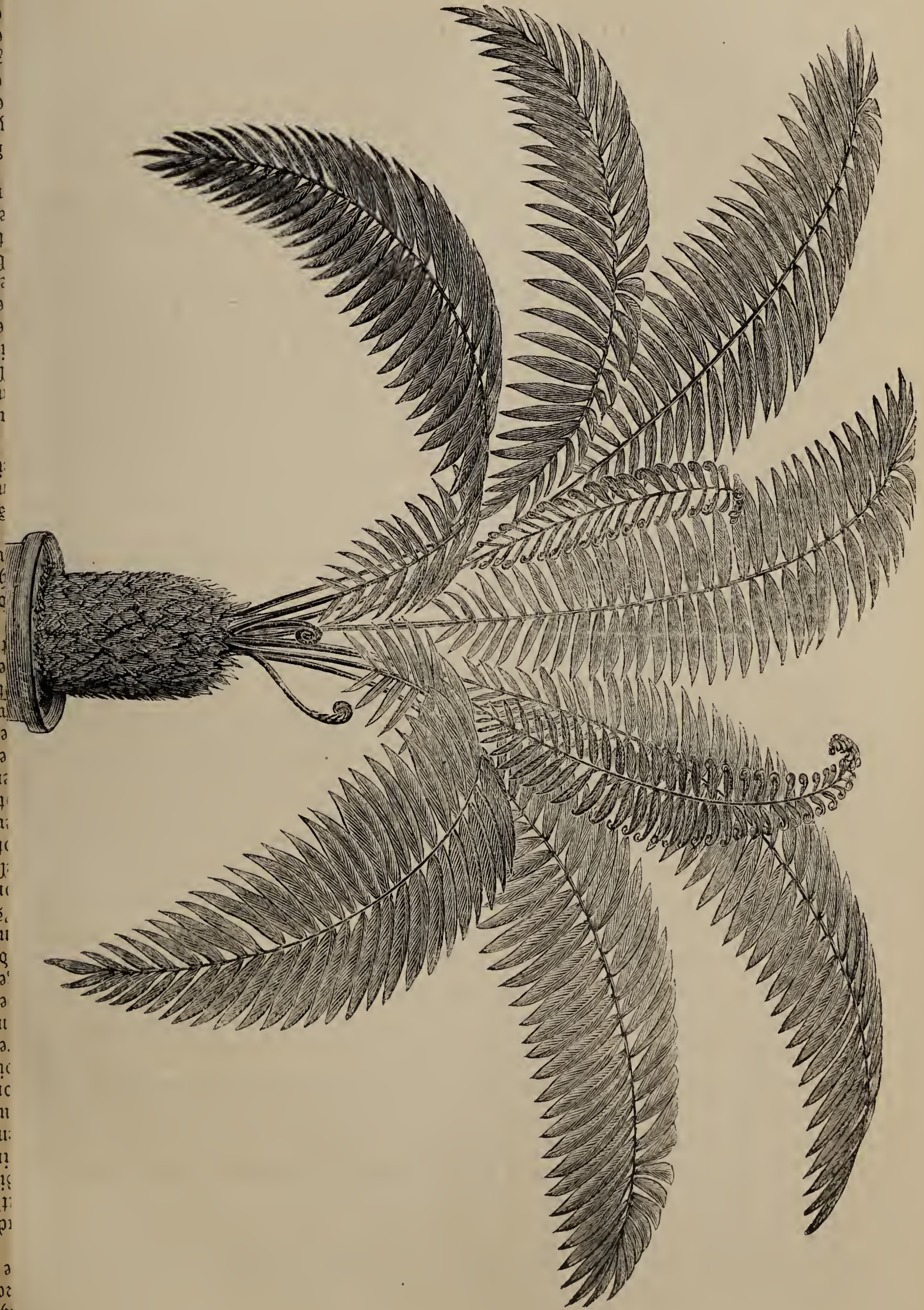
ANNIE MACGREGOR (Martin).—An exceedingly fine flamed Rose; the colour a bright scarlet, on the purest of white grounds. The beam is rather light, but very decided, while the pencilling of the feather is of the most refined and delicate character possible, although firmly laid on and carried well around the edges of the petals. This variety has also bloomed finely feathered. It is one of the finest flamed Roses ever raised, although in few hands, and will be scarce for some time to come. Second row.

KATE CONNOR (Slater).—A most lovely rose; colour, a peculiarly bright, dazzling scarlet, on a very pure white ground. This variety in fine feathered strain is very scarce, as it rarely makes any increase; in the flamed state it is more plentiful. It is a very fine variety, either in the feathered or in the flamed state, but is somewhat tender, and liable to be injured by frost on the tips of the outer petals. Second row.

SARAH HEADLY and CIRCE (Headly).—These, if not one variety, are evidently from the same pod of seed. The petals are of great substance, and the flowers stand long in bloom; the colour is a dark rose. In the flamed state they make noble pan flowers, and although Sarah Headly is often seen fine in a feathered state, yet it is more often seen with a grizzled feather, *i.e.*, dashes of the breeder-colour of lighter red are mixed with the proper rectified colour in the feathering, which is a very serious defect. Both varieties second row.

MADAME ST. ARNAUD (Martin).—Colour, a very bright carmine-scarlet. A fine effective flower, both in the feathered and in the flamed states. The cup is rather too long, and when the flowers are old, the petals have a tendency to turn inwards at the edges in the upper part of the flower. Third row.

Next month I purpose briefly to notice some flowers of the highest promise, some of which are not distributed, some only partially distributed, and all yet very rare. A list of the best breeder Tulips will also be given.—SAMUEL BARLOW, *Stakehill House, Chadderton, near Manchester.*



LOMARIA DALGAIRNSIÆ.

WE owe to Mr. Bull, by whom this plant has been introduced, the use of the accompanying woodcut (see p. 197) of a very fine evergreen greenhouse fern, imported from South Africa, and very closely allied to *L. Boryana* = *L. magellanica*, and indeed having very much the aspect of that arborescent variety of this species sometimes cultivated under the name of *L. zamioides*. In the absence of complete materials for comparison, and from the apparent agreement of the plant, so far as comparable, with that named *L. Dalgairnsiæ*, by Dr. Pappe, the name has been adopted. According to Mr. Bull's description of the most matured plants in his possession, it has a blackish trunk of 1 ft. to 2 ft. in height, which is shaggy at the apex, with long subulate dark brown scales. The fronds are subcoriaceous, glabrous, pinnate below, pinnatifid above, the pinnæ lanceolate-acute, the lower ones tapered to the base, but scarcely stalked, the upper adnate, and the uppermost decurrently confluent. The few lower pinnæ are diminished in size, and below these are numerous abortive ones, reduced to wart-like callosities. The fronds are of a dark green colour on the upper surface, and paler beneath. Being a free-growing plant of vigorous habit in a greenhouse temperature, it will be a valuable addition to our list of cultivated ferns, of bold and striking habit.—T. MOORE.

THE ROYAL PARKS AND GARDENS OF LONDON.*

THIS is the title of a new book on a subject of much interest to those who are in any way connected with gardens and gardening. It is admitted on all hands that the London parks and gardens afford many examples of decorative gardening to be admired and imitated, or from which, at least, useful lessons may be derived; and the object of the author of the present neat little volume has been to give a plain and practical account of the different Royal establishments, and of the mode of planting them. "Already," writes the author, "the lessons of floral embellishment taught by the London parks have been extensively and successfully applied in private gardens. It is with a view of still further promoting the taste for garden decoration, and affording examples of home adornment in a concise form, that this volume is published."

The book opens with an account of the gardens at Buckingham Palace, which occupy an area of about 50 acres, of which about 25 acres are in grass. There is a considerable breadth of ornamental water, with islands, also rustic hedges, and magnificent trees and shrubs. The part of the lawn adjoining the Palace is quite open, not a tree or bush interrupting its level expanse of turf, and here on this grassy carpet the members of the Royal family have been accustomed to play cricket, football, and other games. There is a geometric garden, forming a circular

* *The Royal Parks and Gardens of London: their History and Mode of Embellishment, with Hints on the Propagation and Culture of the Plants employed, &c., &c.* By Nathan Cole, Kensington Gardens. With numerous Wood Engravings and Geometrical Designs. London Journal of Horticulture Office, 171 Fleet Street. 1877.

scheme of 19 beds, and on the north side of the Palace a conservatory, which is lacking in elegance, and not well adapted for plants, though we have seen it effectively filled in the autumn with *Chrysanthemums*. Next comes the Duchess of Teck's garden at Kensington Palace, a rectangular piece of lawn with beds at the margin, and surrounded by a belt of deciduous flowering and evergreen shrubs.

Kensington Gardens, 250 acres in extent, are the centre of a fashionable quarter of the metropolis. They are remarkable for their fine old trees, "and judging from the healthy young specimens which may be seen growing, and the great ability displayed in the planting of them, there will be no lack of shade for generations to come, for here we have beautiful avenues, groves, and glades, among young trees growing every year into beauty." The most fashionable and pleasant of promenades in the Gardens is the long Flower-Walk, 700 yards long, which possesses many charms—amongst others, a large assortment of correctly-named trees and shrubs, the shrubberies being fringed with herbaceous, bulbous, subtropical, and bedding plants. The Ivy Cottage, and its semi-circular garden-plots opposite attract thousands of admiring spectators during the summer months.

The Royal Horticultural Society's Garden in this neighbourhood occupies about 23 acres, and is a parallelogram in shape, laid out in the Italian style, and surrounded by colonnades and covered arcades, with a large and singularly elegant conservatory in the centre of the north side. The trees are now growing up to a size which produces depth of greenness and breadth of shadow, and breaks the continuity of view, which was at one time so glaring and objectionable. The Society has done much good service to horticulture during the past sixty-eight years, and deserves a better fate than the troubles, and squabbles, and comparative neglect into which it has lately fallen. The bedding-out in this Garden has always been good.

The Royal Botanic Society of London has a garden of about 18 acres, comprising the whole of the Inner Circle of the Regent's Park. This has been admirably laid out, and is both ornamental and park-like in appearance. There is an ample conservatory or winter garden, and a fine range of houses for medical and economical plants; while the garden itself, owing to its being near some of the principal medical schools, is much used by professors and teachers, as well as by students of various kinds.

Hyde Park occupies nearly 400 acres, with a sheet of water called the Serpentine. It is freely wooded, both with old and young trees, and is a favourite resort of beauty and fashion. Spring flowers are successfully grown the entire length of Park Lane, and the effect is charming. The Early Hyacinths are the chief ornaments, the most effective being Amy and Robert Steiger, bright red; Sultan's Favourite, blush-white; Sir Edwin Landseer, dark pink; Grandeur à Merveille, blush-pink; Norma, delicate pink; Voltaire, wax-like blush-white; Grand Vainqueur and La Candeur, pure white; Regulus, porcelain-blue; Charles Dickens, pale shaded blue; William I., violet-black. "Those are twelve of the best Hyacinths for bedding; they all flower at the same period, and they are of the same height, thus ensuring uniform and equal effect."

St. James's and the Green Parks, which are divided only by about 100 yards of iron fencing, are together not more than 118 acres in extent. There are some fine old trees in both, but these are not to be compared with those in Kensington Gardens and Hyde Park.

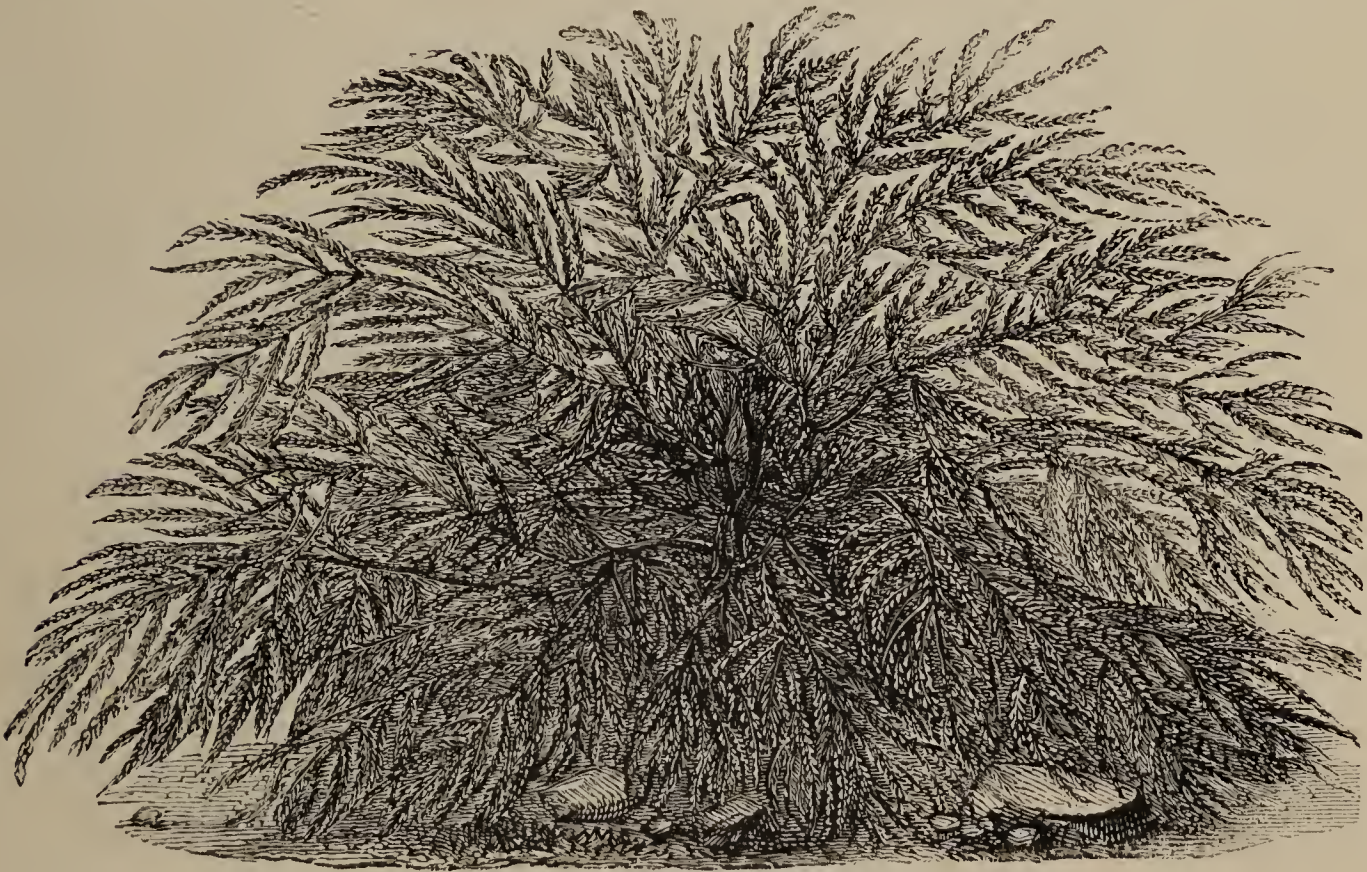
Victoria Park, with an area of about 290 acres, was purchased with the money paid by the Duke of Sutherland to the Government for Stafford House, £72,000. The designs and planting are varied and excellent, and there is here a display of flowers equal to anything seen in and about London. When the spring and summer flowers have passed away, the Chrysanthemum, queen of autumn, survives, and during the dull days of November thousands are attracted by the exhibition of this flower in the Victoria Park. There are ornamental sheets of water, islands, rustic bridges, and shady banks. Choice trees and shrubs abound, though they are yet but young, and the flower borders and margins to the clumps of shrubs are well stocked with hardy herbaceous plants, bulbs, and annuals. Greenwich Park, which is under the same management, is well stocked with beautiful trees, and is much resorted to.

Battersea Park occupies 200 acres, of what was formerly known as Battersea fields. The site was originally flat and low, and in order to produce a picturesque effect mounds have been raised and hollows formed, with glades and gentle slopes, and a fine assortment of trees and shrubs has been planted. Battersea is, however, most famous for its subtropical garden, which extends over several acres, so disposed as to present a natural and picturesque effect. The ornamental grasses are much cultivated here, chiefly by the margins of the fine piece of water; and another striking feature of this park is the bold and well-designed rockwork.

The Regent's Park covers about 470 acres, and is one of the most important of the London Parks. The centre is an open green plain, almost free from trees, but it is surrounded by trees and shrubs, and comprises a fine piece of ornamental water, with islands and weeping trees. On the east side, is a very tasteful Italian garden, divided into two parts by a telling avenue of horse-chestnuts. In this garden are many fine yuccas, which are permanent in character, being ornamental in winter as well as in summer. Rhododendrons, too, here, as elsewhere, bid defiance to the London smoke, and only need to be properly treated at the roots to yield a fine display. Lombardy Poplars are here introduced with good effect, in single file, beside the straight lines of walk. This park is well furnished with flowers.

Of all these, and the more distant royal gardens of Hampton Court and Kew, and the more private one of the Crystal Palace Co., Mr. Cole gives a tolerably full description; while the remaining chapters of the book are devoted to the 'Effective Arrangement of Spring Flowers,' 'Hardy Evergreens and Flowering Trees and Shrubs in London Parks and Gardens,' 'Trees in the London Parks and Gardens,' 'The Arrangement of Colours,' 'Designs for Flower and Carpet Bedding on Grass.' These chapters contain brief notes and cultural hints on a selection of the best plants of various character for planting in London gardens,

which will be useful to those who may be located in or near other large towns. There are also numerous designs for beds, with selections of plants for filling them, all which will be of great help to many a gardener or amateur taking up with this kind of work for the first time. The large illustrations, consisting of views in the several parks, are of less importance, and are, moreover, very coarse and inferior in their execution. As a whole, however, the book, which has been prepared for practical purposes and from a practical point of view, will be a useful help to the practical reader concerned in the decorative department of gardening.—T. MOORE.



HYMENANTHERA CRASSIFOLIA, SHOWING THE HABIT OF GROWTH.

HYMENANTHERA CRASSIFOLIA.

A NEW hardy white-berried shrub, introduced by Messrs. Veitch and Sons, of Chelsea, to whom we are indebted for the annexed illustrations. We take the following descriptive memoranda from Messrs. Veitch's *Catalogue*: —“A beautiful hardy evergreen shrub, a native of New Zealand, very distinct in all its leading characteristics. It is described by Dr. Masters in the *Gardeners' Chronicle* (1875, 237) as a striking shrub, erect or partially procumbent, with stiff cylindrical branches, ramifying at acute angles, and covered with an ash-coloured, wrinkled rind, thinly beset with whitish strigose hairs. The leaves are alternate or tufted, small, leathery, with a few minute whitish scales on both sides, rounded or slightly emarginate at the apex, tapering at the base into a very short stalk. The flowers are small and unobscure, but they are succeeded by pure white berries, which render the plant particularly attractive and ornamental during the autumn months; it then affords a fine contrast with the Cotoneasters and other berry-bearing shrubs.” Dr. Masters adds, “It is a welcome addition to

our lists of hardy shrubs, among which its habit, neat foliage, and white berries give it a distinctive character. Botanically, it is interesting as a shrubby violaceous plant, having, on superficial glance, nothing of the violet about it. The



HYMENANTHERA CRASSIFOLIA, BRANCH WITH BERRIES.

structure of the flower and seed is, however, quite that of the violet." The accompanying illustrations, though wanting the finish of a coloured drawing, are yet sufficient to show its very distinct and interesting character.—T. MOORE.

THE STONECROP.

THE Stonecrop (*Sedum acre*) is so plentiful at Dovedale in Derbyshire, that it is there called "Dovedale moss." It has, of course, no relation with the Bog moss (*Sphagnum*). On the contrary, it inhabits the dry, inhospitable stone wall and barren rock, where the wonder is that it can exist

for very want of water. The Wall Rue among Ferns, and the Wallflower among flowering plants, have each an existence equally wonderful, living, as it were, without the ordinary means to sustain life; and this very oddity makes succulent plants so very useful, growing, as they do, where nothing else could live. In the shabbiest samples of rockwork, where a barrowful of stones adorns the four or five square yards of the cottager's flower-garden fronting the street, this truly dwarf Alpine will live, thrive, and extend itself, so that when in flower it will be all alive with its dense mass of yellow, and when out of flower, its lively green will remain ornamental all through the winter. I found the purple Sedum on low stone walls near Sir John Barrow's monument at Ulverstone, but only in small patches. It bore transplanting well, and grew freely in Manchester as an edging alongside of a sandstone flag, until it was destroyed by hot water and soda in the process of washing the steps and stonework. Although curious and rare as a botanical specimen, it is by no means more beautiful than the yellow one, and it might be difficult to get it in bulk for any practical purpose, whereas the "Dovedale moss" meets all emergencies, and is to be had by the summer tourist of that ilk, with no other cost than the carrying it away. As it is also to be found in cottage gardens everywhere, I need only remark that it is easily propagated by its leaves in dry sand, and it is not likely to suffer from dryness, but like most succulents it is apt to damp off when exposed to wet.

A window-sill, however high, is just the place for the Stonecrop. Shelter is out of the question. A little rich mud and sand placed on the stone coping of the yard walls in the town dwellings, will soon cover the space allotted to it; and it will gladden the eyes of the confirmed invalid to be able to see this humble evergreen herb covered once a year with a golden blossom. I saw some fine plants in flower recently, in a stonemason's yard, high up in a window-sill. The plant is not well adapted for pot-culture, but as its name implies, seems to grow or *crop* out of the stone. It exposes no slender foliage to the stormy wind, and fills its watery sacs with the winter and spring rains, biding its time to flower and seed until the sun has warmed the summer air, when it peeps out modestly.

The bedding-out of exotic succulents seems all the rage, but the grotesque forms of some kinds appear out of harmony with their surroundings. There is, however, certainly a place for the Stonecrop, and that not on the heap of stones with the nickname of "rock," but on some honest ledge, where a free-stone flag can find it a resting place. In the case of real rockwork, this plant will be invaluable, sticking, as it well can do, to the slanting face of a large stone in one place, and in another joining two or more pieces by hiding the junction, thereby rendering the apparent size of the block of stone double what it really is. What I mean by the unfitness of the Stonecrop for paltry bits of rockwork is, that the plant should always be a rider mounted on a stone of some size, just as if it were a parasite on the same.

Plants in town gardens and even in country gardens require a good deal of looking after, and when it comes to be window-gardening there is watering and

tending to be done to keep things alive; but the Stonecrop will stand neglect for a month or two with impunity. Instead, then, of bungling with all sorts of plants in one's patch of garden-ground, some kind of classification should surely be made. For example, in a shady corner and under the drip of trees where few flowering-plants could live, the fernery should be established. Again, in the bleak high ledge, the "vantage coin" of some old castle or artificial ruin, we have a choice spot for the Wallflower families:—

"There in thy bleak and earthless bed,
Thou brav'st the tempest's strife,
And giv'st what else were cold and dead,
A lingering glow of life."

Succulents used as bedding-plants are always an isolated class, as if they were out of place, and had descended from a higher level to adorn the parterre; but when we see them on stone-work or rock-work—not on earth-work—their hue and quaint character show to great advantage, first, by being thus brought nearer to the eye of the observer, after the fashion by which we give the Rose an artificial leg to get its beauty and fragrance nearer to the eye and nose; and secondly, by their grotesque foliage giving an exotic character and richness when looked up to. A familiar example may be given in the common House-leek, which when grown as a Daisy is a mean looking object, but which is looked up to on a cottage roof with respect. Now, the stonecrop on stone-work is a power, for it hides the seams and patches of the work, and never rambles like many Alpines, ruining its more delicate neighbours. When used as the mortar of the buildings, the Stonecrop can play an important part in filling up chinks and crannies, as it never refuses to grow and spread, whether in sun or in shade, only let it rest upon a stone:—

"As snow upon the mountain's crest
Clings to the rock that gives it rest."

—ALEX. FORSYTH, *Salford*.

THE CRACKING OF PEAR FRUITS.

THAT these delicious fruits have a tendency—at times, seemingly, a hereditary tendency—to crack, greatly to their deterioration, not only as regards their appearance, but also as regards their keeping and eating qualities, is too well known. It seems to be a malady more or less brought on by certain soils and situations, as well as affecting certain sorts of Pears. The subject is one of no mean importance to the culturist, more especially to the market-grower. The malady is the more troublesome, because when once any particular trees become subject to its attacks, there seems to be no permanent remedy. It would be gratifying to know some means by which it would be possible to successfully attack or cope with it. The canker in Pears, or in similar kinds of fruit-trees, may be met and neutralised, or entirely destroyed; but we have here a graver evil, and one whose origin, ramifications, and extent are not so easily determinable.

So intricate and subtle is the cause of this "cracking," that one part or por-



J. L. Macarline del.

Tangierine Orange

tion only of a tree may be annually smitten with it, and the entire crop of fruit thereon destroyed, whilst other portions of the same tree may bear fine large clear-skinned fruit, without a speck upon them! I have a tree, which for many years has recorded this fact, and that in a very remarkable manner. The tree is trained around the convex corner of a warm south-west aspect wall. It is somewhat aged; three-fourths of it consists of *Beurré Diel*, which is particularly healthy, and which produces fruit annually, large, fine, and of the true habitual golden-yellow colour, with rarely a speck or blemish upon any. The other portion of the tree, a portion the highest on the sunniest southern side, is *Easter Beurré*, and not only are its fruits constantly cracked and cankered, but the branches and the branchlets are smitten with a malady which develops itself in a chronic series of warty or dry excrescences of a striking character. Here, then, is the malady perpetuated annually upon the same tree on which healthy pears are produced, which suggests that, whatever the cause, it is not infectious.

I have noticed young trees full of robust-growing vigour heavily smitten with this unwelcome malady, in such a manner, indeed, that every fruit became cracked, none remaining intact, and thus the fruit prospect was entirely destroyed. Incidentally, I may refer to the fact that though these young fruits crack or split open so determinedly, the fleshy part thus as a consequence exposed to the air rarely or never exhibits decomposition, as is almost always the case when the inner flesh of fruits is wounded or exposed. This would indicate that the cause may be connected with a deficiency of the necessary sap in the fruit.

Probably the cause is a fungus, but if so, as it influences the tissues of the fruit, it may be both superficial and internal. It has been suggested that a species of *Æcidium* is at the bottom of the matter. I am not sure, however, that those bright yellow spots sometimes seen upon the surface of pear-tree leaves, can have this charge justly laid to them. They seem to eventuate in a liquid matter, which at length exudes and forms spore-cells, which find their end and intent in the formation of spores, and which, singularly enough, appear to drop out from the underside of the leaves also. Mr. Meehan, a pomologist of America, suggests that the real cause of "Pear-crack" is *Helminthosporium pyrorum*. It would be well to try what effect sprinkling lime or sulphur over affected trees would have, the process being within the means of every one.—WILLIAM EARLEY, *Valentines*.

THE TANGIERINE ORANGE.

WITH AN ILLUSTRATION.

WE have to thank Mr. Rivers, of Sawbridgeworth, for the specimens of Tangierine Orange from which Mr. Macfarlane has prepared the accompanying plate. Mr. Rivers has for many years been famed for his success in the cultivation of this very distinct and ornamental variety of the Orange family, and indeed, of dessert Oranges generally, so that as long since as 1866 he described his method of "Dessert Orange Culture," in a paper read at the International Horticultural Congress of that year, held in London, and

which was published in the *Report of Proceedings* of that interesting meeting. From that paper we make the subjoined extracts:—

“The difference between Oranges freshly gathered from the trees, and the very finest imported, is most remarkable; there is a crispness and fine aroma in Oranges freshly gathered difficult to realise, unless they are promptly compared with imported fruit. They are, indeed, a luxury, and as such will be cultivated ere long in every good garden.

“The houses best adapted for their cultivation are the large span-roofed, 24 ft. wide, 6 ft. high at each side, and 15 ft. high in the centre. A house of this size will require eight 4-in. hot-water pipes, four on each side, as artificial heat is required all the year to ripen oranges in one season perfectly.

“A smaller span-roofed house, 5½ ft. high at each side, and 12 ft. high in the centre, heated by four 4-in. hot-water pipes, two on each side, is almost as eligible for orange culture as one of the larger size [or even more suitable for varieties of small growth like the Tangierine]. A house of these dimensions, with a central path, and a border on each side planted with orange trees, would form a pleasant and productive orange garden; but to form an orange grove, so as to have trees of fine growth and to give abundant crops, the large house must be resorted to.

“From the experience I have gained, I firmly believe that no conservatory, no orchid-house, nor greenhouse, is half so beautiful or interesting as an orange-house constructed on the principles I now advocate, and provided with fixed roofs, rafters 24 in. apart, glazed with large pieces of glass, and admitting abundance of light, so that in December, when the trees are covered with their golden fruit, and many of them showing their snow-white perfumed flowers, the scene is indeed enchanting, and is enhanced by the agreeable temperature, which need not be higher than from 50° to 60° Fahr. (10° to 15° Cent.) in cloudy weather. It is not frame-heat in winter that ripening oranges require, but an even agreeable temperature, such as is experienced in the Azores during that season of the year.

“The houses above-mentioned should have side-ventilation as in orchid-houses,—viz., an opening on each side of the large house 2 ft. wide, for the smaller houses 1 ft. wide; these openings should be in the centre of each side, and shutters of wood or sashes employed to close them, the latter, of course, being the most agreeable.

“The cultivation of dessert Oranges in pots or tubs is very simple. The compost they require consists of equal parts of peat, loam, and manure thoroughly decomposed; the two former should not be sifted, but chopped up with the pieces of turf and roots so as to form a rough compost. The trees will grow in this freely, and bear abundantly; but they should have gentle, constant root-heat. This is best given by enclosing hot-water pipes in a shallow chamber of bricks, and placing the pots on a flooring of slates or tiles forming the roof of the chamber.

“One of the most charming and prolific of dessert oranges is the Tangierine; the tree has small leaves, and seldom attains a height of more than 7 ft., even in

North Africa. Its most valuable quality is its early ripening, so that in October, just as the late peaches and other soft fruits are over, this luscious little fruit is ready for the dessert. And when freshly gathered no fruit can be more gratifying or delightful, as its aroma is so delicious and its juice so abundant, in this respect offering a pleasing contrast to those imported from Lisbon in November and December, the flesh of which is generally shrunk from the rind, instead of being ready to burst, as is the case with those plucked from the tree. They should, in common with all home-grown Oranges, be placed on the table with some leaves adhering to the stalks, thus showing that they have not made a voyage."

There can be no doubt that where there is the necessary accommodation, these choice little home-grown fruits would form a useful and welcome addition to the dessert, while in large establishments the plants might be so manipulated as themselves to serve to decorate the table.—T. MOORE.

THE NATIONAL CARNATION AND PICOTEE SOCIETY'S NORTHERN EXHIBITION.

THIS Exhibition had been fixed unfortunately at so early a date—August 4th—mainly to support a very interesting exhibition of cottagers' produce arranged for that day, that the display was very meagre, and what was even worse, consisted, in the main, of specimens insufficiently developed. Still some fine flowers were produced, those from Mr. B. Simonite, Rough Bank, Sheffield, and Mr. George Rudd, Undercliff, Bradford, being especially noticeable. Mr. Simonite had in Carnations, J. D. Hextall, C.B.; Dr. Foster, P.F.; James Douglas, P.F.; John Keet, R.F.; James Merryweather, R.F.; and Sportsman, S.F., in the finest possible character; and in Picotees, good specimens of Mrs. Niven, Mrs. Allcroft, Miss Sewell, Miss Wood, and Teresa, the latter a light-edged rose seedling of his own; whilst Mr. Rudd had Sir Joseph Paxton, S.B., in a form rarely seen, and never certainly surpassed, the size and colour being wonderful. His Curzon also was grand, and in Picotees, Alliance, H.P., was extra fine; Zerlina, H.P., good; and a new light-edged Rose, Hartley's Fairy Queen, very pretty. The most remarkable of other specimens we note in our record of the awards of the judges given below.

The date having made it impossible for the great bulk of the growers to take part in the show, two supplementary exhibitions were arranged, one for Manchester on the 16th, and the other for Bradford on the 23rd. Our date of publication prevents our giving the awards for the later show; those for the 4th and 16th follow:—

AUGUST 4TH, Class A.—12 *dissimilar Carnations*, open.—1st, Mr. B. Simonite, Rough Bank, Sheffield, with Jas. Douglas, P.F., very good; Lord Napier, S.B.; Dr. Foster, P.F., fine and very pure; J. D. Hextall, C.B., extra; John Keet, R.F., large and finely marked; Sportsman, S.F., extra; James Merryweather, R.F.; Seedling, R.F.; Admiral Curzon, S.B., small, but very attractive; Squire Moynell, fine; Mars, S.B.; and Seedling, R.F., a good stand, though young. 2nd, Mr. J. Booth, Failsworth, Manchester, with Admiral Curzon; Seedling, S.F.; Uncle Tom, R.F.; Garibaldi, S.B., very good; James Merryweather, R.F.;

James Taylor, P.P.B., very nice; Annihilator, S.F., bold and good; Jas. Douglas, P.F., good; Sportsman, S.F.; Sibyl, R.F., extra fine; Lord Milton, C.B.; and John Koot, R.F. 3rd, Mr. S. Brown, Birmingham, with Sibyl, R.F.; President, P.F.; James Merryweather, R.F.; Ajax, P.F.; Annihilator, S.F.; Gem, C.B., extra; Admiral Curzon, S.F.; Flora's Garland, R.F.; J. D. Hextall, C.B.; Lady Curzon, S.F.; Eccentric Jack, C.B.; and Scarlet Gom, S.F.

Class B. 12 *Picotees, dissimilar*.—Mr. B. Simonite was again 1st, with Seedling H.R., good; Miss Sewoll M. Rose (feathery edge); Mrs. Niven, H.P., fine; Miss Wood, L. Rose; Mrs. Allcroft, L. Rose, extra fine; Seedling, L.R., petal like Mary; Fairy Queen, M. Rose; Leonora, H.R.; Seedling, H.R.; Soedling, L. Scarlet; Juliana, H. Scarlet; and Terosa, L. Rose, a nice stand, but as with the Carnations, young. 2nd—Mr. S. Brown, Birmingham, with Lucy, M.R.; Arbitrator, M.R.; Mrs. Davis, H. Scarlet; Amy Robsart, L.P.; Miss Small, H.R.; Countess of Kent, M. Rose; Purple Perfection, H.P.; Emily, M.R., with a large petal; Miss Norman, H. Scarlet; Mrs. Ward, L.R.; Kitty, H. Rose; and Mrs. Niven, H.P.

Class C. 12 *Carnations, 9 dissimilar varieties*.—Mr. Geo. Rudd, Undercliffe, Bradford, was 1st, with Sir J. Paxton, S.B., extra fine; a P.F. (sport from James Taylor, P.P.B.); James Taylor, P.P.B., fine and large; Sir J. Paxton, S.B., again good; James Carter, R.F.; Eccentric Jack, S.B.; Clipper, S.F.; John Keet, R.F.; Admiral Curzon, S.B., good; Seedling, R.F.; Marshal Ney, C.B., bright and pure, but young; Mars, S.B., fine. 2nd—R. Gorton, Esq., Eccles, near Manchester, with Eccentric Jack, C.B., fine; Sibyl, R.F., large and good; Squire Trow, P.F., fine; Christigala, fine and large; John Keet, R.F.; Earl of Stamford, P.F., fine; John Keet, R.F.; J. D. Hextall, C.B., fine; Dr. Foster, P.F.; Eccentric Jack, C.B.; Mayor of Nottingham, P.F.; and Clipper, S.F. A nice stand, wanting only more development. 3rd—Mr. S. Brown, Birmingham, with James Taylor, P.P.B.; Eccentric Jack, C.B., very good; Admiral Curzon, S.B., good; Roso of Stapleford, R.F., large; Admiral Curzon, S.B.; Mr. Battersby, S.F.; Merrimac, R.F.; J. D. Hextall, C.B.; Lady Curzon, S.F.; King of Blues, P.F.; J. D. Hextall, C.B. 4th—Mr. T. Mellor, Ashton-under-Lyno.

Class D. 12 *Picotees, 9 dissimilar*.—Mr. Geo. Rudd was again 1st, with Wm. Summers, M.R., large; Zorlina, P.P., fine; Wm. Summers, M.R., large; J. B. Bryant, H.R., very large; Alliance, H.P., good; Rev. F. D. Hornor, M.R.; Alliance, H.P.; Mrs. Fordham, L. Rose; Fairy Queen (Hartloy), M. Rose, a good flower; Mary, L.P.; Mrs. Lord, H. Rose; Alliance, H.P. 2nd—Mr. S. Brown, with Lucy, L.R.; Arbitrator, L.R.; Emily, L.R.; Kitty, H. Rose; Purple Perfection, H.P.; Miss Wood, H. Rose; Mrs. Davis, H.S.; Catherino, M.R.; Kitty, M. Rose; Mrs. Johnson, M.R. 3rd—Mr. Thomas Mellor.

Class E. 6 *Carnations, dissimilar*.—Mr. Slack, Chesterfield, was 1st, with Mrs. F. Burnaby, R.F., fine, but pale; Dr. Foster, P.F.; Mayor of Nottingham, P.F.; Jas. Taylor, P.P.B.; Miss Holland, R.F., an extra fine flower; and Merrimac, R.F., fine and large. 2nd—Mr. William Taylor, Middleton, with Sportsman, S.F.; Mars, S.B.; Lovely Ann, R.F., nice; Mr. Battersby, S.F., very good; Clipper, S.F.; and Esther, P.F.

Class F. 6 *Picotees, dissimilar*.—S. Cooper, Esq., Timperley, Cheshire, was 1st, with Miss Small, H.R.; Mrs. Bower, L.R., large; Ann Lord, L.P.; Mary, L.P.; Mrs. Fuller, H.R.; Ensign, M.R. 2nd—Mr. William Taylor, with Unknown, S.P.; Seedling, M. Rose; Mrs. Lord, H. Rose; Mary, L.P.; Lord Valentia, H. Red; Miss Wood, L. Rose. 3rd—Mr. Slack, with Margarot, L.P.; Mrs. Allcroft, L. Rose; Ethel, M. Rose; Admiration, H.P.; Mrs. Fordham, L. Rose; Mrs. Norman, H.R.

Class G. *Single Blooms, Carnations: Scarlet Bizarres*.—Mr. B. Simonite was 1st and 2nd, with Dreadnought, fine, and Seedling; 3rd, Mr. J. Booth, with Admiral Curzon; 4th and 5th, Mr. B. Simonite, with Mars and Admiral Curzon; 6th, Mr. W. Slack, with Sensation. *Crimson Bizarres*—Mr. B. Simonite 1st, 2nd, 3rd, 4th, and 5th, with J. D. Hextall; 6th, Mr. Jon. Booth, with Lord Milton. *Purple Flakes*—Mr. B. Simonite was 1st, 2nd, 3rd, 4th, 5th, and 6th, in the following order:—Dr. Foster (ex.), Jas. Douglas, Mayor of Nottingham, Jas. Douglas, Squire Meynell, Mayor of Nottingham. *Scarlet Flakes*—Mr. G. Rudd was 1st and 2nd, with Sportsman and Clipper; 3rd, Mr. B. Simonite, with Soedling; 4th and 5th, Mr. J. Booth, with Sportsman and Seedling; 6th, Mr. W. Taylor, with Clipper. *Rose Flakes*—Mr. Jon. Booth was 1st, with Sibyl; 2nd, Mr. T. Mellor, with James Merryweather; 3rd, S. Cooper, Esq., with the same; 4th, T. Mellor, with John Keet; 5th, E. Pohlman, with John Keet; 6th, Mr. B. Simonite, with Merrimac.

Picotees: Heavy Red.—Mr. J. Booth was 1st, with J. B. Bryant; 2nd, R. Gorton, Esq., with Miss Small; 3rd, S. Cooper, Esq., with Miss Small; 4th, S. Cooper, Esq., with Ensign; 5th, Mr. W. Taylor, with Lord Valentia. *Light Red*—1st and 2nd, Mr. B. Simonite, with Soedling; 3rd, S. Cooper, Esq., with Mrs. Bower; 4th and 5th, Mr. B. Simonite, with Soedling; 6th, S. Cooper, Esq., with Mrs. Bower. *Heavy Purple*—1st, 2nd, and 3rd, Mr. Joseph Chadwick, with Miss Chadwick, for which a first-class Certificate was awarded; 4th, 5th, and 6th, Mr. J. Booth, with Picco. *Light Purple*—1st, Mr. T.

Mellor, with Seedling; 2nd, 3rd, 4th, 5th, and 6th, S. Cooper, Esq., with Ann Lord. *Heavy Rose*—Mr. Joseph Chadwick 1st, with Mrs. Lord; 2nd, Mr. J. Booth, with Mrs. Lord; 3rd, R. Gorton, Esq., with Juliana; 4th, Mr. T. Mellor, with Mrs. Lord; 5th and 6th, R. Gordon, with Mrs. Lord. *Light Rose*—1st, Mr. B. Simonite, with Teresa; 2nd, Mr. W. Slack, with Mrs. Allcroft; 3rd, Mr. Jon. Booth, with Miss Sewell; 4th, Mr. B. Simonite, with Miss Wood; 5th, Mr. Jon. Booth, with Miss Wood; 6th, Mr. T. Mellor, with the same.

Premier Carnation.—Mr. B. Simonite, with J. D. Hextall, C.B. *Premier Picotee*.—Mr. B. Simonite, with Teresa, Light Rose.

August 16.—The exhibition on the 16th ult. was held in the large room of the Cotton Waste-dealers Exchange, Manchester, and was a marked success, so far as a fine display went; but unfortunately the attendance of the general public, inaccessible save through a costly and long-continued series of advertisements, impossible in this instance, was very meagre. The show was, in the unavoidable absence of Mr. Horner, in the charge of Mr. Richard Gorton, of Eccles, and under his guidance resulted in a meeting long to be remembered for its geniality and kindness. Of the flowers produced too high praise in the main could scarcely be expressed, most especially was this the case with those from Mr. B. Simonite, Mr. Jon. Booth, and Mr. Gorton. In Class A, 12 dissimilar Carnations, Mr. Booth missed a point by an injudicious grouping of his flowers—scarlet bizarres and scarlet flakes being arranged on one side, with purple-flakes, rose-flakes, and crimson bizarres on the other—and thus fell into the second place. With a better arrangement, the stronger colours relieved by those of a softer hue, it must have been a dead-heat between him and Mr. Simonite. The Premier Carnation, Admiral Curzon, shown by Mr. Gorton, was a good example of the richness and varied colouring of this fine old variety, and though one of the smallest of Mr. Gorton's flowers, deservedly occupied its high post. The Picotee Mary, shown by Mr. Jon. Booth, to which in Picotees a similar award was made, was everything a light-edged purple could be; though a fine bloom of Mrs. Douglas, Simonite, and another fine bloom of Mary, shown by Mr. Gorton, for some time divided attention with the flower finally selected. Annexed are the awards:—

Class A. 12 *dissimilar Carnations*.—1st, Mr. B. Simonite, Rough Bank, Sheffield, with Admiral Curzon; Jas. Douglas; Seedling, C.B., extra, a cross between Warrior and Lord Milton, fairly representing the features of the parents respectively; Sportsman, James Taylor; Seedling, R.F., Squire Meynell; J. D. Hextall; Lord Raglan; F. D. Horner, S.F.; Joseph (Simonite), S.B., a seedling, something between the styles of Curzon and True Briton respectively; and James Merryweather, a well-grown and well-arranged stand of finely-coloured flowers. 2nd, Mr. Jon. Booth, Failsworth, Manchester, with Admiral Curzon; Sportsman; Lord Raglan; Mayor of Nottingham; Seedling, S.F.; Mercury; John Bayley; Mrs. Hurst, R.F. (much in the way of James Merryweather, but not so fully marked as in that variety); Wm. Enfield, C.B., good; Esther, Falconbridge, and Dreadnought. As already stated, with a better arrangement, this stand would have been fairly equal to that produced by Mr. Simonite. 3rd, Richard Gorton, Esq., Guildbrook, Eccles, with Eccentric Jack, James Merryweather, Squire Trow, Mercury, Annihilator, Fanny, Sportsman, Rifleman, Garibaldi, Clipper, Falconbridge, and Curzon. Mr. Gorton had reserved his strength for the Classes C and D, 12 Blooms, not less than nine dissimilar, where he ran completely from his competitors, but saving one or two specimens introduced of necessity to comply with the conditions of the competition, the flowers were bright, beautifully marked, and well grown. 4th, Mr. Thomas Mellor, Ashton-under-Lyne.

Class B. 12 *dissimilar Picotees*.—1st, Mr. B. Simonite, with Seedling, Medium-Edged Purple, fine in form, and extra broad in petal; Mrs. Allcroft, grand; Seedling, Medium Purple; ditto, light red; ditto, ditto; Zerlina, fine; Fanny Helen; Seedling, Heavy Scarlet; Mary; Teresa; Mrs. Douglas, a lovely light mauve-purple of extra fine quality; and John

Smith. 2nd, Mr. Jon. Booth, with Miss Wood, Zerlina, Brunette, Mrs. Allcroft, Mrs. Lord Alice, Morning Star, Minnie, Lord Valentia, Scarlet Queen, Mary, ex., ex. (subsequently selected as Premier Picotée of the whole exhibition), and Medina. 3rd, R. Gorton, Esq., with Edith Dombrain; Norfolk Beauty; Empress Eugénie; Mrs. Fuller; a bright, heavy-edged rod, pure and good; Ann Lord; Mrs. Nichol; Mary; Lady Elcho, Light Purple; J. B. Bryant; Mrs. Summers; Fanny Helen; and Mrs. Booth. 4th, Mr. Thomas Mellor.

Class C. 12 *Carnations, not less than 9 dissimilar blooms*.—1st, R. Gorton, Esq., with Eccentric Jack, extra; James Merryweather; Falconbridge; Mercury; Annihilator; Eccentric Jack; Sibyl; Juno; Rifleman; Clipper; Squire Trow, and Admiral Curzon (the latter subsequently selected as the Premier Carnation of the whole exhibition). A stand of admirably grown and well-developed specimens. 2nd, Mr. J. Chadwick, Dukinfield, with Clipper; Mayor of Nottingham; Garibaldi; John Keet; Lord Milton; Duke of York; Seedling, Scarlet Flake; Eccentric Jack; Lady Ely; Sportsman; Seedling, C.B.; and Juno.

Class D. 12 *Picotées, not less than 9 dissimilar*.—Mr. Gorton was again 1st, with twelve superb specimens, viz., Edith Dombrain; Zerlina; Edith Dombrain; Norfolk Beauty; Ann Lord; Miss Loe; J. B. Bryant; Ann Lord; Mrs. Fuller; Lady Elcho; Mary; and Mrs. Fuller. 2nd, Mr. Chadwick.

Class E. 6 *Carnations, dissimilar*.—1st, Mr. William Slack, Chesterfield, with James Douglas, Admiral Curzon, Merrimac, Duke of Edinboro', S.F.; Mars, and James Taylor. 2nd, Mr. William Taylor, Middleton.

Class F. 6 *Picotées, dissimilar*.—The exhibitors in the above class changed places, Mr. Taylor being first, and Mr. Slack second. Mr. Taylor's flowers were Miss Wood, Lord Valentia, Mary, William Summers, and two seedlings; Mr. Slack's consisted of varieties already described.

Carnations, Single Specimens.—*Scarlet Bizarres*—Mr. B. Simonite was 1st and 3rd, with Admiral Curzon and Joseph (Simonite); and Mr. Jonathan Booth, 2nd, 4th, and 5th, with Dreadnought, and two Admiral Curzons. *Crimson Bizarres*—Mr. B. Simonite was 1st, 2nd, 4th, and 5th, with Seedling, Seedling, Black Diamond, and Seedling; and Mr. Booth 3rd, with Eccentric Jack. *Pink and Purple Bizarres*—1st, Mr. Simonite, with a Seedling of extra promise, fine in form, substance, petal, and marking, clearly of Eccentric Jack blood, but with more colour; 2nd and 3rd, Mr. T. Mellor, and Mr. Simonite respectively, with James Taylor; 4th, Mr. Rudd, with J. D. Hextall; 5th, Mr. Booth with Falconbridge. *Purple Flakes*—1st, 2nd, and 3rd, Mr. Simonite, with James Douglas; 4th, Mr. Booth, with Juno; 5th, Mr. Chadwick, with Mayor of Nottingham. *Scarlet Flakes*—1st, 2nd, and 3rd, Mr. Booth, with Sportsman, Sportsman, and Clipper; 4th and 5th, Mr. Simonite, with Sportsman. *Rose Flakes*—No. 1, Seedling, B. Simonite; 2, Lady Jane Repton, J. Booth; 3, Seedling, B. Simonite; 4, James Merryweather, Mr. R. Gorton; 5th, Sibyl, Mr. G. Rudd.

Picotées, Single Specimens.—*Red, Heavy-edged*—1, Mrs. Dodwell, Mr. Mellor; 2, J. B. Bryant, Mr. B. Simonite; 3, 4, and 5, Brunette, John Smith and Brunette, Mr. J. Booth. *Red, Light-edged*—1, Seedling, Mr. B. Simonite; 2, John Smith, Mr. R. Gorton; 3, 4, and 5, Lord, Valentia, John Smith, and Lord Valentia, Mr. J. Booth. *Purple, Heavy-edged*—1, 2, 3, and 4, Mr. B. Simonite with Seedling, Zerlina, Mrs. Niven, and Mrs. Summers; 5, Mr. T. Mellor, with Norfolk Beauty. *Purple, Light-edged*—1, 2, and 5, Mr. B. Simonite with Seedling, Prima Donna, and Prima Donna; 3 and 4, J. Booth, with Ann Lord and Minnie. *Rose, Heavy-edged*—1, Fanny Helen, Mr. B. Simonite; 2, Edith Dombrain, Mr. R. Gorton; 3, Edith Dombrain, Mr. T. Mellor; 4, Scarlet Queen, Mr. J. Booth; 5, Flower of the Day, Mr. Beardshaw. *Rose, Light-edged*—1, Fairy Queen (Hartley), Mr. B. Simonite; 2, 3, 4, and 5, Mr. J. Booth, with Miss Wood, Miss Wood, Miss Lee, and Morning Star.

Premier Carnation, selected from the entire exhibition—Admiral Curzon, exhibited by R. Gorton, Esq. *Premier Picotée*, also selected from the entire exhibition—Mary, exhibited by Mr. J. Booth.

ABUTILON ROSÆFLORUM.

THE accompanying figure of this handsome new Abutilon, which has the free-flowering habit and general character of the variety called *Boule de Neige*, gives a better idea of its aspect than any description could do. It is of erect habit, well furnished with ovate-acuminate leaves, deeply cordate at the base, and bears freely its drooping bell-shaped rosy-pink flowers. It has been raised and sent out by Mr. B. S. Williams, of Holloway, to whom we



ABUTILON ROSÆFLORUM.

are indebted for the accompanying figure. Mr. Williams describes it thus:—
“A garden hybrid raised in this establishment, the result of a cross between *A. Darwinii* and *A. Boule de Neige*. It has the dwarf free-branching habit of the first-named parent, and the fine, bold, well-shaped flower of the second; the blossoms are produced in great profusion, and are rosy-pink shaded and veined

with a richer tint of the same colour." The *Gardeners' Chronicle* speaks of it as a "very pretty and distinct variety, with bell-shaped drooping flowers of a pleasing salmon-tinted rose-colour veined with crimson." It will no doubt make a useful decorative plant, as, like its parents, it blossoms freely when of a conveniently small size.—T. MOORE.

VILLA GARDENING FOR SEPTEMBER.

THE *Greenhouse*.—All plants that require to have their wood well ripened before being housed for the autumn and winter should have free exposure to sunshine under a south wall, and must not on any account be allowed to suffer for want of water. The greenhouse is now but sparingly furnished with plants; but Zonal Pelargoniums, tuberous-rooted Begonias, Fuchsias, *Plumbago capensis*, Harrison's new Musk, Cockscombs, Celosias, Balsams, Mimulus, &c., are keeping up a succession of flower. Cinerarias, Chinese Primrose, Cyclamens, and other plants for early blooming within doors, should have the best places in the house, but there should be no coddling or undue haste in pushing them into growth; plenty of light and air will induce a close habit and robustness of constitution. Cleanliness is all-important, and water must be given freely as required. The great point in a greenhouse is to have a succession of plants in flower, and a proper selection of subjects will secure this.

The Flower Garden.—The most absorbing work of the month will be found here. There are, first of all, the flower beds and borders. Decaying flowers and leaves, withering flower-stalks and weeds, that cannot be altogether suppressed in the best-regulated garden, are so many blemish-spots in the general effect, if they are not soon removed. If the beds be gone over twice or thrice a week, the effect of the beds is greatly improved. Tropæolums, Verbenas, *Phlox Drummondii*, and other trailing plants require to be kept pegged to maintain an approved symmetry of appearance. In the mixed border, constant attention is even more needed, clearing away here, tying up there, and planting out in a few places to fill up vacancies. Gladioli are coming into flower, and a little mulching will be of advantage. Tall-growing perennials, Dahlias, *Salvia patens*, Pentstemons, and such-like, need tying up and keeping neat. A few late-sown Asters, and French and African Marigolds, Pentstemons, and Antirrhinums will now be very useful to fill up spaces in the border created by the decay of Lilies, Delphiniums, &c.

This is the time for propagating many things. All Carnations, Picotees, and Cloves not yet layered should have immediate attention. All shoots that are too high up the stem to be layered, if plucked off from the main trunks, and planted out in a shady spot, with some rough sand or fine gravel about them, will be pretty certain to root. We treated a number in this way last autumn, and with great success. Fuchsias should be increased by cuttings in store pots; summer-struck cuttings make excellent specimens for flowering in pots the following July. Pelargoniums can be rapidly increased by cuttings put in sandy soil in the open air; it matters not how exposed the spot may be, if the cuttings are not allowed to shrivel up in the sun. All hardy plants raised from seeds sown in June and July, such as Polyanthus, Stocks, Sweet Williams, Forget-me-nots, Pansies, Violas, &c., are greatly helped by planting them out in store beds to grow into size. The moist and somewhat cool summer has suited Pansies and Violas well; in many places they have been fine, effective, and durable. A few

hardy annuals may be sown now for flowering in early spring; they bloom with unwonted fineness when grown all the winter in good soil. Chrysanthemums in pots for winter blooming—and there is no other plant that comes in so useful at that season of the year—will now require regular attention; the shoots must be tied out, and the plants well watered. Towards the end of the month, when the bloom-buds begin to form, strong manure-water should be given twice a week, to promote the swelling of the buds, and in dry weather the plants may be watered overhead morning and evening.

Cold Frames.—As these would now contain many plants in a state of semi-rest, they must not be allowed to become too dry. Auriculas are now making growth, and should be kept free from green-fly. A few Roman and other Hyacinths, Crocus, and Early Tulips should be put into pots towards the end of the month, for blooming early in the greenhouse. Bulbs of this character do well in good turfy loam, rotten manure, and some silver-sand.

Kitchen Garden.—The Potato crops will now be ready for lifting, excepting the very late varieties, which may remain a little later. In small villa gardens, where garden space is limited, it is usual to plant only a few early varieties, and lift them for eating as they ripen. The potato disease has seriously affected the crops, and perhaps it will be well to get the tubers lifted as quickly as possible. Winter Spinach should be thinned out to six inches from plant to plant; rows of Lettuce may also be thinned out where they are to stand. A little Spring Cabbage should be planted out; and all crops that are exhausted should be cleared away, in order to have the ground dug and manured for other subjects.—D.

GARDEN GOSSIP.

THE use of the *Tree Mallow* (*Lavatera arborea*) for sheltering sea-exposed gardens, young plantations, and other grounds, is strongly recommended by Mr. W. Gorrie, in a paper published in the *Transactions of the Highland and Agricultural Society*. A hedge-like belt of the plant on the side of a garden or plantation exposed to the sea-blast has been found to answer the purpose admirably. When thus employed, it is advisable to sow the mallow-seeds in nursery drills or beds towards the end of June, so that they may not flower next year, and transplant them as soon as they are four to six inches high. For succession, another planting of like-sized mallows should be made in July or August following, to remain green, and so maintain the shelter after those first planted have seeded and been harvested. Afterwards the seeds that will get scattered annually, even with careful harvesting, will suffice to keep up a sufficient succession as long as the sheltering aid of the mallows may be needed.

— As a *Climbing Rose*, *Réve d'Or* has been strongly recommended (for the South of England) for covering the walls of houses. Planted seven years ago, at Westwell Vicarage, it now covers a space 24 ft. high by 12 ft. broad on the east aspect, and has gone round to the north side, covering a space there nearly as large; the stem is 12 inches round, and from within a foot of the ground to its very outmost branches it is covered with bunches of blooms, thousands upon thousands, in all stages of development. It is in colour very like *Madame Falcot*. The description of *Madame Falcot* would apply also to this. There has been no peculiarity of treatment, it has been allowed to run away as it liked, but its most vigorous habit has led every year to the thinning-out of an immense quantity of shoots.

— THE want of knowledge of the fundamental principles of *Floral Decoration* often leads to error. Notwithstanding the number of exhibitions of floral decorations which we have had of late years, the majority of the exhibitors are often very much at fault. They err, by using expensive and elaborate receptacles in which

they place the flowers; by attempting too much with the flowers themselves, the ugliness of the composition being frequently proportioned to the number of subjects which are crowded together; by interposing objects about the level of the eye, for nothing, except perhaps a spray of some delicate grass or other plant, should stand at from 15 to 20 inches from the table; and by using for the larger central ornaments wide dishes, which should never be used except at the base. The true form is the trumpet glass, in which as wide and free an array of flowers may be disposed as in one of the flat plate-like dishes.

— *A Variegated Caragana*, a variety of the dwarf-habited *C. frutex*, L. is noted by Dr. Koch, as a plant that is by no means so extensively employed with us as a standard on lawns as it deserves to be. No prettier sight can be imagined than this dark-leaved shrub presents, when it is laden throughout the whole length of its branches with its golden-yellow blossoms. Linnæus first gave this shrub the name *frutex*, but subsequently wrote, perhaps only from an oversight, *frutescens*, and this latter name has become universal; but if we insist upon priority in nomenclature, without which, indeed, we should lose ourselves in endless confusion, we must adopt the earlier name of *frutex*. Rosenthal has a variety of *C. frutex*, in which the leaves are partially or almost wholly of a golden-yellow; it is named by him *C. frutescens foliis aureo-variegatis*.

— THE following mode of Skeletonizing leaves is given in *Les Mondes*:— Dissolve four ounces of common washing-soda in a quart of boiling water; add two ounces of slacked quicklime, and boil for about fifteen minutes. Allow this solution to cool; afterwards pour off all the clear liquid into a clean saucepan. Heat the solution to the boiling-point, and then carefully place the leaves in the pan, and boil for an hour, boiling water being added occasionally, sufficient to replace that lost by evaporation. The epidermis and parenchyma will more readily separate in some leaves than in others. A good test is to try the leaves after they have been gently simmering (boiling) for about an hour, and if the cellular matter does not easily rub off betwixt the finger and thumb beneath cold water, continue the boiling for a short time. When the fleshy matter is found to be sufficiently softened, rub them separately, but very gently, beneath cold water until the skeleton is exposed. To bleach them, plunge them for 15 minutes in a weak solution of chloride of lime—a large tablespoonful of chloride of lime to a quart of water. After bleaching, dry them in white blotting-paper, beneath a slight pressure. The best months to gather the specimens are July to September, never collecting in damp weather, nor using any but perfectly matured leaves. A soft tooth-brush is a capital instrument for removing the soft tissues, floating them on a piece of wood during the brushing process.

— AMONG *New Heaths*, one called *Erica ornata*, is a remarkably delicate and pleasing variety; it was raised between *E. obbata* and *E. Fairrieana*, and while the plant is quite distinct in aspect from either, the blooms assume the form of those of the last named of the parents, being large, of a tubular form, much inflated at their base, smooth in outline, and of a French white, shading into a soft carmine at the base of the tube, with a greenish band encircling the top of the throat; the habit is robust and good. *E. Shannoni glabra* is another valuable acquisition, being a bold variety, resulting from a cross between *E. obbata* and *E. ampullacea obbata*. The great singularity of this latter consists in the absence of any gummy substance, which covers the flowers of this class of heaths, almost without exception; and yet they preserve a gloss equal to polished ivory. The great advantage of this will be at once apparent to all exhibitors of Heaths, who have had to stage beautiful plants after a journey on a dry and hot summer day, when the flowers themselves, both in size and development, all that can be desired, had become covered with a heterogeneous coat of dust, flies, &c. In this case there, is an entire absence of that adhesive substance which becomes covered in this manner. The blooms of this hybrid are intermediate in size and shape between those of *E. ampullacea* and *E. Shannoni*, of paper-whiteness at first, but with exposure to the sun they assume quite a rosy tint, and are produced in terminal whorls of from six to eight flowers on each.

— AT this season the following plan for the *Destruction of Wasps* may be opportune, the method being said to be simple and safe:—Procure half a pound, or less, of cyanide of potassium; dissolve this in just sufficient boiling water to cover it, and put it into a bottle, securely corked, and label it “Dangerous poison.” When used, saturate a small portion of cotton wool in the poison, and with a stick deposit it at the mouth

of the hole, slightly pushing it inside; the entrance must be nearly stopped with the wool. This done, in half an hour's time the nests may be safely dug out and smashed up. Some nests may require a second dose, but that will be but seldom, if well done at first. The number of queens to be found in a nest in October is surprising; a few of them remain at the bottom of the nests, and others take to buildings or any warm sheltered place, and remain in a state of lethargy until warm spring weather, when they issue from their retreat, and seek to find out a suitable place in which to establish their nest.

— THE *Mignonette*, which is an universal favourite, because of the rich fragrance of its flowers, may be had in bloom in the greenhouse from October until the following April, by sowing in July for the early flowering, and in September for blooming during the winter. The best way is to sow the seed thinly in six-inch pots, and thin-out to a single plant, as *Mignonette* cannot be transplanted successfully. If pyramids are required, the main stem should be trained up, and stopped when about a foot high, which will cause it to produce side-shoots, and form nice bushy plants.

— THE beautiful *Calochortus venustus* and its allies may be grown without difficulty. In a sheltered peat-border, in which *Ixias* thrive, they may be planted in August and September, according to the experience of Mr. S. Hibberd, and left to themselves, for they are as hardy as *Ixias* certainly, and probably some degrees hardier. They can also be cultivated in pots, planting them in sandy peat, or in a rich and light loamy compost, and giving them cool greenhouse or frame culture all the winter. They come into flower at a time when choice plants are scarce, and are at their best in the latter days of August and early days of September. As soon as their leaves begin to die down, they should be repotted, to ensure a good bloom the following season. They make seed freely, and the seed should be sown in boxes as soon as ripe, and treated the same as seeds of the Lily—that is to say, kept in a brick pit, somewhat shaded, and always moist.

— THE *Planting of Railway Embankments* has often been recommended as a source of profit. Mr. Moggridge suggests that it should be adopted as one means of staying the destruction of hedges and other property, by the ignition of the dead wood and dry rubbish, now often suffered to accumulate. His plan is to cultivate the ground, now waste, between the railway and the fence with crops which must vary with the soil and climate. Potatoes, turnips, carrots, onions, and cabbages would succeed on the better soils, while the poorer might be planted with various kinds of herbs, such as lavender, for which there is considerable demand. The railway companies may say, "We have enough to do without becoming gardeners." True, but the people in their employ, and the peasants of the neighbourhood, would gladly pay a small rent for the land, the conditions being that the ground should be kept clean, and that the crops be taken off while green.

— THE *New White Hydrangea*, "*Thomas Hogg*," is a plant that will be certain to make its way as a decorative plant. Messrs. Veitch's specimens have shown that it is not only a good white, but forms a fine free head of blossom. Though hard worked for propagating purposes, it has produced good, massive heads of flowers, which, though opening with a greenish tinge, have become bleached to a milk-white while still fresh. It is a plant suited for general cultivation, and will, no doubt, soon find its way into every garden, where it will form a fitting companion for the fine masses of blue and pink *Hydrangeas* which are already so useful and so conspicuous.

— THE stately Amaryllid, *Crinum ornatum*, has proved itself to be hardy in the open border at Glasnevin. It is very precocious in first producing its floral umbels, but will continue to send up other flower-stems at intervals during the season, so long as favourable weather permits.

— THE negotiation with the Treasury for the purchase of 27 acres of ground to be added to the *Edinburgh Botanic Garden* for the formation of an *arboretum* has at last been brought to a successful issue. By means of the energetic action of the promoters and the harmonious co-operation of the Lord Provost and Town Council and the Treasury, a feature of great interest and economic value will be added

to the attractions of Edinburgh. In fact, Dr. Cleghorn, alluding to the purchase, at the last meeting of the Edinburgh Botanical Society, went so far as to say that "he thought the addition of the Inverleith grounds to the Botanic Garden was the greatest improvement of the city of Edinburgh, in a sanitary and educational point of view, which had taken place during the last thirty years."

— THOSE who duly appreciate the *Tomato*, observes a writer in the *Garden*, will probably fancy they know all needful ways of cooking it; so did the writer, till he recently tasted a *tomato omelette*, which is delicious. It is made by simply incorporating a few good tomatoes (cut in not too small slices) with an ordinary omelette *aux fines herbes*.

— THE *Cyrtanthera magnifica* has been found hardy in the College Botanic Garden, Dublin, where a plant of it has been growing for years, in the open border in front of one of the houses, without the slightest protection. Each year it grows into a well-finished, symmetrical specimen, but fails to perfect its blooms before the autumn chills. The circumstance is suggestive of turning out young plants into the open ground for the summer months, and then lifting and potting for flowering indoors.

— AS a basket plant, the *Convolvulus mauritanicus*, a thickly growing and drooping little greenhouse plant of hardy constitution, producing a great quantity of pretty pale blue flowers throughout the most of the year, may be recommended. By keeping it growing, and removing the oldest shoots, in order to give place to the young ones, it may be classed amongst perpetual-blooming greenhouse plants. Good specimens of it are of themselves sufficient to furnish a basket. This *Convolvulus* is readily propagated by division, and grows well in a window, blooming most freely in a sunny position.

— AT the summer show of the Royal Horticultural Society of Ireland, the prize for *New Roses sent out since 1873*, twenty-four blooms, two of each variety, was won by Messrs. Saunders and Son, who exhibited the following sorts:—Miss Hassard, La Rosière, Rev. J. B. Camm, Thomas Mills, Queen of Waltham, Triomphe de France, Gonsoli Gaelano, Comtesse de Serenye, Madame Prosper Langier, Peach Blossom, St. George, and Mdlle. Marie Cointet.

— THE following is vouched for as a good plan *to stop the bleeding of a Vine*, by "C. R. L.," a correspondent of the *Field* newspaper:—Apply hot grease to the bleeding part (having first wiped the sap off), and when it has cooled, which it does almost directly, apply weak glue, in a cool state, over the greased part. He is anxious to have this remedy of his made known, having tried it with the greatest success; indeed, the vines may be operated on at any season of the year, and the application will at once stop the bleeding.

— THE *Use of Iron* for general purposes, as well as for strictly horticultural uses, is very large. Rust is an oxide of iron, which, as every one knows to his cost, is peculiarly destructive in damp situations. But rust is not the only oxide of iron; among them is the black or magnetic oxide of iron, which is all but imperishable under ordinary agencies. According to Professor Barff, if any iron article be exposed to the action of superheated steam at a very high temperature, it will become coated with a film of this magnetic oxide, which is harder and more resisting than the original iron. Articles so treated resist any exposure to the weather, and are rendered imperishable, for all practical purposes.

— IN order to *Render Wood Uninflammable*, the following plan has been recommended by M. F. Sieburger. He first washed the wood twice with a hot and saturated solution of three parts alum and one part of sulphate of iron, and next with a more dilute solution of sulphate of iron, to which sufficient pipe-clay was added to render it as thick as oil-paint.



W. H. Fitch del.
1. *Odontoglossum triumphans*. 2. var. *labello-album*.

ODONTOGLOSSUM TRIUMPHANS.

WITH AN ILLUSTRATION.

ONE of the finest of the many species of *Odontoglossum* introduced of late years to our gardens from Ocana, in New Grenada, and which was at one time confounded with *O. Hallii*. It is of epiphytal habit, furnished with elongate flattened pseudobulbs, bearing a pair of slightly-keeled lanceolate-ligulate leaves, which narrow gradually to an elongated point; it produces pendent racemes of showy flowers, which are large, of a brilliant yellow, and richly blotched with chestnut brown over the greater portion of the sepals and petals, the top only of which is clear yellow. Our plate represents, at fig. 1, a form or variety in which the lip is yellow at the base, and blotched near the tip with a large chestnut-coloured spot. The fig. 2 represents the variety *labello-album*, a white-lipped form which also has an intense apical blotch. This was flowering finely in the collection of Mr. Bull, of Chelsea, during the past summer, when the accompanying sketch was made by Mr. Fitch. Reichenbach describes it as a splendid thing, the pure golden yellow of its flowers being relieved by the dark cinnamon-brown blotches; and he also notices the yellow-lipped and white-lipped forms. The plant is allied to *O. Hallii*, but differs in its oblong-ligulate acute, not acuminate sepals and petals, in the panduriform acute or emarginate, not acuminate lip, and in certain differences in the crests developed at the base of the latter organ. As our figure shows, it is a most desirable and ornamental species for general cultivation, and one of those requiring what is called cool treatment, as explained at p. 152.—T. MOORE.

NOTES ON TULIPS.

WITH BRIEF DESCRIPTIVE LIST OF THE BEST VARIETIES.

IN my former paper (p. 193), I used certain terms, such as “rectified,” “breaks,” “strains,” &c., which are well understood by all Tulip-growers, but as they are not so well known by the general public, a few words of explanation here will not be out of place.

When a Tulip blooms for the first time from seed, it almost invariably blooms in the “Breeder” state, *i.e.*, the flower is a self-coloured one, with a white or a yellow base. Bizarres have a yellow base, and the body of the flower varies from light brown to heavy chocolate in colour. Bybløemens have a white ground, and the body-colour is of various shades of purple, from pale lavender to very dark blackish-purple; and Roses have also a white ground, but the body-colour is of various shades of red, from a pale rosy tint to the deepest red. A bed of Breeder Tulips is a most interesting sight, for although there may be in it hundreds of varieties, yet no two are alike, and they can be well distinguished by the initiated. The qualities necessary to make a fine “Breeder” flower are form, and purity of the base and stamens; the colour of the flower is of no consequence, all shades, light, medium, or dark, being equally esteemed.

When a Breeder flower "rectifies" or "breaks," a great change is made; the solid self-colour of the Breeder entirely disappears, and the flower, in the case of Bizarres, takes on a yellow ground, with markings of various shades of brown up to black. In Byblœmens the ground is white, with purple markings, varying in colour from rosy-purple to black. In Roses the ground is also white, with markings of all shades of red. There is no law by which any one can venture to predict from the colour of the breeder flower what the colour of the rectified or broken one will be. A breeder flower of a light colour will often give dark-coloured markings in the rectified state, while another much darker in colour as a breeder will give markings of a lighter colour.

These markings are divided into two classes, "feathered" and "flamed." In a feathered flower the marking is confined to *the edge of each petal*, the rest of the petal being ground-colour. In a flamed flower the edge of the petal is feathered, and besides this a *beam runs down the centre*; this beam should be broadest at the base and taper gradually in form until it is lost in the feathering on the top of the petal; from the beam, lines of colour are thrown out, uniting the beam with the feathered edge. A good idea of the marking of a flamed flower may be gained, as Mr. Slater once put it, by the appearance of a well-grown symmetrical beech-tree in winter, when the foliage has all fallen off.

When the flowers "break" from the Breeder, a large proportion of them are neither properly feathered nor flamed. Some of these improve afterwards, but as a rule, if a break of this kind shows no improvement after three or four years' growing, it will be wise to discard it. On the other hand, many break almost perfect, and a few quite perfect—feathered or flamed, as the case may be; these are carefully cherished and further tested, and if they keep constant to their character for years, they are much esteemed. Each break of this character, which is kept growing on, is termed a "strain," and as its character is established, it becomes well known, so that Smith's fine strain of "Sir Joseph Paxton," Brown's "Lord Byron," Robinson's "Masterpiece," &c., are much coveted and sought after by tulip-growers.

In addition to the list given at p. 194, the following varieties, of which the stock is limited, may, when opportunity permits, be safely added to the most select collection:—

BIZARRES.

ARIOSTO (Groom), sold out more than twenty years ago, but still scarce; good both feathered and flamed; fourth row.

EXCELSIOR (Hardy), flamed, in the style of that fine old variety, Sauzio, or Captain White, but quite pure; it is unequalled as a breeder.

LORD DELAMERE (Hardy), flamed and feathered; a flower of the highest class, and most refined in its flamed markings.

LORD WARDEN (Walker), broken this year from the breeder, finely flamed; it is also a first-class breeder.

MR. WARDLE (Walker), broken this year, finely feathered, by Mr. Horner.

PRESIDENT (Hepworth), a grand flamed flower; third row.

RICHARD RADCLIFFE and JOHN MORRIS, feathered, both very fine.

RICHARD YATES (Lea), fine both in the feathered and in the flamed states; rather small in size; first row.

TINY TIM (Horner), feathered, a fine rich brown, on a bright deep yellow ground.

WILLIAM LEA (Storer), flamed, a rich dark-coloured flower; markings almost black, on a fine yellow ground.

WILLIAM WILSON and DR. DALTON (Hardy), good useful flowers, both in the feathered, flamed, and breeder states.

BYBLØEMENS.

DAVID JACKSON (Jackson), a noble fourth-row flower; has bloomed finely in both feathered and flamed states.

FRIAR TUCK (Slater), fine both as a feathered and as a flamed flower; won the premier prize for the best feathered flower in the room, at the National Exhibition four years ago.

JOHN PEACOCK (Slater), a very fine flamed flower.

MARTIN'S 101, feathered; a very useful flower; base rather narrow, and colour rosy-bybløemen, but so pure and so correct in its feathered marking, that it is a great favourite.

The following are also flowers of the very highest promise:—

Feathered—NULLI SECUNDI and MAY QUEEN (Hepworth), JEMIMA FORMAN (Forman), WILLIAM TELL (Headly), SARAH ALLEN, NORAH DARLING (Lea).

MRS. COOPER; a very fine feathered pan-flower—when in good character not surpassed by anything; this is the variety shown by the writer as Rutley's Queen for many years; it is a seedling, raised by the late James Boardman, of Blackley, and was sold by him as Boardman's No. 1.

NIMBUS (Hardy) grand feathered and flamed; evidently from the same pod of seed as Talisman, and quite equal to that fine variety.

WILLIAM BENTLEY (Groom), a beautiful feathered flower.

Feathered and Flamed—MRS. SHARPE, AGNES, MRS. ROTHWELL.

Flamed—ATTRACTION (Walker), DAUNTLESS, and CHARLEMAGNE (Hepworth).

ROSES.

LADY GROSVENOR (Slater), feathered and flamed, very good; this variety is also one of our finest rose-breeders.

LADY WILTON (Martin), a fine feathered rose, in the style of Heroine, but shorter in the cup and quite distinct.

MRS. BARLOW (Hepworth), very fine flamed rose, and in the breeder state quite indispensable.

NANCY GIBSON (Hepworth), a lovely feathered flower of very high quality.

STAPLEFORD VISIT (Headly), feathered; the pencilling of the feather of the most refined character, and the colour a light brilliant scarlet, brighter than that of Kate Connor.

WHITTAKER'S SEEDLING (Whittaker), one of the finest feathered roses ever raised; won the premier prize for the best feathered flower in the room, at the National Show a few years ago.

The following varieties show the highest promise:—

Feathered: JOHN WATERSTON and LITTLE ANNIE.

Flamed: MISS LIZZIE.

BREEDERS.

Bizarres: SIR JOSEPH PAXTON, HARDY'S EXCELSIOR, HEADLY'S HORATIO; STORER'S DR. HARDY, ORION, No. 12, and WILLIAM LEA; WALKER'S LORD WARDEN, GROOM'S ARIOSTO, and LEA'S RICHARD YATES.

Bybløemens: ASHMOLE'S GLORY OF STAKEHILL and No. 112; WALKER'S ALICE GREY,

HARDY'S TALISMAN, and JACKSON'S DAVID JACKSON.

Roses: HEPWORTH'S LADY MAY and MRS. BARLOW; MARTIN'S ANNIE MACGREGOR, SLATER'S LADY GROSVENOR, and QUEEN OF ENGLAND.

There are also, as the records of our exhibitions show, a large number of seedlings coming to the fore. These mostly are shown in the breeder classes, and on reference to the reports of the National Exhibition for the last few years, it will be found that in these classes seedlings were frequently winners. Indeed the increased attention paid to the raising of seedlings is one of the most hopeful signs of vitality in the Tulip-growing fraternity.—SAMUEL BARLOW, *Stakehill House, Chadderton, near Manchester.*

— AT page 191, we recorded some singular facts regarding the tardy increase of TULIPS. Another circumstance relating to these gay flowers has been related by Mr. Parker, of Tooting, which is also remarkable, namely, that a variety raised more than twenty years ago, called *Goldham's Mary*, always produces an offset in the axil of the first leaf, and reproduces itself in no other manner.

HUMEA ELEGANS.

A MOST graceful and elegant biennial is the *Humea elegans*, not so much grown as it deserves to be. It is, moreover, of very easy culture. The seed should be sown in May, and put into a gentle hot-bed. The seed should be very lightly covered, and if a piece of glass be put over the pot, it will keep the soil moist, without too much watering, until the seeds germinate. As soon as the plants are sufficiently large to handle, they should be potted off into small pots, and put back into a gentle heat. When the plants begin to fill the pots with roots, they should be shifted into 48-sized pots, using a compost of loam, peat, and sand. The plants when potted should again be put back into a gentle heat. With attention they will now begin to grow rapidly, and will soon require another shift, when a little rotten dung should be mixed with the compost, and less peat used. The plants, when shifted, may now be placed in a light, airy part of the greenhouse near the glass, and should be well attended to in regard to watering, being also occasionally syringed in the afternoon.

About the first or second week in August the plants should have their final shift for the season. If they have done well, they should now have 8-inch pots, and more rotten dung and less peat should be mixed with the compost. Towards the middle of October the plants should (if properly handled) be from 18 in. to 24 in. high, and every leaf should be perfect. During the autumn and winter months they should occupy a warm and light part of the greenhouse. They may, of course, be wintered anywhere, if frost be kept out, but they will do best in a light and warm part of the greenhouse, as recommended above. During the autumn and winter months no more water should be given than is absolutely necessary to keep them from suffering for want of it. Towards the end of February they should be put into 10-in. or 12-in. pots, using a compost of half-loam and half-dung, with a little sand. As the days lengthen and heat increases, the plants will begin to grow freely. When first shifted, they will not require much water until they begin to fill the pots with fresh roots, when water should be liberally supplied to them. Towards the end of May they will be beautiful objects, and may be plunged in the most suitable places in the flower-garden. They should not be planted in very exposed places, though they will stand a fair share of wind, and being securely tied to neat stakes, they will be very ornamental till the end of the summer season.—M. SAUL, *Stourton*.

BEGONIA KALLISTA.

THE advent of the race of tuberous-rooted Begonias bred between *B. boliviensis* and *B. Veitchii*, and of which *B. Sedeni*, figured in our volume for 1869, may be regarded as the commencement, introduces a new feature amongst our floral decorative subjects. These Begonias, if only supplied during summer with rich moist earth, and a fairly sheltered situation, blossom profusely in the flower-garden, and are much less injured or affected by heavy rains



BEGONIA KALLISTA.

than such subjects as Pelargoniums and Calceolarias. Some of the fine high-coloured varieties which have been obtained have a brilliant effect; and we have lately seen some effective beds in Mr. Wilson's garden at Weybridge, filled with the ordinary produce of seeds of *B. Sedeni*, which were exceedingly ornamental, the flowers being most abundant and of different shades of colour, varying from

lake-crimson and carmine-crimson to tints of rose and salmon-red. Their treatment is very simple; the tubers are taken up in autumn, and preserved in dry earth through the winter; they are increased, if need be, from cuttings of the young shoots in spring, and planted out at the usual time and in the usual manner for filling the summer beds.

B. kallista, of which we give an illustration, is one of Messrs. Veitch's hybrids, which they describe as having the foliage more uniform than in most other hybrids. "The leaves are very oblique, deeply serrate, acuminate, and dark green in colour. The flowers are medium-sized, of a rich deep vermilion-scarlet. The variety is very floriferous, and is an improvement on the well-known *B. Stella*." Several very beautiful forms have been produced during the present year, of one or more of which we hope to publish coloured illustrations hereafter.—T. MOORE.

CULTURE OF GARDENIAS FOR CUT FLOWERS.

GARDENERS in numerous places find, at the present day, a much greater demand made upon them for Gardenia flowers than is easily satisfied, under the old system of management, or the treatment usually given to the plant in question. Now-a-days it is useless, not to say degrading, for a gardener to tell his employer he cannot do this or that, or that the thing required cannot be had at a particular time of year, because those ladies or gentlemen who are accustomed to spend some considerable portion of time annually in London, see that which their gardener may think fit to call impossible, heaped up in prodigious quantities in the shop windows or on the stalls in Covent-Garden Market. If the remark is made to the person in charge of the shop or stall—"Foreign-grown, of course?" "Oh no," is the reply, "the London market-growers bring us an ample supply every morning." After hearing that, a gentleman will come to have a very much reduced opinion of his gardener, if the said gardener often deals in 'impossibilities.'

Now, Gardenias are, perhaps, taken in a general way, about the worst managed plants to be found about a gentleman's establishment, simply because they are grown in pots, either in dry hot pits, or under the shade of other plants, under neither of which conditions will they thrive to any really enjoyable satisfaction. Gardenias may be had in considerable abundance the whole year round, by simply planting them out in a close, damp pit, where they can be afforded abundance of light, for the Gardenia is a sun-loving plant. It also requires a good bottom-heat, but not too much top-heat, or at least top-heat derived from pipes, for then the atmosphere is apt to get too dry. The soil required is a good fibrous peat, to which plenty of river-sand should be added. Before placing the compost, put a foot or so of drainage over the pipes, as Gardenias require an enormous quantity of water, both at the root and from the syringe overhead, which latter should be applied vigorously, in order to keep them free of insects, to which they are extremely liable. A constant temperature, winter and summer, of not less than 65° should be maintained. When the compost gets full of roots,

the bed should be top-dressed weekly with horse-droppings, and also be occasionally watered with guano and soot-water. Attention to the above points will secure to the grower the reward of almost any quantity of Gardenia flowers.—WM. DENNING, *Coombe Lane, Kingston.*

DENDROBIUM DENSIFLORUM VAR. STEWARTII.

ONE of the most remarkable flowered examples of *Dendrobium densiflorum* that has ever come under my notice is, for the third time this season, in flower at Ardgowan, the seat of Sir Michael Shaw Stewart, near Greenock. It is now bearing fifteen of its gorgeous pendulous racemes of bloom. This is, too, after it was in inflorescence in March and in June, bearing at each of these seasons respectively thirty-seven and twenty-five spikes. In all, therefore, the plant has produced the extraordinary number of seventy-seven spikes in the course of a single season, and extraordinarily fine racemes they have been and now are, bearing evidence of high cultivation.

The variety bears a marked resemblance to *D. Griffithianum* in length of spike and in size and substance of bloom, but no one of that form is so productive of bloom, and none so close in the raceme. It is, therefore, in my opinion, worthy of varietal distinction, and to no one could it be better dedicated than to Sir Michael himself, who takes so great an interest in his garden. That the plant bearing such a number of flowers is in a first-rate state of cultivation need scarcely be doubted; indeed all the plants under Mr. Lunt's charge are excellently cultivated, this one in particular showing a strength of pseudobulb, and a breadth and substance of leafage, which are quite charming to the tutored eye. It is grown in peat and sphagnum, upon the medium-shift principle.—JAMES ANDERSON, *Meadowbank.*

MELON CULTURE.

HAVING devoted some years to the cultivation of the Melon, I will with your permission give a short outline of the system which I have found most successful. An old practitioner once remarked to me that all Melons were good if properly grown, but my experience justifies me in saying that some varieties are much better than others, even under the best management, an assertion in which the judges of Little Heath, at Bath, will bear me out. They will also agree with me in saying, that the cultivation of Melons is attended with more uncertainty than that of any other exotic fruit.

The conditions essential to success are light span-roofed pits, well ventilated, and efficiently heated; good soil and care; full attention to details, with full command over heat and moisture; and a judicious selection of kinds for the structure in which they are to be grown.

For early and late forcing, the pits should face the south, with sufficient piping to maintain a temperature of 85° by day, and a bottom-heat of 90° in January. The ventilators in the front wall should be low enough to allow a circulation of dry warm air over the surface of the plunging material, thence

upwards to the apex, as a preventive of canker; for although Melons will grow in a swamp, stagnant moisture is often injurious through the last stages of growth.

For the last twenty years I have grown all my green-fleshed house Melons in 15-inch pots, plunged two-thirds of their depth in fermenting oak-leaves. The pits are divided into sections sufficiently long to hold twelve green in a double row in the bed, and six scarlet on the back slate-shelf, which has a pipe running under it, as I find scarlets succeed better than greens on kerbs and shelves. A path runs near the back wall, and the bed takes two rows of plants with a hot-water pipe running under each row—an arrangement which enables me to give a strong dry bottom-heat when the fruit is setting and ripening.

The soil I use is a strong calcareous loam, from an old pasture which grows fine oaks. For winter use, it is taken off in September, and stacked in an open airy shed; but for summer, I prefer keeping it in the open air. When it is chopped down for use, a dash of bone-dust, with a liberal supply of old mortar, if at hand, is added; but animal manure is always avoided until after the fruit is set, and then it is used in the liquid form.

Assuming that the earliest plants, raised singly in 3-inch pots, are ready for removal from the nursing-pit by the end of January, that the fermenting materials have been sweetened by frequent turnings, and that glass, paint, and walls have been thoroughly cleansed, clean, well-crooked pots are placed nearly close together over the bottom-heat pipes, the compost in a dry state is thrown in quite loose to get warmed through, the fermenting leaves are then introduced, and the pit is ready for the reception of the plants, which should neither be drawn nor pot-bound. An interval of a day or two is allowed for the soil to become warm, when it is firmly rammed; a stout conducting-stick is placed in each pot, and the plants are transferred to their fruiting quarters.

From this time forward, a steady night temperature of 70° , with a rise of 5° to 15° by day, and a bottom-heat of 90° is maintained. The plants are never shaded. Air is given on all favourable occasions when the temperature approaches 80° , and the house is closed with plenty of moisture. As growth proceeds, all male blossoms are removed, and by the time the plants have filled two-thirds of the trellis, side-shoots will be showing plenty of fruit. The points of the leaders are then pinched for the first time, strong bottom-heat is turned on, syringing is discontinued, and all female blossoms are impregnated daily. When from two to four fruits on each plant have attained the size of walnuts, the laterals are stopped and thinned-out, to prevent overcrowding. Light boards are placed under the fruit for support, and feeding with liquid manure is commenced and carried on until the Melons have attained their full size, when it is gradually reduced. More air is given and syringing is discontinued as the fruit shows signs of ripening.

By the time the last fruit is cut, a second set of plants should be established in 6-inch pots for taking the places of the first, always adopting the precaution to cleanse the pit before they are introduced.

Melons grown upon this principle, if copiously syringed and fed, seldom suffer

from insects. If spider appears, sulphur is the best remedy; green or black-fly may be kept down by fumigation, and quick-lime applied to the parts affected soon stops canker.

Having touched upon the principal points of culture, I will conclude with a few remarks on the varieties best adapted for giving a good supply of superior fruit. If two or three small compartments can be kept going for succession, one or two kinds which ripen nearly together will be sufficient, but where one house only is used, then early and late kinds should be planted, to prolong the season. *Gilbert's Victory of Bath*, *Eastnor Castle*, and *Cox's Golden Gem* succeed each other in the order of ripening. *Read's Scarlet* and *Turner's Scarlet Gem* have not yet been surpassed in their class. *Coulston Basset*, the old *Egyptian*, *A. F. Barron*, and *Beechwood* are sterling late kinds, and well adapted for crossing for new varieties.—W. COLEMAN, *Eastnor Castle Gardens*.

THE NATIONAL CARNATION AND PICOTEE SOCIETY'S NORTHERN SHOW.

THIS fourth and final exhibition for the present season took place at the Drill Hall, Peel Park, Bradford, on August 22nd and 23rd, and proved a worthy finale to a very interesting series of shows. Late, however, as was the date, it was too early, in this most unpropitious of all unpropitious seasons, for many of the growers of the hill districts of the North, and entirely so for the cultivators of Newcastle and its neighbourhood, who failed to produce even a solitary specimen. Of the collections from which contributions were received, many had suffered grievously from the untoward weather preceding the day of the show, and thus the show itself was shorn of the proportions which had been expected; but though of less extent than the generality of displays of the Carnation and Picotee in the North, the quality of the specimens produced more than compensated for this comparative paucity of number. Mr. Simonite, indeed, the popular and affectionate "Ben" of his fellows and familiars, fairly surpassed himself, and never did the writer see a finer collection of twelve Carnations than that produced by him, and which so worthily obtained the first place. Ten of the twelve blooms were simply perfect, specimens alike of good growth and artistic management, never to be forgotten by eyes permitted to feast upon their beauties; whilst Mr. Lord, Mr. Rudd, Mr. Bower, and some other contributors showed well, following closely upon his heels.

In Carnations, Mr. Simonite's *Samuel Cooper*, S.B., a new variety in the way of *Admiral Curzon*, but, as seen, even superior to that glorious old variety, was by unanimous acclaim selected as the premier bloom of the whole exhibition; whilst in Picotees, a similar honour went to Mr. Lord for a fine specimen of his *Zerlina*, purple edge, a lovely flower of the highest properties and of exquisite purity.

First-class certificates were awarded to Mr. Lord, of Todmorden, for his rose-edged Picotee, *Miss Horner*, a variety in the style of *Edith Dombrain*, but with a

brighter marginal colour, and a white ground, which is "purity personified;" and to Mr. Simonite for his light-edged purple Picotee, Rosalind, of which it may be sufficient to say it sustains and advances the repute the raiser has attained for excellence in this class. Of varieties now generally distributed there were fine examples in Carnations of Admiral Curzon, Lord Napier, Mars, Mercury, and True Briton, S.B.'s; Eccentric Jack, John Simonite, Lord Raglan, Lord Milton, and Marshal Ney, C.B.'s; Falconbridge, James Taylor, and Sarah Payne, P. P.B.'s; Dr. Foster, James Douglas, Juno, and Squire Meynell, P.F.'s; Clipper, John Bayley, James Cheetham, and Sportsman, S.F.'s; Cleopatra, John Keet, Rose of Stapleford, and Sibyl, R.F.'s; and in Picotees, red-edged, Clara, John Smith, Miss Small, Mrs. Bower, Mrs. Dodwell, Master Norman, and Wm. Summers; purple-edged, Alliance, Ann Lord, Alice, Chanticleer, Mary, Minnie, Mrs. Douglas, and Zerlina; and rose-edged, Ethel, Fairy Queen, Mrs. Allcroft, Mrs. Lord, and Miss Wood. Annexed is the award of the judges in the several classes:—

Class A. 12 CARNATIONS (dissimilar).—1st, Mr. B. Simonite, Rough Bank, Sheffield, with John Simonite, James Douglas, Samuel Cooper, (Simonite), S.B.; Sportsman, Cleopatra, (Hartley), R.F.; Curzon Seedling R.F., James Taylor, Mercury, Clipper; Seedling C.B., and James Cheetham. 2nd, Mr. George Rudd, Undercliff, Bradford, with Mercury, Juno, Garibaldi, Mary Ann, Mayor of Nottingham, Lord Milton, James Carter, R.F. (Adams), Sarah Payne, True Briton, John Bayley, Marshal Ney, and Admiral Curzon. 3rd, Mr. Samuel Hartley, Headingly Nursery, near Leeds, with Falconbridge, John Keet, Lord Milton, Lord Derby, P.F.; Mars, Elizabeth, S.F.; Cleopatra, Admiral Curzon, Rose of Stapleford, James Taylor, Mr. Battersby, and Squire Meynell.

Class B. 12 PICOTEES (dissimilar).—1st, Mr. B. Simonite, with Mrs. Dodwell, Mrs. Slack, P.P. (Simonite); Seedling Lt.P., Edith Dombain, Rosalind; Lt.Purple (Simonite), John Smith; Seedling H.S., Mary, Mrs. Niven; Seedling Heavy Scarlet, Zerlina, and Seedling Heavy Scarlet. 2nd, Mr. Rudd, with Alliance, Miss Wood, Ann Lord, Robert Scott, Rev. F. D. Horner, Mrs. Niven, Thomas Fleming; Lt.Rose, Miss Lee; Medium Red-edged, Unknown, John Harrison, Mary, and J. B. Bryant. 3rd, Mr. Samuel Hartley, with Master Norman, broad heavy-edged red; Bertha, Mrs. Gibbons, John Harrison, Mrs. Hanaford, Mrs. Keynes, Fairy Queen, Norfolk Beauty, Brunette, Princess Alice, Mrs. Little, and John Smith.

Class C. 12 CARNATIONS (9 dissimilar).—1st, Mr. John Fletcher, North Brierley, near Bradford, with John Keet, James Douglas, Clipper, Juno, Falconbridge, Admiral Curzon, Squire Meynell, James Carter, James Merryweather, Lord Milton, Sarah Payne, and Lord Napier. 2nd, Mr. Samuel Hartley, with Lord Milton, Squire Meynell, Mars, Cristagalli, Eccentric Jack, Elizabeth, S.F.; Mary Ann, Lord Napier, Admiral Curzon, John Keet, Mars, and Clipper.

Class D. 12 PICOTEES (9 dissimilar).—1st, Mr. Robert Lord, Todmorden, with John Smith, Ann Lord, Zerlina, Ann Lord, Mrs. Lord, Rev. F. D. Horner, Miss Horner, Miss Horner, Alice, Miss Horner, and Miss Small. 2nd, Mr. John Fletcher, with Alliance, Mrs. Love, rose-edged; John Harrison, Miss Wood, Beauty of Plumstead, John Harrison, Miss Wood, Alliance, Leonora, Clara (Bower), light-edged red; Miss Wood, and J. B. Bryant. 3rd, Mr. Samuel Hartley, with Mrs. Gibbons, Fairy Queen, Master Norman, Bertha, William Summers, Mrs. Allcroft, Fanny Helen, Mrs. Gibbons, Mrs. Bower, Robin Hood, Alliance, and Master Norman.

Class E. 6 CARNATIONS (dissimilar).—1st, Mr. Thomas Bower, Little Horton Green, near Bradford, with Sibyl, Lord Raglan, Eccentric Jack, Clipper, Admiral Curzon, and Squire Meynell. 2nd, F. Bateman, Esq., Park House, Low Moor, Bradford, with Mayor of Nottingham, John Keet, James Taylor, Admiral Curzon, and Juno.

Class F. 6 PICOTEES (dissimilar).—1st, Mr. Thomas Bower, with Chanticleer, Minnie, Ethel, Alice, Zerlina, and Mrs. Dodwell. 2nd, F. Bateman, Esq., with John Harrison, Mrs. Dodwell, Mary, Mrs. Allcroft, Mrs. Forester, and Beauty of Plumstead.

SINGLE SPECIMENS.—CARNATIONS.—*Scarlet Bizarres*—1st, Admiral Curzon, Mr. B. Simonite; 2nd, Admiral Curzon, Mr. G. Rudd; 3rd, Admiral Curzon, Mr. B. Simonite; 4th and 5th, True Briton, Mr. R. Lord. *Crimson Bizarres*—1st and 2nd, John Simonite

Mr. B. Simonite; 3rd, Seedling, Mr. B. Simonite; 4th, Lord Milton, Mr. S. Hartley; 5th, Lord Milton, Mr. John Fletcher. *Pink and Purple Bizarres*—1st, James Taylor, Mr. B. Simonite; 2nd, Seedling, Mr. B. Simonite; 3rd, James Taylor, Mr. B. Simonite; 4th, James Taylor, Mr. George Rudd; 5th, Falconbridge, Mr. George Rudd. *Purple Flakes*—1st, Dr. Foster, Mr. R. Lord; 2nd, James Douglas, Mr. S. Simonite; 3rd and 4th, Squire Meynell, Mr. G. Rudd; 5th, Lady Peel, Mr. B. Simonite. *Scarlet Flakes*—1st, Sportsman, Mr. B. Simonite; 2nd, Clipper, Mr. Robert Lord; 3rd, Seedling, Mr. B. Simonite; 4th, Clipper, Mr. Thomas Bower; 5th, Sportsman, Mr. B. Simonite. *Rose Flakes*—1st, Seedling, Mr. B. Simonite; 2nd and 3rd, John Keet, Mr. Robert Lord; 4th, Seedling, Mr. B. Simonite; 5th, John Keet, Mr. R. Lord.

PICOTEES.—*Red, heavy-edged*—1st and 2nd, Master Norman, Mr. S. Hartley; 3rd, Mrs. Dodwell, Mr. B. Simonite; 4th and 5th, J. B. Bryant, Mr. B. Simonite. *Red, light-edged*—1st, Miss Sharp (Simonite), Mr. B. Simonite; 2nd, Wm. Summers, Mr. John Fletcher; 3rd, Wm. Summers, Mr. George Rudd. *Purple, heavy-edged*—1st, Mrs. Slack, Mr. B. Simonite; 2nd, Alliance, Mr. B. Simonite; 3rd, Mrs. Slack, Mr. B. Simonite; 4th, Mrs. Niven, Mr. B. Simonite; 5th, Mrs. Douglas, Mr. B. Simonite. *Purple, light-edged*—1st, Rosalind, Mr. B. Simonite; 2nd and 3rd, Ann Lord, Mr. R. Lord; 4th, Seedling, Mr. B. Simonite; 5th, Seedling No. 28, Mr. R. Lord. *Rose, heavy-edged*—1st, Miss Horner, Mr. R. Lord; 2nd, Seedling, Mr. B. Simonite; 3rd, Miss Horner, Mr. R. Lord; 4th, Flower of the Day, Mr. John Fletcher; 5th, Juliana, Mr. S. Hartley. *Rose, light-edged*—1st, Mrs. Allcroft, Mr. R. Lord; 2nd, Ethel, Mr. B. Simonite; 3rd, Fairy Queen, Mr. S. Hartley; 4th, Miss Wood, Mr. Jno. Fletcher; 5th, Miss Wood, Mr. G. Rudd.

—E. S. DODWELL.

THE CULTURE OF WALL FRUITS.

CHAPTER XI.—THE PEACH AND NECTARINE (*continued*).

REFERRING again to the question of protection, there can be no doubt but that a covering of glass is the best medium to interpose between trees on walls, and the sudden changes in atmospherical conditions incidental to our springs. It may be most expensive at the first, but former experience convinces me that it is most economical in the long-run, and that under it more fruit may be produced within a given space than on double or even treble the space without such protection. I have proved that Peach blossoms in a thoroughly dry state will submit to several more degrees of frost without injury than when they are exposed to storms of rain in the spring, so often followed by severe frosty mornings. Now this dry condition is a very essential one in the setting of the fruit, and it is one of the best recommendations of a glass covering that it ensures this condition of dryness.

The ways and means of applying these coverings are so various, that it would be invidious in me to recommend any one system more than another. I will therefore content myself with mentioning a few of the conditions which are indispensable for facility of working, and necessary for the attainment of the desired end in the production of fruit, this, after all, being the pivot upon which every other operation turns.

In the first place, the structure should be a portable one, that is, easily put up and easily taken down. It is not desirable to give to trees on walls the same treatment as would be given to trees in an orchard-house, and therefore provision must be made for such facility in giving air as shall, when occasion requires, be equivalent to free exposure. In upright erections this may be attained by sliding lights one over the other, so as to leave every alternate

space open, which would allow of a thorough circulation of air from end to end. In lean-to or sloping erections it is a good plan to connect every two lights together with strong, shifting hinges, so that each alternate light may be turned back upon its neighbour, which should be done at all times in mild weather, but most particularly in very bright sunlight, because then the bees are generally at work, and should have free access to the bloom for fertilising purposes.

It is not absolutely necessary, as some might suppose, that the lights should reach to the ground. On the contrary, I consider it desirable that they should not do so by about a foot or even more, at which height they may rest upon a rail fastened to stumps or posts, driven in at a distance of three feet from the wall. If, however, the system of upright sliding lights should be considered desirable, they would require to have solid ground under the base on which they slide, and therefore a space of a foot should be left open at the bottom of each light, which can easily be done by a cross-bar. In addition to this permanent opening at the bottom, it is advisable, except under circumstances of severe frost or cutting winds, to leave air on all night. I have no faith in any kind of protection which excludes air; and if air in motion can be secured, so much the better. The object is not to coddle-up the trees, and render them tender, or to force them forward by a close and stagnant atmosphere, but to assist the setting process by the maintenance of a dry atmosphere, and afterwards to preserve the embryo fruit from injurious extremes of temperature, as long as such protection is necessary, but not a day longer—unless, indeed, it is considered desirable to forward a portion of the crop, so as to lengthen the season, in which case the requisite number of lights must be left on, and less air be given.

Another and less expensive method of using glass as a protector is by means of copings. Even in so very exceptional a season as that of 1877, we have secured nearly half a crop on a few peach trees, which have a covering of glass 2 ft. wide fixed on brackets under the coping of the wall, and projecting about 20 inches. Along the front of this was suspended thick woollen netting, reaching to within 2 ft. of the ground. It will thus be seen that abundance of air could reach them night and day, while the netting intercepted driving rains, so that the trees were kept dry. I was pleased, moreover, to find that there was scarcely a curled or blistered leaf on them, whereas many others not so protected were in some cases nearly killed, and in most instances so covered with thick-fleshed abortions of leaves that scarcely a perfect leaf could be found.

Now a perfectly healthy development of foliage is an absolute necessity for the production of fine fruit, and it appears to me that in our uncertain climate this can only in most seasons be ensured by the application of glass in some shape or other. For those who cannot enter upon the more expensive methods of application, these glass copings are to be recommended, and being permanently fixed they are no trouble. It will also be found that the fruit on the top of the trees under the glass will be the finest and the earliest to ripen. But the Peach has many more enemies than inclement weather.—JOHN COX, *Redleaf*.



Illustration 1.

Nectarine Lord Napier

Chromo. Severn

LORD NAPIER NECTARINE.

WITH AN ILLUSTRATION.

WHEN recently (August 24) the collection of cordon-trained Peach and Nectarine trees growing at Chiswick was examined by the Fruit Committee of the Royal Horticultural Society, the following official record was made:—"These trees, which have this season done good service, are in perfect health, and many of them are bearing heavy crops. Prominent amongst all others stands the LORD NAPIER NECTARINE, which was awarded a First-class Certificate. The fruit is very large, roundish-oblate, of a deep dark purplish colour; the flesh is pale throughout, of rich and excellent flavour, having a dash of the Stanwick in it. It is of fine constitution, and a free bearer." We can endorse all that is here said in its praise.

This report refers to out-door fruits, which were not only large in size and first-rate in quality, but in advance of all others as to ripeness. As an indoor fruit, Lord Napier is also the earliest and best variety yet introduced. Mr. Rivers vouches for it as ripening under glass with the Early York Peach, and being an excellent forcing variety, large, of good colour, and exquisite flavour. Similar testimony is borne by Mr. Coleman, of the Eastnor Castle Gardens, to whom we are indebted for the fruit represented in our plate. Some samples communicated by Mr. Rivers, from his orchard-house, were much less coloured than these, though of first-rate flavour, while the specimens on the open wall at Chiswick were much darker-coloured, the red tint deepening almost to purple. Our figure may therefore be taken to represent the average appearance of the fruit as to colour, when grown vigorously in an ordinary forcing-house, and well exposed to light.

The high qualities of the fruit of this Nectarine are so fully attested on all hands, that the first place amongst early-fruiting sorts is by common consent assigned to it, and as such it should find a place in every garden and every forcing-house. Dr. Hogg, in his classification of Nectarines, associates it with the Stanwick, and describes its pale freely-separating flesh, as having a rich Stanwick flavour. This, he adds, "is the earliest of all Nectarines; it ripens in the first week in August, and is eight or ten days earlier than Hunt's Tawny. It was raised by Mr. Rivers, of Sawbridgeworth, from seeds of the Early Albert Peach." Its form is well shown in the annexed illustration, from a drawing by Mr. C. T. Rosenberg.—T. MOORE.

THE STRAWBERRY.

PROBABLY there are few readers of the FLORIST AND POMOLOGIST who do not grow Strawberries; many, too, who cultivate as well as grow them. In some gardens you may be shown a bed of Strawberry-plants, a mass of growth, the runners having been allowed to multiply of their own free will, until all traces of the original rows are lost; and on no account will the owner of the bed have it disturbed. A gardener told me the other day that

after he entered a new situation, his employer pointed to some Strawberry-beds that had been planted about twenty years, and the instructions given were that they were not to be disturbed. The proper thing for the gardener to do under such circumstances would be to avoid argument, and at once take steps to make a new plantation in another part of the garden, asking permission to be allowed to purchase a number of plants of approved sorts. The Strawberry may be planted successfully at any season of the year, but experience tells us that the best time is the end of July, or any time in August. If strong runners can be obtained at that time, and the ground is well prepared by trenching and manuring, the plants, if well managed, ought to sustain no check to their growth, and will bear well the following season. A comparison can then be made between the two beds—the one not a year old, and the other containing plants that have been striving for a miserable existence for a score of years. The bed of young plants will contain fruit of large size, well developed, and of good quality; while the other will not bear the fourth part of a crop, and the fruit will be comparatively worthless.

I will now as briefly as possible state the method to be followed to obtain the best results. To secure a good crop of fruit the first season after planting, the runners must be layered into small pots, in rich soil, composed of good loam two parts, and rotted stable-manure one part; old beds from a mushroom-house furnish as good a material as any. Place over the hole a bit of fibrous turf, and on this a pinch of soot; the soot is more especially useful to prevent the ingress of worms, when it is intended to cultivate the plants in pots. In two weeks after layering the young plants may be cut away from the parents, and after a week may be planted out permanently. Before planting them out, the under-sides of the leaves must be examined for any trace of red-spider; and if this insidious intruder is even suspected, the leaves must be dipped in a pail of soapy water, to which has been added half a pint of tobacco-liquor. The best way to do it is this:—Invert the pot, holding the fingers of one hand over the surface-mould, to prevent it falling into the pail; then with the other hand move the leaves for a second or two about in the water, and then lay the pot on its side, to allow the water to drain off from the leaves.

The bed in which it is intended to put out the plants ought to be trenched at least two feet deep. At the bottom of the trench place a good layer of manure, and another layer about nine inches below the surface. If the soil is very light, it will be a great aid to the plants to place a spadeful of compost, similar to that in which the plants were layered round the roots of each. After planting, if the weather continues dry, water freely until the plants are established. They will grow rapidly, and the ground must be kept free from weeds by frequent hoeing; the runners also must be cut off as soon as they are perceived. As to the distance at which they ought to be planted, the dwarf-growing sorts should be 20 in. apart, and the more robust sorts 24 in. apart in each direction.

Come we now to the question of the best varieties to cultivate. One important consideration is to obtain sorts that will continue in season longest. If a variety is raised a week earlier or a week later than existing sorts, it will be eagerly welcomed, even if it is not so productive as Sir C. Napier, or so richly flavoured as British Queen. For the earliest, we still grow *Black Prince*; it bears freely, and the fruit is a rich dark colour, of fairly good flavour, and much esteemed for preserving. Next to it is *Keens' Seedling*, still one of the very best for flavour, size, and productiveness. *President* comes next in order of ripening; it is a grand sort, and succeeds well in light and heavy soils. *Sir C. Napier* should be grown, when quantity is an object; it is one of the best kitchen sorts, and its subacid flavour is esteemed by many palates. *British Queen* is a standard variety of exquisite flavour, but it does not succeed on all soils, preferring a deep, rich, clayey loam, where it well repays any attention bestowed upon it. *Duc de Magenta* and *Auguste Nicaise* are varieties of recent introduction, that bear abundant crops of large, finely-flavoured fruit; they do well in light soils, and were introduced from France. *Frogmore Late Pine* must not be omitted from any collection; it is later than British Queen, and the fruit is very large, richly coloured, and abundantly produced.

For the latest, I grow a variety that has been named *Loxford Hall Seedling*. It was raised in 1873, and selected from over one hundred sorts. For pot-culture no other bears such crops of even-sized large fruit, and out-of-doors it is a week later than Frogmore Late Pine. It is now being sent out by Messrs. Veitch, of Chelsea, and I trust that those who purchase it will receive as much satisfaction from its culture as we have done at Loxford. All the above succeed well on light soils. Some few, such as Sir J. Paxton, we have discarded; they do well on clayey loam, but on our soil suffer from the attacks of mildew.—
J. DOUGLAS, *Loxford Hall, Ilford*.

THE BEST-CROPPING HARDY FRUIT-TREES.

THE general failure of the fruit crops this year will doubtless make all those who intend to plant young trees try to find out the varieties that have borne the best crops in their different localities. To begin with APPLES, the best-bearing varieties here have been, amongst the early ripening, the *Irish Peach*, *Early Harvest*, and *Early Strawberry*; of the mid-season sorts, *Lord Suffield*, *Duchess of Oldenburgh*, *Cox's Pomona*, *Small's Admirable*, *King of the Pippins*, and *Cox's Orange Pippin*; and of the late or winter-keeping sorts, *New Hawthornden*, *Tower of Glammis*, *Blenheim Pippin*, *Lord Burghley*, *Dumelow's Seedling*, and *Sturmer Pippin* have cropped the best. The early varieties of PEARS that have had half a crop on them have been *Beurré Giffard*, *Clapp's Favourite* (an American Pear of good flavour), *Beurré d'Amanlis*, and *Williams' Bon Chrétien*; of the mid-season Pears, *Louise Bonne of Jersey*, *Fondante d'Automne*, *Doyenné du Comice*, *Thompson's*, and *Comte de Lamy*; and of the latest, *Knight's Monarch*, *Ne Plus Meuris*, *Easter Beurré*, and *Hacon's Incom-*


parable. All kinds of PLUMS have been a complete failure, that great bearer in most years, the *Victoria*, having only very thin crops even in the most sheltered situations. Of CHERRIES, although I never saw the bloom more abundant, only the *May Duke* and *Morellos* on the walls produced crops.

There is not the least doubt but that by the selection of free-bearing hardy fruit-trees in planting new orchards and waste grounds, the production of fruit in this country might be doubled, and a check put to the importation of so much hardy fruit from abroad to our markets. Of course, in unfavourable seasons like the present, the foreigners, from their better climate, would always have the advantage of our growers, and the higher prices given them for fruit would compensate them for the carriage; but in plentiful fruit years here, this will not be the case. If new orchards planted with the free-bearing sorts of Apples, Pears, and Plums were attached to farms that had only old, unproductive ones, and all waste grounds and even hedge-rows, were planted in places out of the reach of the million, what quantities of fruit might be grown, and then the markets might be supplied at a cheap rate.

The best-cropped small orchard I have seen this year was where there had been a quarry, and the débris of the magnesian limestone surface had been placed in it to fill it up. The tenant, an industrious man, had barrowed and carted all the road-scrapings within his reach to plant the trees in, and they had seldom missed bearing fine fruit.

Of small hardy bush-fruit, such as GOOSEBERRIES, CURRANTS, and RASPBERRIES, there might be greater quantities grown in odd corners, in gardens and orchards, and in waste places. That delicious and wholesome fruit, the Strawberry, seems to be increasing in its more extended cultivation, and every large town and city will yet come to have its strawberry farms or gardens.—WILLIAM TILLERY, *Welbeck.*

CURMERIA WALLISII.

 R. BULL describes this new stove aroid, which he has introduced from the United States of Colombia, through Mr. Wallis, as a dwarf-growing plant of distinct aspect and ornamental in character. It has spreading short-stalked leaves, which are of an ovate-oblong form, entire, slightly oblique, rounded at the base, and having an acute point. They are marked with very irregular dark velvety-green maculations, some running out from the green midrib, and others situated near the margin. The intervening spaces are furnished with broadish map-like patches of very pale yellowish green, which, in the more matured leaves, becomes a greenish grey. Towards the extreme edge, which is white, the pale blotches are intermingled with small white spots. Though the markings, as will be seen from Mr. Bull's figure annexed, are very irregular, the colours are about equally distributed, both as to the size and power of the blotches, and being of moderate growth, the plant is one which may very well find a way into collections of ornamental-leaved subjects. The spike is shortly-



CURMERIA WALLISII.

stalked, about $3\frac{1}{2}$ in. long, convolute at the base, constricted in the middle and open at the point, of a pale crimson, sprinkled with small white spots.—T. MOORE.

MINIATURE VINES FOR THE DINNER-TABLE.

I WAS very much struck the other day (July), on a visit to Drumpellier, the seat of Colonel Buchanan, to see quite a bevy of Vines in pots about 5 in. diameter, and each Vine not more than 20 in. in height, with one or two bunches of Grapes on each, from $\frac{1}{2}$ -lb. to $\frac{3}{4}$ -lb. weight, in first-rate condition as to berry, and in fair colour. On examination, I found that Mr. Lewin, the clever contriver of this natty plan, had pot-Vines tied down to a single wire about 6 in. from the stage, trained like a cordon apple-tree. On each of these

Vines were springing up perpendicularly the laterals with bunches, and in order that they might be made serviceable for detachment when ripe, each was inveigled into a 5 in. pot, to root away on its own account precisely like the larger one. The pots were full of roots, and stood regularly distributed along the top of the high kerbstone common in Pine stoves, not less than six, and in some cases eight, to each vine-rod. To make the whole more dinner-table like, sprays of the common Selaginella were made to clothe the surface of the pot, and the laterals were kept well rid of shootlets by pinching.

This is a much more excellent plan than taking the rod through the bottom of the pot; moreover, it enables the grower to have six or more plants to each Vine, which is a great deal for a pot-vine treated in this way. On the dinner-table, the plants, laden with fruit *bonâ fide*, are of the most captivating character, and look as fresh a week after, as they do the first day they are placed upon the table. The plan is so excellent and so novel, that I thought a simple record of it might be interesting to your readers in general, and pomological readers in particular.

I might add that Mr. Lewin finds it attended with better success not to be too quick in inserting, or rather placing, the layers on the ground within the limited pot-area (for there is really no insertion), because of the tendency to weaken the food-supply from the principal store-pot, if the laterals were provided with their independent roots at too early a stage.

The sorts grown are chiefly Black Hamburgh, with Buckland Sweetwater as a white; and there is a succession of them, some doing duty a fortnight ago, others as late as can be. The plan is of quite recent adoption with Mr. Lewin; and his employer, who is pretty exacting in matters of taste in connection with indoor decoration of all kinds, is quite delighted with his Tom Thumb fruiting Vines.—JAMES ANDERSON, *Meadowbank Nurseries, Uddingston* (in *Gardeners' Chronicle*).

THE CULFORD GRAPE SPORT.

THE Culford Grape Sport, which has reappeared this season, deserves a record in the pages of the POMOLOGIST. The case stands thus:—Some few years ago, Mr. Grieve, of Culford, grafted the Golden Champion, the Trebbiano, and Mrs. Prince's Black Muscat, on a Black Alicante vine. The Golden Champion rod was several years afterwards cut out, leaving the other two arranged in the form of the letter U. The Alicante had been worked below all this on a West's St. Peter's. In 1874 the rod of Trebbiano produced a cluster of grapes, which was pronounced by those who saw it to be Golden Champion. Much discussion took place and some doubts were expressed concerning it, which, as the spur did not show fruit in 1875 or 1876, could not then be cleared up. This year the sport has reappeared, and we avail ourselves of the account given in the *Gardeners' Chronicle* (September 1, 1877, p. 272) to extract a few of the descriptive particulars. We propose, says our contemporary, to confine ourselves to a brief mention of what we ourselves observed on a personal inspection of the vine in question a few days since:—

“ Without going into needless minutiae, it may suffice to say that the parent rod of the Trebbiano from which the sport which has given rise to this discussion emerges, is trained in the usual way under the glass of a lean-to vinery, and that about the middle of its length it gives off three fruit-bearing spurs, which we shall have to refer to specially. Below these three, on either side of the rod, are borne some six or eight bunches of Trebbiano, about three-parts ripe at the time of our visit.

“ It is, then, to three special shoots or spurs that we desire to draw attention. The lowermost of the three is the original one which in the year 1874 bore the bunch of Golden Champion, or one which was so like Golden Champion as to be taken for it by experienced Grape-growers and amateurs, of whose good-faith and competence not a shadow of doubt can possibly be entertained. At the present time this shoot bears leaves which are indistinguishable from those of Trebbiano, but the bunch and its constituent berries, in form, in size, in stage of maturity, in tendency to spot, are unquestionably much more like those of true Golden Champion, growing close by in the same house, than they are those of the Trebbiano produced on the same rod, even when all due allowance is made, as it should be, for variation in individual berries. The bunch in question, as we learn from Mr. Grieve, measures 10 in. across the shoulders and 10 in. in length, exclusive of the stalk. The berries, at the time of our visit, were not quite ripe, and had not yet the pale amber tint of other Golden Champions in the house.

“ The middle bunch of the three is borne on the same side of the main rod, and on the next spur but one above the first mentioned. The leaves on this spur are in all essentials like those of Trebbiano, and not those of the Golden Champion. The bunch measures 9 in. across the shoulders, and is 8 in. long, and its constituent berries, as compared with those of adjacent Trebbiano and Golden Champion respectively, are distinctly intermediate in character. The largest bunch of Trebbiano proper measures 7 in. across the shoulders, by 12 in. in length. We look upon the production of this intermediate bunch as a most important link in the evidence.

“ The third or topmost bunch on the same side as the two before mentioned hardly deserves notice, except for the fact that the terminal berry is more like those of Golden Champion than those of the Trebbiano. . . . This third bunch presents, like the two lower ones next adjacent to it, but to a much smaller extent, the characteristics of Golden Champion.

“ Speaking in general terms of the Vine in its present state, it may, therefore, be stated, 1st, that the foliage on all three of these spurs is indistinguishable from that of Trebbiano (except in one minor point); 2nd, that the bunch of the lowermost resembles that of Golden Champion, so much so, that were it not that the berries were not so mature as those on the Golden Champion adjoining, we should have had no hesitation in pronouncing them identical; 3rd, that the middle bunch of the three is intermediate between Trebbiano and Golden Champion; and 4th, that the third bunch, while almost entirely of Trebbiano character, has its terminal berry of a different shape and size to the rest, and in this point resembles Golden Champion.

“ We have now to mention some points of distinction between the foliage of Golden Champion and that of Trebbiano. There appear to be two special points in which a difference is clearly observable. In Golden Champion, as a rule, the leaf-stalk is rather shorter in proportion to the leaf-blade than it is in Trebbiano, and the lobes of the leaf, as well as the smaller toothings of the margin, are narrower and more sharply pointed in the Champion than they are in Trebbiano. In other words, the teeth of the leaf in the Champion are del-

toid or triangular, with nearly straight sides, while in the Trebbiano the teeth are broader, and with curved sides, so that they have an egg-shaped, pointed outline. The leaves on the sporting spurs appear to us to be precisely those of Trebbiano, except in the relative length of the leaf-stalk and blade. As to the bunches and berries, speaking entirely from those to be seen now in the same house at Culford, we may say that Golden Champion, as compared with Trebbiano, has larger bunches with wider shoulders, the individual berries are also larger, have stouter foot-stalks, ripen earlier, are more amber-coloured, and have the constitutional peculiarity of spotting.

“The conclusions that we have arrived at, therefore, are that the Culford sports are real, and not fanciful; and that in the character of the bunches and berries, one of them shows the characteristics of Golden Champion to such an extent as to justify the observer in pronouncing it to be all but, if not wholly, identical. After all, it is to us surprising that this case should have been received with so much incredulity. One would think analogous cases had never been noted, that the *Cytisus Adami* was unknown, that Peaches and Nectarines had never been seen on the same bough, and that ‘sporting’ or bud variation, in fact, was an unknown phenomenon.

“The special interest in the present case arises from the fact that the rod of Golden Champion had been cut away before the appearance of the sport. The question then becomes narrowed to this—are the ‘sports’ now existing on this Vine the result of previous inoculation with Champion sap, or with Champion pollen, or are they altogether independent of Champion influence? Seeing how strikingly the Champion characteristics are reproduced in bunch and berry, we can but conclude that they have been, so to speak, Championised, and that the case is one of those exceptional instances where graft hybridisation has been brought about.”

VILLA GARDENING FOR OCTOBER.

IF only we could have a fine autumn as a set-off against the dull moist summer!—is just now the aspiration of many a villa gardener. The summer has appeared so short, and winter appears to be hurrying on with such rapid strides, that the usual quantum of enjoyment has scarcely fallen to the lot of any one who loves his garden. Let us hope a fine bright dry autumn will be the heritage of gardeners generally.

The Greenhouse.—In a general way, all plants requiring repotting at this season of the year should have been shifted by this time, but there will occasionally be found vigorously growing plants that may be likely to suffer for want of pot-room before spring; in such cases, a shift may be given, taking care to allow plenty of drainage. Climbing plants on walls should be trained a bit, to allow of some young growth coming to the front before the winter sets in. The variegated *Cobæa scandens*, *Bignonia grandiflora*, *Tropæolum Lobbianum*, and *Lapageria rosea*, among others, are very gay just now; and the *Heliotropes*, *Plumbago capensis*, *Fuchsia Dominicana*, *Habrothammus*, *Abutilons*, &c., are also good plants to train against walls. *Azaleas* and other hard-wooded plants must now be got into their winter-quarters; there is danger in a more lengthened exposure out of doors. A little weak manure-water given to well-established plants of *Zonal Pelargoniums* will keep them blooming for some time to come. *Chrysanthemums* in pots for autumn decoration require constant watering, and if mildew shows itself on the leaves, a dusting with flowers of sulphur will soon work a cure.

Earwigs are very apt to infest, and prey on the buds, and they need looking after. The leading shoots should be tied out to stakes, so that the air can fully circulate among the plants, which greatly helps to keep mildew in check.

The Flower Garden.—During the month, such perennials and biennials as have been raised from seed should be planted out to stand the winter. Such things as *Hollyhocks*, *Aquilegias*, *Sweet Williams*, *Honesty*, *Polyanthus*, *Daisies*, *Foxgloves*, *Canterbury Bells*, &c., should find a place in every garden. Notwithstanding the dull, moist summer, the Hollyhock disease has been very prevalent, and many a plantation has been almost altogether destroyed. A disease something similar in appearance to the Hollyhock disease has been very destructive in places. Very handsome border flowers in bloom now are found in *Anemone japonica*, its white variety, and that known as *hybrida*, the late-flowering perennial *Asters*, *Helianthus plumosus flore-pleno*, *Phloxes*, and such like. A mixed border can have something in bloom almost all the year round. When spring gardening is carried out, by the use of *Hyacinths*, *Tulips*, *Crocus*, *Forget-me-nots*, *Pansies*, *Violas*, *Silenes*, *Daisies*, &c.; all these things should be in the ground by the end of the month, to get established as quickly as possible.

Cold Frames.—At no season of the year are cold frames so useful as just now. They should contain *Auriculas*, *Polyanthus*, *Cinerarias*, *Calceolarias*, *Primulas*, *Cyclamen*, and a hundred other things that will do well in pits. The pretty autumn *Crocus speciosus* has already thrown up its purple flowers, and the *Colchicums* are fast following suit. *Crocus speciosus* should be in every garden—a crocus that flowers in September is one to be prized. It is interesting to notice how active some members of the Primula family are getting; and especially is this true of the *Auricula*, for it is prone to show up autumn trusses. This is a little vexing, and the best thing to do is to pinch off the truss only, leaving the stem to decay at leisure. Some of the high-coloured Primroses are sending up their flowers, but they invariably do this in autumn, blooming again in the spring. Air should be given in plenty when the weather is fine and open. Heavy rains should not be allowed to fall on the Auriculas, but other things will benefit by it, unless too heavy. A good many things that it is not advisable to repot will be benefited by top-dressing with some good soil. By means of a pointed stake, the surface soil should be loosened and removed, and its place filled up with good rich soil.

Kitchen Garden.—*Celery* must be earthed up in dry weather, and where a little *Endive* is grown, the plants need tying up to blanch them. *Lettuce*, to stand the winter, should be planted out in a sheltered south border, on an early piece of land certainly. *Winter Spinach* must be kept clear of weeds, and they grow rapidly enough just now; indeed, it has been a very trying season for kitchen gardeners. Clear away *Pea* and *Bean* haulm, and dig the ground. The *Onion* crop should be pulled during fine weather, and allowed to lie on the ground for two or three days to mature; the bulbs should then be stored away in a dry cool, airy place.

If a few ripe *Grapes* are hanging in the vinery, the atmosphere should be kept as dry and airy as possible. It is well to look over the bunches occasionally, to cut out any decaying berries. Many a villa gardener who has the accommodation endeavours to force a few *Strawberries*. The plants growing in pots for this purpose should now be kept moderately dry, to ripen the crowns during the autumn. *Apples* and *Pears* should be gathered, and stored away when ripe; and as there is a great scarcity of these popular fruits, the crop should be looked after as carefully as possible, and stored in a cool ventilated room or closet.—D.

GARDEN GOSSIP.

ACCORDING to the returns of the *Fruit Crop* recently published in the *Gardeners' Chronicle*, the results of the present season can only be described as uniformly bad. Neither latitude, nor protection, nor soil, nor elevation seems, speaking generally, to have availed aught in securing a crop of fruit. *Apricots* are almost everywhere below average, and in some cases an utter failure. *Plums* may generally be registered as utterly gone. *Cherries* are under the average, with the exception of Morellos, of which in many places the crop is good. *Peaches* and *Nectarines*, as might be predicted, are almost non-existent. *Apples*, in by far the large majority of cases, are below average, while individual trees are heavily laden, this apparent capriciousness being probably traceable to the variety, rather than to either climate or soil. *Pears*, again, are very much below average, except on walls. Insect agency has much to do with the setting of fruit, and therefore it must not be forgotten that it is not the direct influence of untoward climate alone that has to be looked to, but also the effect of cold and wet in keeping insects at home. Small fruits, such as *Currants*, *Gooseberries*, and *Strawberries*, have generally yielded a large crop. *Nuts*, again, in the southern and western counties promise an abundant return. The *Potato Crop*, from evidence collected through the same medium, promises to be an average one, although the tubers are smaller and later than usual; but disease has made its appearance almost everywhere.

— THE *Making of Ketchup* being a work requiring some skill and experience, the following abridgment of Mrs. Hussey's instructions, as given in her *Illustrations of British Mycology*, may be useful:—All kinds of Agaric of which it is proposed to make use should be sound, not decaying and larva-eaten. Cut off the stems, for they possess no flavour, and afford little juice, but much dirt. If the caps are soiled, peel them. Do not cut, but break them small; powder every portion with salt, and set the mass in an earthen colander, placed in a bowl. The precise quantity of salt is not of importance—excess is better than defect, it being only needful in cookery to remember that salt is not to be used when ketchup is. After twenty-four hours, press the pulp gently down in the colander; all the liquor that thus runs off is to be preserved, and no more. The liquor thus extracted will be a pure, fragrant, delicious ketchup. Many people would boil this till the aroma had disappeared, under an erroneous notion of "making it fit to keep;" but to this end the boiling by no means conduces, and almost all Agarics lose their "bouquet" by the continued action of heat. Instead of this, before the ketchup season comes, prepare by putting into a quart of spirits of wine, in a glass-stoppered bottle, any spices you prefer, in sufficient quantity to flavour the spirit strongly. After the ketchup has been strained off, let it settle twelve hours; then put it in half-pint bottles, filling them up to the shoulder, adding the spiced spirit to fill the neck, and corking the bottles tightly and steadily. They must not afterwards be shaken, because the spirit should be left floating at the top, to exclude the air, and prevent the formation of that other incipient fungus which cooks call "mother." When to be used shake the bottle thoroughly, and put as much of the contents as you like into the waiting soup or gravy; it should not be boiled up in it. The small quantity of spirit is unappreciable in the bulk of ketchup, not affecting the flavour at all. All who try this plan fairly will acknowledge they never tasted ketchup before.

— THE *Peach Wall at Chiswick* is now becoming very interesting. While many of the old-established sorts are destitute of fruit, some of the new varieties raised by Mr. Rivers are, according to the *Gardeners' Chronicle*, bearing good crops. The new and handsome *Lord Napier Nectarine*, of which we publish a figure, has been carrying on every tree a fine crop of fruit, large in size, brilliant in colour, and what is of most importance, in advance of all others. This was raised from Mr. Rivers' Early Albert Peach, and as an early, good-looking, fine-flavoured variety, has no rival. Next in point of earliness to that good Peach, *Hale's Early* [of which Mr. Austen, of Ashton Court, writes, "I gathered three ripe fruits on August 7, from a tree on the open wall; in 1874 I gathered from the same tree on July 7; I consider it in every respect equal to Royal George, with the advantage of being much earlier; this season, in an early Peach-house,

side by side, and under precisely the same conditions, I gathered *Hale's Early* three weeks sooner than that variety"], comes *Rivers' Goshawk*, the fruits of which are of good size, rich soft colour, and excellent flavour; it is a very fine Peach, and in before Early York. Writing to the *Journal of Horticulture*, early in July, on the subject of early Peaches, Mr. Rivers remarks:—"I am now gathering some brilliant specimens of the *Early Beatrice* Peach, of fair size and excellent flavour. Closely following are *Early Louise*, *Early Rivers*, and *Hale's Early*. The house in which these fruits are ripening was heated in the last week of December, the temperature for a few weeks being kept from 45° to 50° Fahr., and the average temperature during March and April ranging between 60° and 70°. In the same house, with the same treatment, Royal George and Grosse Mignone will not, I think, ripen for a month to come. The house in which the trees are grown is a small span-roof, 150 ft. long by 15 ft. wide, and contains 150 trees in pots, all in fruit. Next in order come *Rivers' Early York* and *Condor*; I have found them the best two in succession for forcing. *Lord Napier* Nectarine ripens with Early York, and is an excellent forcing nectarine, large, of good colour, and exquisite flavour." As a late Peach *Desse Tardive* is one of the best of good sorts, and much deserving wider cultivation than it now obtains; it does not come in till the end of September, has the fine appearance of a *Bellegarde*, and is of delicious flavour. This is also one of the few sorts bearing a crop at Chiswick this year.

— THE following are notes on *New Picotees*, received from Mr. C. Turner, of Slough:—*Morna* (Fellowes), a fine medium-edged red, of full average size, the white very pure, the marking even and well defined, and the edge smooth; a very choice flower. *Lothair* (Fellowes), nearly of the same colour, but with a much heavier edge; it is also a larger flower than the last, and has a pure white ground and well-defined marking, but here and there shows a slight roughness on the edge. *Princess Mary* (Fellowes), a full average-sized light purple-edge, perhaps rather too full for some tastes, but smooth, pure, and with a clean wire edge of colour. *Idalia* (Fellowes), a light rose-edge, of much promise. *Estelle* (Fellowes), a light rose edge—so light, indeed, as to be scarcely discernible, and therefore, though the flower is full-sized and well built, it is scarcely attractive. *Lady Louisa* (Abercrombie), a lovely flower, with heavy rose edge; the petals broad, smooth, and pure, not too numerous, and the markings clear and evenly distributed. *Beauty of Cheltenham* (Abercrombie), a light-edged purple, full and large, fairly smooth on the edge, and with a neat and even marking. *Miss Frowd* (Turner), a large, heavy, red-edged sort, very full and high-centred, smooth, with the edge rather irregular, but bright and clear. Most of them appear to be worthy acquisitions to a most charming class of flowers.

— IN his new work on the *Different Forms of Flowers* (Murray), Mr. Darwin discusses with his usual fullness and perspicacity, and in an amplified form, the subject of the dimorphism of certain plants, which had formed the substance of a communication to the Linnæan Society. Several chapters of this new work are devoted to the group of "heterostyled" hermaphrodite plants, that is to say, those bearing stamens and pistils of various lengths; while others follow on "cleistogamic" plants—those which produce both perfect and rudimentary flowers; and also on monœcious, diœcious, and polygamous plants. Regarding the object and functions of these diversities of floral structure, the conclusion arrived at from the observations and experiments made is, that to ensure the largest number of healthy seedlings, the pollen from each particular form or size of stamen must be transferred to the stigmas corresponding with the stamens in point of development; and this Mr. Darwin believes is chiefly effected by insect agency. Whatever opinion may be formed on Mr. Darwin's particular speculations and theories, there can be no doubt that his observations and records of facts are most careful and trustworthy, and consequently, that something must be learned from the study of them.

— THOUGH scarcely horticultural, we may notice with approval an interesting little book bearing the title of *Meetings and Greetings*, received from the author and publisher, Mr. Tegg. Its second title—"The Salutations, Obeisances, and Courtesies of Nations, with Notes on Titles, Dignities, &c.," explains the nature of its contents, which will be found very pleasant for reading and reference by those who take interest in ceremonial matters.

— THE splendid new *Eschscholtzia Mandarin*, for which Messrs. Carter and Co. recently obtained a First-class Certificate, was derived from *Eschscholtzia rosea*. At the St. Osyth seed grounds, the foreman, Mr. Robert Gardener, having detected on the exterior of the blossoms of a plant of *E. rosea* a tendency to come orange instead of merely rose, duly marked it in order to perpetuate this departure from the usual type. *E. rosea* is of Continental origin, of a delicate flesh-colour on the exterior, with a pale-rose reverse to the petals. In the case of the selected sport, the rose-colour had deepened to a reddish orange, and a few years of careful selection brought it to the form of the gorgeous Mandarin. It requires to be seen in the morning, or late in the afternoon, when the large showy blossoms are half-expanded, to appreciate its superb floral expression. It is then of a rich blood-orange hue. A very fine double-white variety has also appeared at St. Osyth, as white as the falling snow, and as fully double as an *Eschscholtzia* can well be.

— MR. BAINES, writing of the *Cheshunt Roses*, remarks:—Of the new Roses for next year, *Robert Marnock* may be described as a rich brownish crimson, very distinct in colour and very fine. *Mrs. Laxton* [figured by us some time since] is a light crimson, intermediate in colour betwixt Marie Baumann and Sénateur Vaisse—a finely-formed flower. *Climbing Bessie Johnson* is identical in colour with Bessie Johnson, from which it is a sport, with a decidedly climbing habit. *John Bright* is a rich, glowing, very dark, bold, imbricated flower. Totally apart from what it may turn out to be as an exhibition variety, it is unmistakably one of the very finest garden Roses ever raised; in the whole of the Roses here, comprising many acres, and every proved kind worth growing, I saw nothing amongst dark kinds equal to it for general effect. It cannot fail to become a universal favourite.

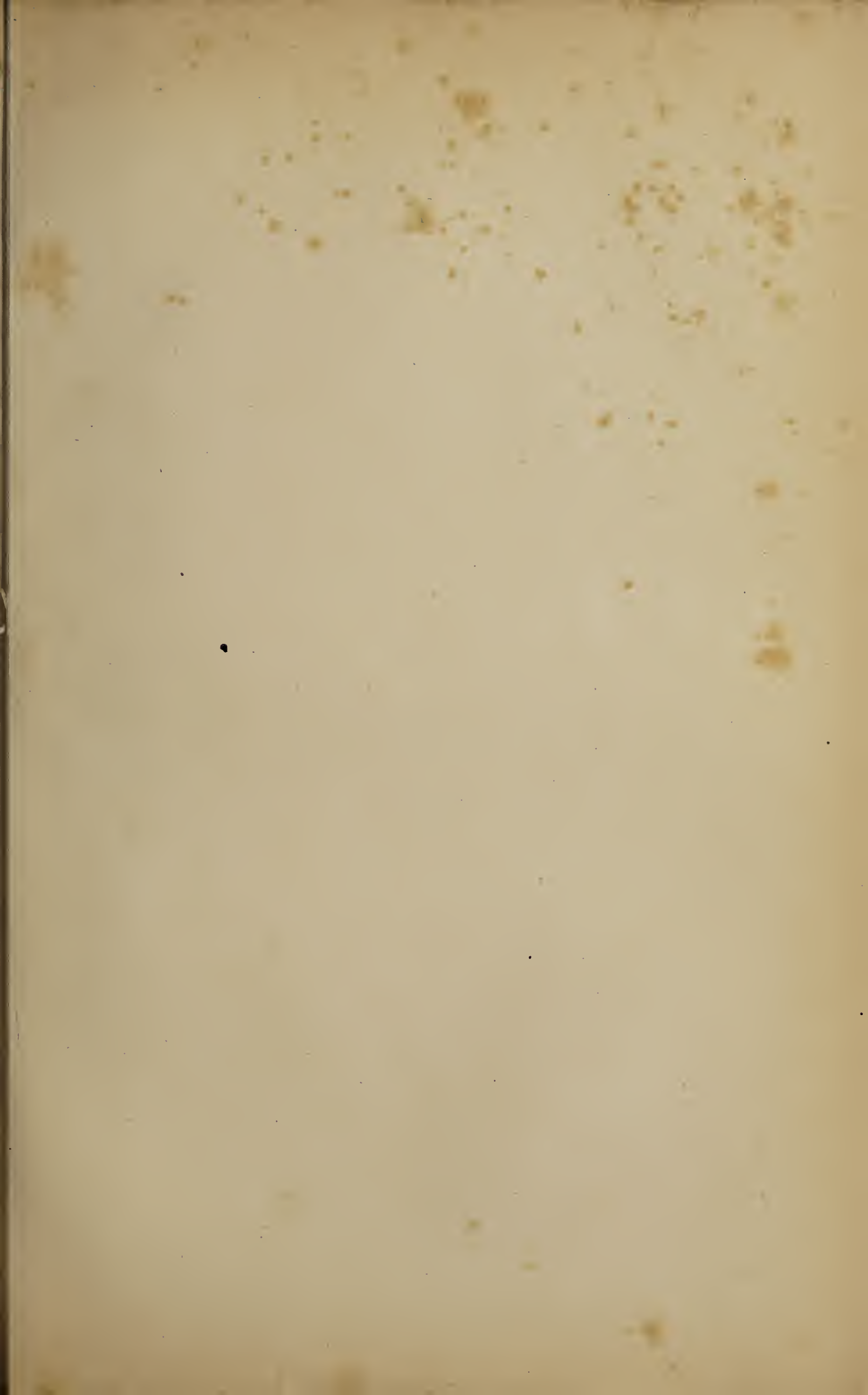
— OF *New Journals*, we may note that at a recent meeting of the Committee of the National Rose Society, it was determined to publish in or about November a Rosarian's Year-book, exclusively devoted to the Rose, and to contain a full report of the great show at St. James's Hall, to be issued free to members—price to non-members, 1s. The Royal Horticultural Society has also recommenced the issue of its *Journal*, under the editorship of Mr. Andrew Murray, who has been appointed 'scientific director of the Society.'

— THE new *Campanula macrostyla* is an annual of straggling habit, with large erect open bell or cup-shaped purple flowers, having a calyx like that of the Canterbury Bell, and a very long style, the stigmas of which cohere into a club-shaped mass. It is a very distinct-looking plant, which lovers of annuals should be on the look-out for. It is a species from Asia Minor. The flowers are of unusual size for a *Campanula*.

Obituary.

— DR. HUGH ALGERNON WEDDELL died on July 22, at Poitiers. Dr. Weddell was of English extraction, but had long resided in France, where he was for some years an *aide naturaliste* of the Jardin des Plantes. On behalf of the French Government, he undertook during five years a voyage in Southern Peru and Bolivia, contributing largely to our knowledge of the botany of those regions. He earned for himself a well-founded and widely extended reputation for his "Histoire Naturelle des Quinquinas; or, Monograph of the Genus Cinchona," a splendid publication, which has formed the basis of what has since been written on the systematic history of the Cinchona.

— M. LE COMTE LÉONCE DE LAMBERTYE died at the Château de Châltrait, on August 30, at the age of 68. He was the author of several works on garden botany, which M. Carrière describes as "discreet in words, and very rich in facts."





C. T. Rosenberg del.

Hyacinth Queen of Lilacs.

HYACINTH QUEEN OF LILACS.

WITH AN ILLUSTRATION.

AMONGST the new Hyacinths exhibited last spring, one of the most distinct and novel was the Queen of Lilacs, of which we now offer an illustration, from a very characteristic drawing executed by Mr. C. T. Rosenberg. It is a single-flowered variety, with bells of moderate size, closely placed in the spike, which is full and well developed, the individual pipes having broad regularly-recurved blunt-tipped segments. The colour is a pleasing tint of lilac, very distinct from that of any other variety known to us. It was awarded a First-class Certificate at the Royal Botanic Society's spring show, and our portrait of it was drawn from the plant thus honoured, by the kind permission of the Messrs. Veitch, of Chelsea, to whom it belonged.

As an excellent summary of Hyacinth-culture, we quote the following instructions from Messrs. W. Paul and Son's Bulb Catalogue:—

“Hyacinths in beds or borders should be planted in October or November. They do well in any light garden soil. Turfy loam, with a plentiful admixture of sand and well-decayed manure, is, perhaps, the best of soils for them; and if the natural soil be so stiff and adhesive as to require modifying, these are the materials which should be used. The bulbs should be planted with their crowns four inches below the surface, covering the ground after planting with two inches of loose pulverised manure, as a protection against frost. Hyacinths planted out-of-doors seldom require any water; and if the soil or situation be at all damp, they will do better if the soil in the beds or borders be raised an inch or two above the surrounding level.

“Hyacinths in pots may be potted from September to Christmas, in order to secure a succession of bloom. October is, perhaps, the best time for potting the mass. If new pots be used, they should be soaked in water before placing the soil in the pots. Fill the pots with the same compost as recommended for Hyacinths in beds. 5-inch and 6-inch pots are the sizes ordinarily used. In potting, one-third of the bulb should be left above the surface of the soil, and the pots should be placed on the level ground out-of-doors, having previously taken precautions to prevent the ingress of worms through the holes at the bottom of the pots. Cover the crown of each bulb with a small pot, and the whole with six inches of cinder-ashes, coarse sand, or any porous material, leaving them so covered for at least a month, then removing them at intervals as required to a cool frame or forcing-house. As the leaves expand, place the pots close to the glass; give plenty of air and water; protect from frost.

“Hyacinths in glasses may be put in in October or November. The bulb should be placed, in the first instance, with the lower end not quite in contact with the water. Pure rain or pond water should be used, and not changed unless it becomes offensive. When the bulbs are placed in the glasses, they should be set in a dark place for about a month, then gradually inured to the light, filling up the glasses as the water diminishes. The bulbs will flower in the greatest perfection if placed in a cool airy situation, well exposed to sunlight; but it is usually desirable to place some at least in a warm situation, to accelerate the period of flowering.”

The cultivated varieties of the Hyacinth are very numerous—so numerous, indeed, that a selection only can be grown in any ordinary garden; and indeed, in most cases, a very limited selection indeed, including the principal colours, is all that any one establishment requires. The different varieties, however, showing variations of form and colour, suit different tastes, and hence a supply is kept up by the Dutch bulb-growers, which is, no doubt, stimulated by the demand. For general purposes, the singles are much to be preferred, as they produce full, close flower-spikes; while the doubles, however beautiful the individual pips, are apt to form thin loose inelegant spikes. We mention below the names of a few sorts

that may generally be relied on, premising that high price is by no means to be taken as the only key to high merit :—

SINGLE RED.

- CAVAIGNAC, beautiful pink, with deep rosy stripes, very fine bells and spike; extra, one of the best.
- DUCHESS OF RICHMOND, rich pink, fine bells and spike.
- FABIOLA, creamy-blush, striped with rose, large bells and extra fine spike; one of the most perfectly shaped Hyacinths grown.
- FLORENCE NIGHTINGALE, blush-rose, large bells, closely arranged spike; extra.
- LE PROPHÈTE, pale rose, marked with crimson, large bells and handsome spike; extra.
- LINA, bright crimson, good spike; very attractive.
- MACAULAY, rose, with carmine stripes, large and most perfect spike; one of the best show or decorative varieties.
- MADAME HODGSON, fine pale pink, good bells, and well-formed spike; fine for glasses.
- NORMA, beautiful waxy pink, very large bells and good spike; very early.
- REINE DES JACINTHES, beautiful deep rosy carmine, good bells and bold spike; very attractive.
- ROBERT STEIGER (*Maria Catharina*), bright red, fine bells and good spike; one of the best decorative sorts.
- SOLFATERRE, fine orange-red, changing to deep red, with light centre, good bells and spike; very distinct and beautiful.
- SULTAN'S FAVOURITE, blush, with rose stripes, lovely colour, good bells and spike.

SINGLE WHITE.

- ALBA MAXIMA, pure white, splendid bells and extra large spike; very early, one of the best.
- BARONESS VAN TUYLL, pure white, long handsome spike; distinct.
- GRAND VAINQUEUR, pure white, good spike, very early.
- GRAND VÉDETTE, pure white, large bells and very long spike.
- GRANDEUR À MERVEILLE, very pale blush, large bells, large, close, and handsome spike; extra fine show or decorative variety.
- MADAME VAN DER HOOP, purest white, extra large and exquisite bells, good spike.
- MIRANDOLINE, pure white, closely-arranged bells and long spike.
- MONT BLANC, pure white, splendid bells and long spike; extra fine show variety.
- PAIX DE L'EUROPE, pure white, extra fine and long spike.
- QUEEN OF THE NETHERLANDS, clear white, large bells and excellent spike; one of the best show or decorative varieties.

- SNOWBALL, beautiful pure white, extra large handsome bells and close spike.
- TUBIFLORA, blush, external part of the tube reddish-purple, very large bells and broad spike; distinct and excellent.

SINGLE BLUE.

- ARGUS, bright blue, with a clear white centre, very distinct and beautiful, long spike.
- BARON VAN TUYLL, bright dark blue, very long and handsome spike.
- BLEU MOURANT, dark shining blue, beautiful colour, good spike.
- CHARLES DICKENS, light blue and lilac shaded, extra fine spike; one of the best.
- COURONNE DE CELLE, beautiful pale azure-blue, large bells and good spike.
- GRAND LILAS, beautiful porcelain, large handsome spike; one of the best.
- LEONIDAS, beautiful clear blue, large bells and good spike; distinct and fine.
- LORD BYRON, very pale porcelain blue, large bells, long spike.
- LORD PALMERSTON, clear greyish-blue, with white eye, fine bells and spike; very distinct and beautiful.
- MARIE, very dark purplish-blue, shaded, good bells and spike; extra fine show variety.
- MIMOSA, dark purple, fine and distinct.
- ORONDATE, porcelain, large bells and good spike.

SINGLE BLACK.

- FERUCK KHAN, very dark, almost black, splendid bells and long spike.
- GENERAL HAVELOCK, black and purple, large bells, broad handsome spike; extra fine exhibition variety.
- PRINCE ALBERT, shining black, fine bells and spike.
- VON HUMBOLDT, purplish-black, good bells, long spike.

SINGLE LILAC AND MAUVE.

- DE CANDOLLE, lilac and mauve, good bells and handsome spike, new and distinct; extra fine show variety.
- HAYDN, lilac-mauve, good form, large spike; distinct and excellent.
- SIR E. LANDSEER, dark reddish lilac shaded, close and good spike; new and fine.
- THACKERAY, dark violet, very fine.

SINGLE YELLOW.

- DUC DE MALAKOFF, fawn, striped with red, good bells and perfect spike.
- HEROINE, pale yellow, good spike.
- IDA, beautiful clear primrose, large bells and spike, extra fine; the best in its class.
- L'INTÉRESSANTE, bright golden-yellow, good spike.

Among double Hyacinths, Lord Wellington, La Tour d'Auvergne, and Laurens Koster, red, white, and blue respectively, are really fine sorts; and the pretty dwarf sweet-scented white-flowered Roman Hyacinth, or Hyacinth of Paris, is a charming little plant for growing in the small glasses usually employed for Crocuses.—T. MOORE.

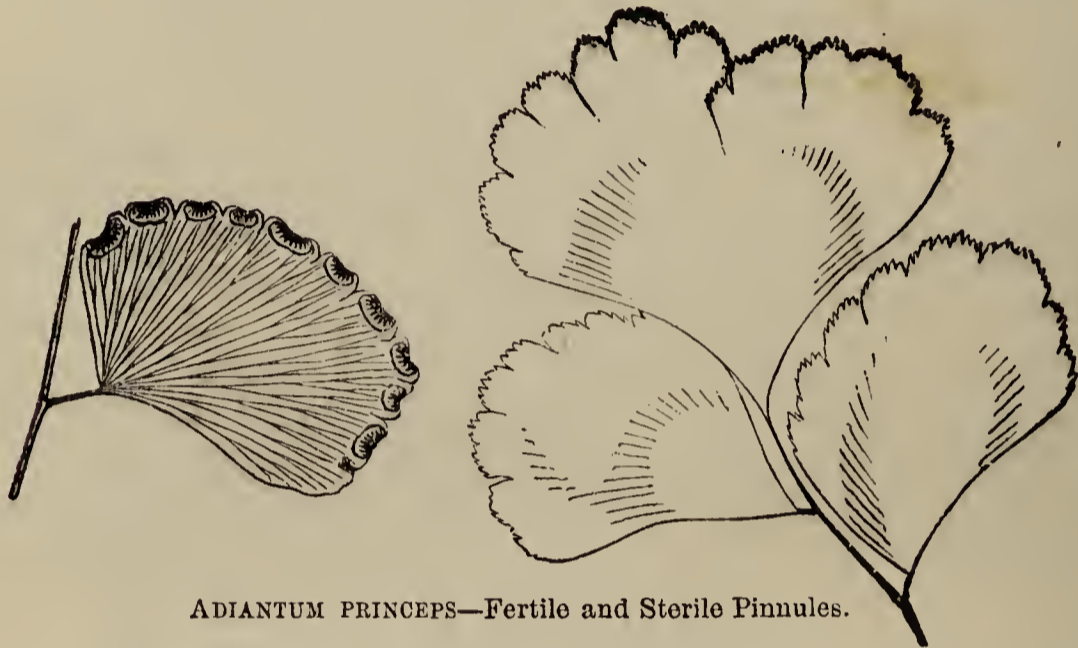


ADIANTUM PRINCEPS.

THIS is one of the finest of many new species of Maidenhair Fern introduced to our gardens by the Messrs. Veitch and Sons, of Chelsea. It was found in New Grenada by their collector, and a similar if not identical fern in the Kew Herbarium was gathered by Dr. Seemann, in Veraguas. The plant was first brought under the notice of the public at the exhibitions of 1875, and was subsequently described by us in the *Gardeners' Chronicle* (N.S., iv., 197), the description being accompanied by illustrative figures:—

“Not only does this fern possess an imposing boldness of character, on account of the size of the frond and the pinnules, but the plants are also remarkably graceful, from their fullness of development, and the arching or pendent position they assume. Messrs. Veitch's specimen plant was, at the least, from 5 ft. to 6 ft. across. For so large a plant, both the black glossy stipes and the rachides are

comparatively slender, while the stalks of the pinnules are remarkably so; and this, no doubt, is mainly conducive to the pendent habit, which is one of the features of the plant. The fronds are broadest at the base; they have a stipe of about a foot, and a lamina of 2 ft. in length, the lower pinnæ being about a foot in length, with the lower pinnule on the posterior side bipinnate, so that the frond becomes quadripinnate. The pinnules are large, the upper corner obliquely overlying the rachis; the basal margin is entire and slightly concave, the lower side, or that towards the rachis, being also entire; while the somewhat rounded anterior margin and truncate apex are cut into broadish hollow lobes, and are



ADIANTUM PRINCEPS—Fertile and Sterile Pinnules.

generally fertile throughout, but where sterile, are minutely serrulate. The terminal pinnule is larger than the rest, sharply cuneate at the base, and spreading out into a fan-shaped figure, that at the tip of the frond being fully $1\frac{1}{2}$ in. across. The sori are about $\frac{1}{8}$ in. long, sometimes considerably more, reniformly curved, with an entire indusium.

“The affinity of this remarkable novelty is with *A. tenerum*, in which it is probable other distinct forms lie buried in books and herbaria. Nevertheless, *A. princeps* is absolutely distinct from *A. tenerum*, and in consequence of the first assuming a charmingly pendent character, it is altogether a much finer plant. It will make one of the finest of all exhibition ferns.”—T. MOORE.

BEDDING PANSIES AND VIOLAS.

FEW plants are more useful for keeping up a display of colour throughout the season than the different races of Bedding Pansies and Violas, which are, indeed, intimately allied, all belonging to the same botanical family, *Viola*, but the former evolved out of the improved garden forms of *V. tricolor* and its allies; while the latter, those at least of a purplish hue, partake more directly of the blood of *V. cornuta*, and those with yellow flowers of *V. lutea*. The two latter especially are very persistent bloomers.

The following notes, from memoranda made at Chiswick, and extending over the last year or two, may be regarded as descriptive of some of the more distinct

and beautiful of the varieties there grown, selected either for their compact dwarf habit, the profusion and continuity of their blossoms, and their useful and effective colours, just the points which give their value to Pansies as bedding-plants. All of the following have won certificates as bedded-out plants:—

FLOWERS MOTTLED.

MAGPIE.—An old, but useful variety, striking in appearance from the strongly contrasted colouring of its flowers; vigorous, hardy, and an abundant bloomer; flowers blackish-mulberry, with a large wedge-shaped spot of white at the tip of each petal; the spotting sometimes runs out, when for a time it becomes self-coloured.

FLOWERS PURPLE.

DEAN'S MULBERRY.—Dwarf-growing and of compact but spreading habit, free-flowering; flowers dark reddish plum-purple with very small yellow eye; the flowers well displayed.

DEAN'S LOTHAIR.—A showy variety, with a dwarf compact habit of growth; flowers large, deep purple, with small yellow eye; and broadish bronzy spot just below it on the lower petal; a distinct and rich-looking flower.

DICKSONS' THE TORY.—Of free and vigorous growth, blossoming abundantly and continuously; flowers large, deep bluish-purple, with white eye, in the front of which is placed a bilobed mulberry spot; good.

FLOWERS BLUISH-MAUVE.

DEAN'S BLUE BELL.—A very showy variety, of compact, spreading, and free-blooming habit; flowers numerous, medium-sized, mauve-purple, with a small yellow eye pencilled with dark lines. The individual flowers are not equal to the average Pansy in shape, as they partake much of the Carnation type, but the effect of the mass is good, and it is a continuous bloomer. It is probably the best bedding Viola in existence.

BLUE PERFECTION.—Of compact, free-blooming habit; flowers medium-sized, of a deep reddish mauve with yellow eye; a fine effective self-coloured variety.

—T. MOORE.

FLOWERS LILAC.

DEAN'S LILACINA.—A charming variety, of dwarf compact spreading habit, free-growing, and very distinct; flowers of moderate size, the upper petals of a reddish-lilac, the lower ones bluish-lilac, with small yellow eye; an exceedingly pretty and taking flower.

DICKSONS' QUEEN OF LILACS.—A variety of free bold habit, forming close, vigorous tufts; flowers reddish-lilac, paler at the edge, and very freely produced; a soft, neutral colour, effective, and useful for grouping.

FLOWERS YELLOW.

DICKSONS' SOVEREIGN.—Of close growing habit, dwarf, free, and prolific of blossoms; flowers moderate in size, bright golden yellow, with a pencilled eye; very effective.

DEAN'S BEDFONT YELLOW.—A free-growing, compact-habited sort; flowers large, bright golden-yellow, with pencilled eye; good.

DICKSONS' GOLDEN GEM.—A variety of dwarf spreading habit, and a free bloomer; flowers large, deep yellow with deeper eye, over which occur dark pencillings; good.

FLOWERS WHITE.

DICKSONS' QUEEN.—A variety of free compact habit, an abundant bloomer, but rather later than some others; flowers large, white, with yellow eye and pencilled lines.

DEAN'S WHITE SWAN.—A fine variety, of close tufted habit; flowers of moderate size, pure white with pencilled eye, of good substance, and very chaste-looking; fine.

CULTURE OF TODEA SUPERBA.

PROBABLY the finest collection of noble specimens of this plant in cultivation is to be found at Edinburgh, in the nurseries of the Lawson Seed and Plant Company. The house in which they are kept affords one of the most interesting sights in that remarkable establishment. The Todeas, with their graceful plumes, fill a large glass house, so that in passing down the central passage one seems to be in a meadow of this fern, the peculiar charm of

which arises from the bold sweep of the fronds, combined with the lace-like dissection of the parts; each little nervelet in the stately fronds develops into a tiny leaflet, and as all could not find room to spread them out flat, their little blades bristle upwards all over the frond, giving it a peculiarly elegant frill-like surface. The culture of the plant is, under these conditions, so successful, that a few words on the subject may be of interest.

The main point to be noticed is that no fire-heat is employed. Winter or summer is all the same in this respect, no frost that has occurred for several years past having injured the plants in the least, though sometimes the thermometer in the house has indicated 20° below freezing-point. Another is, that very little or no direct "air" is given, except in the very hottest weather. They are potted in peat, loam, and sphagnum, with abundant drainage, to carry off the abundant waterings. In the growing season, and throughout the summer, the plants are watered overhead three times daily. In mid-winter, when they are at rest, they receive no water for ten weeks or thereabouts. They are shaded by mats, to shield them from direct sunlight. So treated, they grow as freely as could be desired, and furnish one of the finest examples of successful culture of which we have any knowledge.—M.

DRACÆNA GOLDIEANA.

ONE of the most superb of ornamental stove plants, and indispensable in all first-class collections; so writes Mr. Bull, by whom the plant is now being sent out. The description is by no means overdrawn, as the accompanying illustration, kindly lent to us by Mr. Bull, will show at a glance. It is not only magnificent in its general aspect, but altogether unique in its coloration; and when of moderate size, that is, some two or three feet high, and grown as vigorously as it is capable of being grown, it is certainly one of the handsomest of stove foliage shrubs yet known.

The plant was originally sent from Western Tropical Africa by Mr. Goldie, after whom it is named, to the Glasgow Botanic Garden; and was exhibited at the Glasgow International Show, some few years ago, in a collection of plants sent from that garden. Though comparatively undeveloped, enough of its merits were discernible to induce the judges of new plants, of whom the writer was one, to award it a First-class Certificate. Shortly afterwards it was acquired by Mr. Bull, who has since been getting up a stock for distribution, and in the hands of the chief of his staff, Mr. Godseff, its beauty has been brought out in grand style, fully justifying the opinion originally formed of it. It has also been certificated both by the Royal Horticultural and Royal Botanic Societies. The plant is of erect habit, with a simple terete stem, which is clasped by the dilated base of the leaves. These are oblong-ovate acuminate, with a somewhat cordate base, and a short distinct petiole, and set rather closely on the stem, so that a well-grown plant is, while yet dwarf, furnished with a goodly array of foliage. In the markings the leaves are quite unique, having a yellowish-green

costa, while the surface is banded irregularly with simple or forked entire or broken bars, which are alternately dark olive-green and silver-grey, the two colours being about equally distributed over the surface. The under-side, which is



DRACÆNA GOLDIEANA.

generally apparent in the unfolded leaf or leaves occupying the centre or heart of the plant, is of a reddish-purple colour. The effect of this assemblage and arrangement of colours is superb, the plant at once arresting the eye by its distinctness, not less than by its beauty.

Liberal culture in a hot moist atmosphere is desirable, in order to bring out the characteristic features of this *Draccena* in their fullest beauty; but these being secured, it is a plant of the easiest possible culture.—T. MOORE.

PERMANENT BEDDING.

THE flowering season of any plant is only a short period of its history. We know of one, the night-blooming *Cereus*, that hardly remains in perfection for the space of half-a-day, but this is an extreme case, for the rest of the species of the same genus boldly face the sun shining in his strength, taking plenty of time to impregnate their flowers. But after all, the flowering season of most plants is but short, as compared with the life of the plant; hence gardeners have to make relays of different species of flowering plants in order to keep up a supply of blossom for the flower-beds, especially such as are immediately under the windows.

The spring-time, otherwise the bulb season, is a grand one, when the Tulip shows its beauty, and the Hyacinth its sweetness, and the Crocus, the Anemone, and Ranunculus lend their blaze to the parterre; nor may we omit the lowly Snowdrop, and even the Lent Lily and the family of Jonquils, from the list, for they are of the first to tell of the approach of spring, when plants of more note are still hiding their beauties in the lap of earth. One patent fault lies in our having discarded the hardy herbaceous plants, and taken to exotics; but that gardener would assuredly be behind the spirit of the age in which we live, who did not use greenhouse plants almost exclusively for his flower-garden in summer, and he might ask awkward questions as to what else he could substitute to produce the same effect, for any plant that had to flower and seed before harvest-time could then only give its stubble in place of its flowers, and thus be altogether out before grouse was in, and the families at their country seats.

Now I have been watching the materials closely out of which flower-beds are constructed, and I find the two Violas, blue and yellow, to the fore along with the bulbs in spring, and here they are still full of flowers all the summer long, and as neat and trim as plants can be. Moreover, let any one go the round of our nurseries where herbaceous plants are kept in stock, and he will be amazed to find many beautiful "gems of purest ray serene," cramped in a 48-pot. I called attention some time ago to the value of *Nertera depressa* as a carpet-plant, when it was exhibited by Mr. Stansfield, of Todmorden. Such plants are not effective at a distance from the eye, but they tell on closer acquaintance, being so very neat.

The height of the plants that can be admitted into a modern bedded-out garden seems to be only about a foot, or even less. This, of course, excludes a whole host of beautiful flowers. I recollect seeing a show-place in Kent many years ago, and there was one walk planted after the fashion of an amphitheatre; the background was a thick shrubbery of evergreens, rising some 10 or 12 feet, in front of that there were thick massive lines of gorgeous Hollyhocks, and in front

of these Dahlias equally gay, followed by the ordinary bedding-plants, red and yellow, blue and white. Here the handsome azure heads of the deadly Monkshood were made to relieve the monotony of the lines of Dahlias by their quaint shape and scarce, always welcome colour. Who does not admire the *Clematis Jackmanni*, blue as the woodland squill? I long to see it in character on a wire trellis, round a clump of flowers, where the harmony of the colours would be complete, the one being the compliment to the other, making green, or as the colours of the rainbow, making white. The yellow variety of the common Feverfew (*Pyrethrum*) is a hardy herbaceous plant, whose leaves stand in no need of flowers; indeed its shabby flowers are only disgraced upon such handsome leaves, and must be picked off as soon as they appear. The common Chamomile, with double flowers, if well managed, is a good hardy carpet-plant, and gives handsome foliage, and still more handsome flowers; it does admirably as a rock-plant, when planted in rich mud on a stone, where it will be stunted, but flower freely. When done in this way, it will excite inquiry as to what fine double white flower it is. The single-flowered Chamomile is of no use for the flower garden. The dwarf free-flowering *Verbena vernosa* is perfectly hardy, and should be brought in for bedding; although its flowers are purple, and coloured rather heavily, it will act as a useful foil to gayer colours, yet it should never stand by itself, but always in company with brighter flowers. The select varieties of the Marigold can be timed to come in for the months of August and September, and as the name implies, it is quite a vegetable gold, but it requires some pains to hit the season of its flowering, though when that is done the gold will glitter, and by different sowings the plants will bloom for several months; but they, too, though bright, should not stand alone.

There are so many beautiful rock-plants that are greenest in winter and that flower early, whose neat trim character would be no disgrace to the flower-garden in summer, but whose cheerful looks in mid-winter would far surpass the dwarf shrubs that we now see occupying the front places in what was the flower garden when summer days were fine. The dwarf Phloxes make excellent beds early, and give quite a close mass of blooms; and such, with many others, might be set up on stilts, such as small boulder-stones. I grew Heaths in this way on hillocks of stone and peat, after the fashion that the late Mr. McNab adopted for his splendid Cape Heaths in peat and sandstone. The Heaths, such as *Erica herbacea*, are useful as early flowering plants, and they also come in at the fashionable time of the year, in August; and when one sees in town a brace of grouse going to some friend as a present, with a sprig of heather (*Calluna vulgaris*) to garnish the dish, it looks so full of flower, and so fresh and clean, as if it belonged to a better region than its moor and mountain home.

If I could only get one-half or even one-fourth of the flower garden to be rich in botanical details I should be content. The blaze of bedding-plants would lose nothing by the contrast with their rare neighbours, and I would still keep up the so-called border-flowers in their proper place. There is no help for it but to

have a reserve of some kind of something green to fill the vacant beds in winter; and when we see in the best gardens some thousands of small evergreen bushes, without a single flower occupying the summer flower-beds, it seems only a shade better than the honest black earth, raked once a week, as in the olden time. I might count on my ten fingers all the sorts of plants used in some smart places for bedding, and where it is so, all the beauty and effect is seen at one view, so that there is no reserve, nothing behind the scenes, all hope and all curiosities are gone, and for half the year the garden may be set down as fallow. But it would not be so if hardy herbaceous plants and alpines had their share in the bedding arrangements. I could give no better examples or illustrations of what I am trying to advocate than the *Violas* already alluded to, for they have no unsightly foliage to hide, and many handsome flowers to exhibit, and that more or less for more than half the year.—ALEX. FORSYTH, *Salford*.

THE LEADING NEW DAHLIAS OF THE YEAR.

THE year 1877 will be famous in floricultural annals for the number of remarkably fine Dahlias produced at the various horticultural meetings. That veteran florist, Mr. John Keynes, of Salisbury, has been eminently successful, producing a number of new varieties generally characterised by the finest quality, great novelty, and splendid development, and he has been well supported by Mr. C. Turner, Messrs. Rawlings Brothers, and others.

The seedling Dahlia season may be said to open with the exhibition of the Trowbridge Horticultural Society, which is generally held the last week in August. Prizes are offered for the best seedling Dahlia of the past and present years, and Mr. Keynes, Mr. George Wheeler, Warminster, and others are found competing. At the exhibition of the present year, the best seedling Dahlia of 1876 was *Eclipse* (Keynes), pale primrose, heavily tipped with orange-brown, a finely formed full flower, of excellent quality. This variety is so early, that Mr. Keynes was unable to exhibit one at the meetings of the Royal Horticultural Society. First-class Certificates were also awarded to *Louisa Neate*, *George Barnes*, *Henry Bond*, and *Cleopatra*, show varieties; and the following fancies—*Charles Wyatt* and *Maid of Athens*.

At the meeting of the Royal Horticultural Society on September 4, Mr. Keynes staged a collection of sixteen varieties, all of which had bloomed for the first time in 1876, and were again tried during the past summer. First-class Certificates were awarded to *Henry Bond*, bright lilac shading to violet-cerise, with the greatest depth of colour in the centre of the flower, very fine petal and outline and full high centre; *Louisa Neate*, creamy sulphur ground edged with pale apple-blossom, a delicate and beautiful flower, of extra fine quality; *Bessie Ford*, very soft lilac, deepening to pinkish lilac on the edges, fine outline and centre, distinct and very attractive; and *Countess*, pale ground tipped with bright purple, good petal, centre, and substance, but flat and coarse as shown. The same award was made to the following fancy flowers:—*Charles Wyatt*, a splendid-

formed full flower of remarkably fine quality, fleshy-lilac ground, striped and flaked with scarlet and crimson: taken altogether, this is about the finest new Dahlia of the year; and *George Barnes*, bright lilac ground slightly flaked with crimson; build, substance, petal, and centre were very fine, and though quite distinct from Charles Wyatt, yet near to it in character.

At the exhibition of Dahlias, &c., held at the Alexandra Palace on September 13, First-class Certificates were awarded to Mr. Keynes for *Bessie Ford*, *Louisa Neate*, and fancy *Maid of Athens*, dark crimson ground, paling to bright red and slightly tipped with white; a useful flower, but lacking the fine quality of Charles Wyatt and George Barnes. To Mr. C. Turner, Royal Nursery, Slough, for *Charles Lidgard*, pale bright yellow, with medium tip of crimson lake, a finely-formed and striking flower of excellent quality; and for *Lady Golightly*, white, lightly tipped with delicate lilac, small, but of excellent form and quality, and quite distinct in character. To Messrs. Rawlings Bros. for *James Willing*, shaded crimson, tipped with magenta, a distinct and handsome flower, fine in all its parts, and with much novelty of character.

At the Crystal Palace Exhibition, on September 21, the exhibitors of new Dahlias may be said to have had a field-day, and a goodly number of certificates were awarded, for Seedlings were in strong force. The following First-class Certificates were awarded:—To the Executors of the late Mr. John Harrison, Darlington, for *Rosy Circle*, pale maroon-crimson ground, flushed and edged with bright scarlet, of good form, petal, and centre, and from the number of blooms staged, appearing as if it would be constant. To Mr. C. Turner for *Lady Golightly*, shown in excellent condition. To Mr. John Keynes for *Dictator*, bright pale orange-red, good petal, outline, and centre; *Marian*, very delicate pinkish-lilac, in the way of *Bessie Ford*, but deeper in colour, very fine petal, form and substance; *Emulator*, bright crimson, flushed with bright red on the circumference of the flower, very fine form and quality; and *Robert Burns*, a fancy flower, bright rose ground, flushed with claret, and striped with maroon, distinct and somewhat novel in appearance. The same award was made to Messrs. Rawling Bros. for *James Willing*, shown in fine condition.

At the meeting of the Royal Horticultural Society on October 2, Messrs. Rawlings Bros. had First-class Certificates for *James Willing*, again in excellent form; and for *Mr. Shirley Hibberd*, a flower that is scarcely a fancy variety, and yet comes very near to being one; the ground-colour is pale buff, with creamy-flesh on the edges, the petals striped and slightly tipped with purple, with fine outline and petal, and good centre.

Some other flowers that failed to attain First-class Certificates are worthy the attention of cultivators, viz., *Cleopatra* (Keynes), brilliant pale-reddish carmine, very effective; *O. E. Coope* (Rawlings), deep-shaded maroon, with dark crimson tip; *Wizard* (Turner), a beautiful fancy variety, most difficult to describe, a little flat in appearance, but having great novelty of character; and *Philip Frost* (Turner), a bright-looking and distinct flower, with a golden buff and pale orange-red tint, likely to be useful as an exhibition variety.—R. D.

TORENIA FOURNIERI.

THIS is a new and an exceedingly beautiful plant, and when the length of time during which it continues in flower is taken into consideration, it may well be thought worthy of a place in every collection of decorative plants, however select such collection may be.

The plant is of easy culture, and is readily increased by cuttings. Those under my care, however, were raised from seed, which was sown in a propagating house, about the first week of April last. I think some of them were in bloom by the beginning of the following June, and the plants have all continued in full flower ever since that time, and are now, nearly the end of October, in great beauty, and appear likely to continue so for some time to come. Most of the plants are growing in pots some six inches in diameter, and the soil used is the same as is generally used for Pelargoniums and other soft-wooded plants.

But remembering something of the habit of growth assumed by the old *Torenia asiatica*, a few of them were potted into pots made for the purpose of being suspended, and these hung up from the roof of a cool plant-stove, or rather an intermediate house, have succeeded well, and are still very beautifully in flower. The habit of the plant, however, does not render it quite suited to the purpose of being suspended, as it is somewhat erect in its habit of growth, and readily forms a dense bush, and does not require much assistance in the form of stakes. The flowers bear a considerable resemblance to those of the *Torenia asiatica*, but they are more beautiful, and are produced in greater abundance. To secure the production of seed, it is necessary to have recourse to artificial fertilisation.—P. GRIEVE, *Culford*.

GYMNOGRAMMA HEYDERI.

A NEW gold fern raised at Potsdam by Garden-Inspector Lauche, and named by him in honour of Councillor Heyder. It is a hybrid raised between *G. chrysophylla* and *G. Laucheana*, and is described in the Berlin *Monatsschrift* by Dr. Wittmack.

The stem is short, clothed with delicate brown chaffy hairs. The fronds are long-stalked, the stipes being smooth, shining, dark brown, rounded on the lower, channelled on the upper side, furnished with a few frail chaffy hairs at the base, and slightly coloured with yellow powder. The blade is triangular-ovate or elliptic-oblong in outline, bipinnate; the pinnæ oblong-ovate or triangular-ovate, and the pinnules broad, the lower ones oblong-ovate, cut into crenate-serrate lobes, the upper ones rhomboid-ovate, inciso-crenate-serrate, and somewhat convex, dark shining green, the under surface covered with farinose powder of a beautiful dark golden yellow. The lines of spore cases are in great part overlaid with the golden-yellow dust.

This fine fern is nearly related to *G. Laucheana*, but differs essentially by the much broader inciso-crenate-serrate pinnules, which give a more solid appearance to the whole frond.



J. L. Macfarlane del.

Mimulus:

1. Galatea. 2. Crown Prince. 3. Spotted Gem. 4. Fire King

From the coloured figure accompanying the description, the plant appears to have very much the general aspect of *G. Laucheana gigantea*, raised some years since by M. Stelzner, of Ghent, but would seem to be of dwarfer habit.—
T. MOORE.

DOUBLE-FLOWERED MIMULUSES.

WITH AN ILLUSTRATION.

OUR plate represents some novel varieties of *Mimulus*, or Monkey-flower, in which the development has been carried so far as to result in the production of double-flowers. It will be seen that in these double-flowered varieties a small tuft of petaloid bodies is produced in the mouth of the tube, which gives them quite a distinct appearance. The large size and varied colouring and markings of the flowers render them very effective. The names of the double-flowered varieties represented in the accompanying illustration are GALATEA (fig. 1), CROWN PRINCE (fig. 2), SPOTTED GEM (fig. 3). A glance at the figures themselves will convey a better idea of the richness of their colouring than any description in words, though in a general way we may describe those we have selected as having straw-coloured or sulphur-yellow grounds, with bold blotchings and spottings of crimson, the corollas being more or less flushed with rose-colour, and with orange-yellow on the palate. Various other combinations of colour, however, occur amongst them.

The horticultural world is indebted to Messrs. E. G. Henderson and Son, of the Pine-apple Nursery, for the production of this fine race of novelties, which, we are informed, was obtained by continually following up a chance sport, casting aside the single or poor varieties, until the character became fixed as the mark of a distinct and permanent section. We have to thank these gentlemen for the opportunity of laying the accompanying portraits before our readers.

The remaining figure in our plate, that of FIRE-KING (fig. 4), represents a brilliant large-flowered strain, obtained by crossing with *M. cupreus*; the deep scarlet and bright yellow tints to be found here are very striking, and are relieved by the orange-yellow and the deep crimson spotting which adorn the palate. In a collection this will prove remarkably telling.

We may also mention in this connection the splendid strain of single-flowered spotted Mimuluses for which the Wellington Road and Pine-apple Nurseries have of late years become famous. The extraordinary size which has been reached, and which one often sees developed on the tiniest of plants, in thimble-sized pots, is perfectly startling, the flowers appearing at first sight larger than all the rest—plant and pot—put together. In this strain also, which has been originated by the intercrossing, over a period of many years, of the races distinguished by the names *pardinus*, *tigrioides*, *quinquevulnerus*, *cupreus*, &c., there is an almost endless variety of colour-tints and of markings, which render them particularly striking as ornamental plants. A selection of the best of them is now grown, under names, upwards of forty sorts being thus offered in Messrs. Henderson's catalogue for the present year.—T. MOORE.

THE SARRACENIAS, OR SIDE-SADDLE FLOWERS.

THE species of this curious family of plants, which bears the botanical name of *Sarracenia*, are now more commonly seen than formerly, the supposed mystery attending their cultivation proving to be a myth. The grand examples which were exhibited some few years since by Mr. Baines must have been instrumental in dispelling this illusion, and since that time there has usually been an interesting group of these plants exhibited at the Manchester Botanical Gardens on the occasion of the Whitsuntide show. A considerable number was exhibited at the show in May last, many of them being in flower, and including one novelty—a very fine form of *S. flava*, much more vigorous than that called *S. flava maxima*, having larger and more highly-coloured pitchers, and to which the name of *Sarracenia Fildesii*, after its owner, was attached. This plant has the pitcher-like leaves twice the size of those of *S. flava*, but of the same general character, and they are strongly marked with dark red veins on the upper part of the tube or pitcher, as well as on the lid.



LEAVES OF SARRACENIA PSITTACINA.

One of the most interesting features of a specially interesting group of plants exhibited by Messrs. Veitch and Son, of Chelsea, at the great summer show of the Royal Horticultural Society in June last, was a remarkably varied group of *Sarracenias*, *Darlingtonia*, and allied plants, including a most interesting hybrid, named *Sarracenia Stevensii*, raised some few years ago by Mr. Stevens, of Trentham, and now developing into a very handsome plant. This was raised between *S. purpurea* and *S. flava maxima*, taking on the erect habit of the latter, with the bulging form and purple veining and coloration of the former, which it thus most nearly resembles. Mr. Williams's fine collection of these plants also contains a hybrid form, *S. Williamsii*, which has the same parentage as *S. Stevensii*, but from its taking more after *S. flava*, it is probable the cross was made the reverse

way. In this, the pitchers are erect, with a large lid, and they are broadly winged.

Another very fine set of these plants were, as we learn from the Irish *Farmer's Gazette*, blooming in the month of May last in the Victoria house at Glasnevin. On a shelf were to be seen standing in single file, and all or nearly all in flower, some three dozen or more healthy specimens of these singular plants, comprising all the species in cultivation, as well as beautiful examples of a more interesting hybrid, raised a few years ago between *S. flava* and *S. Drummondii* by Dr. Moore. Here were several specimens of the longest known and most familiar of any, *Sarracenia purpurea*, with its much inflated pitchers and dark purplish flowers, about the largest and most showy of any, and amongst the plants of which considerable variety might be noticed. Then came several examples of *S. flava*, with its tall pale greenish yellow flowers, and erect leaves, like long narrow funnels, showing a striking contrast, both in leaf and flower, with those of the preceding. There were also grand examples of Dr. Moore's hybrid, *S. Moorei*, which, by reason of its stately habit, was perhaps the most interesting of the series. In this, the rich purple of the flowers of the male parent, *S. Drummondii*, are toned down by the infusion of the pale blood of the female parent, *S. flava*, those of the offspring being pale rose. A characteristic peculiar to *S. Drummondii*, and by which it may be always distinguished when in flower, is its towering scape, lifting the flowers high above the pitchers; in the cross they are modest, and like those of *S. flava*, rise little more than midway the height of the pitchers. As regards the latter, in height, appearance, and the beautiful painted reticulations of the lid, they are the counterpart of the parental *S. Drummondii*, of which a series of specimens succeed to those of its offspring, all, too, in flower. Then came examples of *S. rubra*, *S. variolaris*, and though last, far from being the least interesting, *S. psittacina*, with its singular amphoræ, not standing up like those of the others, but radiating from the crown with perfect regularity, like the spokes of a wheel, and resting on the surface of the earth; this plant had three flower-scapes in process of development.

“It would, we apprehend,” remarks our contemporary, “be difficult to meet with elsewhere a series of these singular productions so extensive and varied, presenting a picture of plant-life which, in its floral and physiological aspects, is so singularly interesting. It must not be inferred from the mention of the Victoria house that they are grown at Glasnevin in a high temperature. No such thing. From the time the *Victoria regia* dies down in autumn there is no fire-heat whatever, or but very little, applied to this house till about the middle of May, when the giant water lily again enters upon its marvellous development.”

We add the following remarks by Mr. Baines on the cultivation of these plants (*Gard. Chron.*, n.s., v. 358), and trust they may lead to a much more general cultivation of so interesting a group of plants:—

“The condition Sarracenias are generally seen in fully demonstrates the

effects of the mistaken advice that has been too often given as to their requirements. Many who have written on their culture have recommended *S. purpurea* to be grown in a cold frame, and *S. Drummondii* to be kept as hot as if it had been a native of Burmah, or to stand them continually in pans of water, or to syringe them indiscriminately overhead. That they will merely exist under such treatment is no evidence that they like it, but simply that they are tenacious of life. When badly grown they are insignificant in the extreme, but when well managed there are no more interesting or singularly beautiful plants in existence, attaining proportions such as are never seen in their native countries.

“All the species will do well under the same treatment as to heat, soil, moisture, and air. They should be kept from the middle of November to the end of February in a night temperature of 50°, with a rise of 5° in the day; after this, raise the heat 5° day and night, and through the spring and summer let it be from 60° to 70° in the night, and from 75° to 85° in the day, according to the weather.

“The soil should consist of the fibrous portion alone of good peat—all the earthy matter sifted out—and chopped sphagnum in equal parts; to this add one-fifth fine broken crocks and sand, each about equal, mixing the whole well together. Every year, about the middle of February, not later, whether they appear to want it or not, the whole of the soil must be gently shaken from them, repotting them in new. If moved later than this, their roots are in motion, and it often causes the pitchers to come crippled, or in the case of the tall growers, not to pitcher at all.

“All the species should be potted at this time except *S. Drummondii alba* and *S. Drummondii rubra*; these are best shifted about July, after the spring growth is quite completed, and before the starting of autumn growth which these two kinds make, and at which season they produce their principal lot of pitchers, though when strong they will make almost as many in the spring. In potting, fill the pots one-third with crocks, and keep the creeping rhizome-like stems just above the soil. Every flower-stem they throw up divides the crown in two; in this way they increase, but they should not be severed until they have got to a considerable size, as a small bit remains small for a long time. From the time the plants commence growing, up to autumn, water them freely every day, and twice a week in winter. Never syringe overhead, except in the case of *S. purpurea*, as it makes them soft. Never stand them in pans, as it is liable to rot their roots. Put them as close as they can be got to the upright glass on the south side of the house, or else elevated until they all but touch the roof on the sunny side; let them be in a moist corner, and do not admit air very near them, but they like a fair amount in the house, to keep the growth sturdy. They must not stand on open trellis-work that will let the air rush up amongst them, but should have a broad shelf of close-jointed unplanned boards that will hold moisture, and which should be wetted two or three times a day when the plants are growing. Use a very thin shade when the sun is upon them. Nip out all the flowers as soon as they appear, or they will weaken the plants.

“The plants are very subject to scale, which must be diligently sought for, or it will do serious injury, as also green-fly, and if there is a thrips in the house, it will find them, getting under the rim of the mouth. These must have no quarter, as if not exterminated quickly, they will destroy the pitchers before they have lasted half their time. The largest form of *S. flava*, of which I never saw any but the plant I grew when with Mr. Micholls, and some half-dozen bits that were taken from it, is far the finest, and totally different from the others, being almost deciduous, dying down in the winter, except a few short leaves about nine or ten inches long that do not pitcher. All the species are a good many years before they acquire their full strength from small plants.—T. BAINES.”

THE AMERICAN BLIGHT.

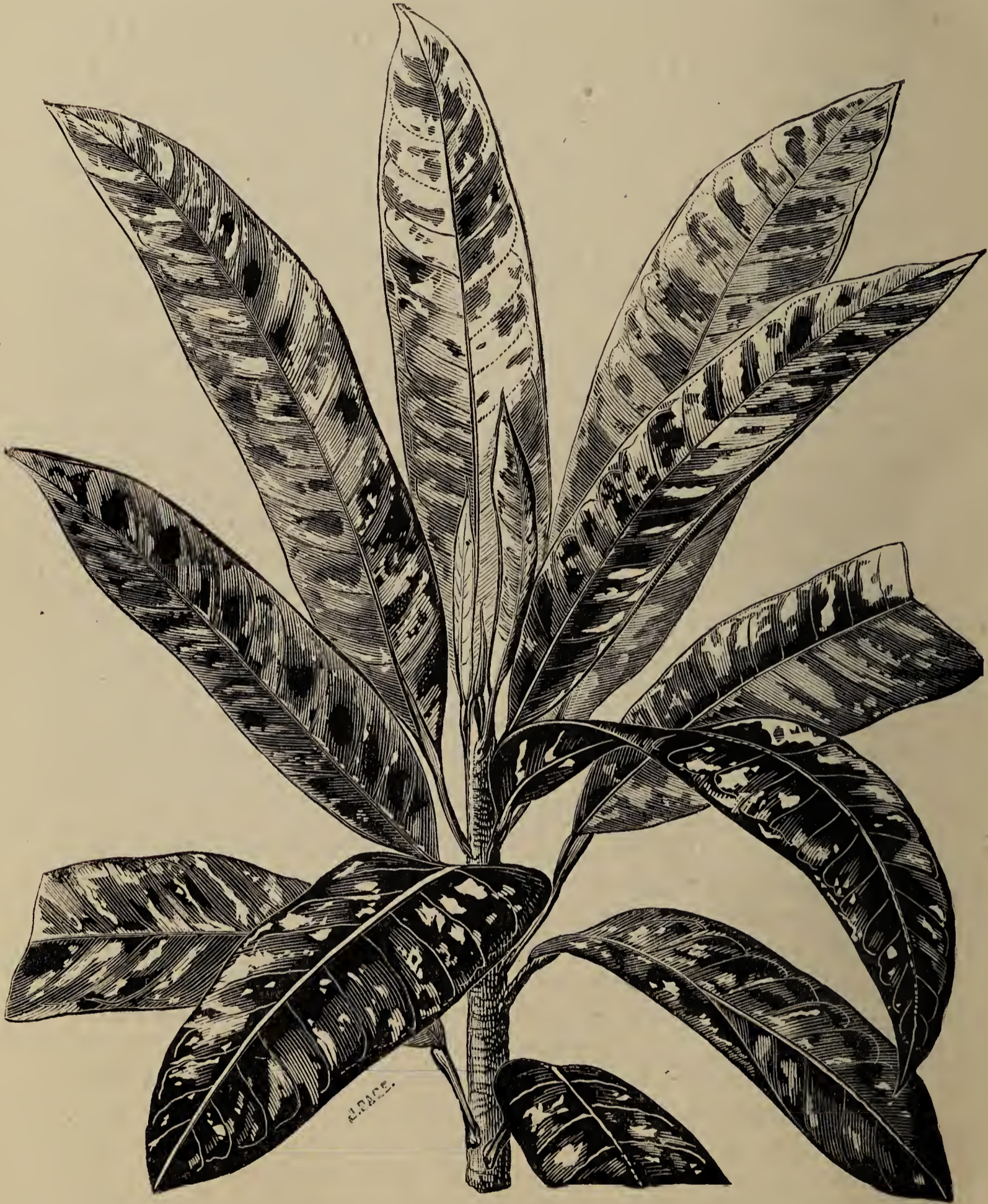
FIND that this troublesome aphis can be readily exterminated by the use of common train-oil.

Some of the best kinds of dessert Apples are here trained to a low wall, with an east aspect, and had for several seasons been much infested with this pest, while several remedies had been resorted to, without, however, effecting a cure, or at all mitigating the evil. Early in March last, the trees were unnailed from the wall, and pruned as usual, but before they were again secured to the wall they were thoroughly painted over with train or fish oil. This was applied with an ordinary paint-brush. The trees had much the appearance of having been varnished, and some apprehension was felt as to the safety of the bloom-buds, which were considerably developed at the time the oil was applied. The trees were, however, again secured to the wall, and the result has proved all that could be wished. Not a bud appears to have been injured; the trees have a clean and healthy appearance; not a vestige of the Blight is to be perceived; and the fruit they have borne this season has been finer than usual.—P. GRIEVE, *Culford*.

CROTON QUEEN VICTORIA.

THIS handsome variety is offered by Mr. B. S. Williams, of the Victoria Nursery, Holloway, as “the first hybrid Croton which has been raised in this country.” Whether this be so or not, it is certainly a very fine Croton, and one which we believe will make its way among cultivators. “It is the result of a cross between *C. Weismanni* and *C. interruptus*. It far exceeds in beauty any of the imported species offered up to the present time. It is of medium growth and free branching habit, a most desirable feature in the formation of good specimens. The leaves, when well matured, are from 9-in. to 12-in. long, and about 2-in. broad, oblong-lanceolate. The ground colour is of a rich golden-yellow, beautifully mottled with green; the midrib and the primary veins are of a rich magenta colour, changing with age to a vivid crimson; the margin of the leaf is unequally banded with carmine, often extending as far as the midrib, and so harmonising with the rich yellow as to produce a gorgeous effect.”

Such is Mr. Williams's description, and from what we have seen of the plant, it does not appear to be at all exaggerated. It certainly is one of the best Crotons of its type we have met with, though from their number they are now getting almost



bewildering. The plant was awarded a First-class Certificate at South Kensington during the past summer. Mr. Williams has obligingly furnished us with the illustration here given.—T. MOORE.

VILLA GARDENING FOR NOVEMBER.

THE gardener knows no idle moments, if he be in earnest in the culture of flowers, for as Canon Hole once observed, "Every day brings to a gardener its special interests; there is always something worthy of his care and admiration; some new development of beauty, some fresh design to execute, some lesson to learn, some genial work to do." Autumn and winter are as brimful of occupation as spring and summer, if it be sought for among cultivated objects of interest.

The Greenhouse: The dull, gloomy days of November are not at all congenial to the inhabitants of the greenhouse, especially if the weather is cold, dismal, and foggy; and tender shoots damp off, insects make their appearance, &c., caused in most cases by a larger supply of atmospheric moisture than the plants have the means of carrying off. This is particularly true in the case of unheated plant-houses, and it is astonishing to notice what a degree of intense cold green-fly will stand without succumbing to its influence. All the plants should now be housed for the winter, and the house should be ventilated freely in favourable weather, checking cold draughts as much as possible. A little fire-heat in the coldest and dampest weather will be necessary to purify the atmosphere and remove the superabundant moisture. In a cold-house, *Aralea Sieboldi*, *Abutilons*, *Tritonia aurea*, *Chrysanthemums*, &c., will be very useful. In a warm-house, *Primulas*, *Cyclamens*, *Fuchsias*, and *Zonal Pelargoniums* will remain very gay and effective. Where space is restricted, and gardening knowledge elementary, it is best to grow things that are, on the whole, easily managed. Some villa gardeners are apt to attempt the cultivation of plants that are a little difficult to grow, and the frequent result is failure. When the presence of fire-heat enables tender plants to be grown, they should be arranged as nicely as possible, to secure a pleasing effect during the winter, keeping them uniform, neat, and clean in appearance, and tying them into shape as required. Change the position of the plants occasionally, so as to relieve the house of that sameness of appearance which is so often to be found, and which is so easily altered by a little attention.

Flower Garden: The principal work at this season is the clearing-up of leaves, storing them away to make mould, and the dead stems of herbaceous and other plants that decay in autumn. Herbaceous borders, including, of course, the mixed border, should be carefully forked over at the end of the month, and a dressing of leaves and dung or a surfacing with refuse potting-soil added. All choice things that die down should have their places marked with labels, for the villa gardener is often at the mercy of the jobbing gardener, who digs, but does not reflect. *Chrysanthemums* growing against south walls should have their shoots finally nailed in position, and as November winds are rude, those in the open border should be tied securely to stakes. Shrubs and trees which require pruning should be attended to. As soon as the flower-beds are emptied, they should be dug over and laid up rough for the winter; if not required for the spring display. *Bedding Pansies* and *Violas* cut over in July are now blooming freely, and as long as bright weather lasts, they will continue to flower.

Cold Frames: This is an important department of the garden at this time of the year. *Auriculas* in pots should be watered sparingly, and decaying leaves should be removed, and green-fly banished. Rooted layers of *Carnations* and *Picotees* that it is desirable to winter in pots should be lifted and potted into some good loam, leaf-mould, dung, and rough sand, pressing the soil firmly about

the roots. *Primula amoena* and its varieties should be repotted, draining the pots well, and using a light, rich soil. Choice *Aquilegias*, like *cærulea*, *chrysantha*, and *glandulosa*, that are bloomed in pots, should be repotted; also if not already done, the hardy species of *Primula*, which are among the most useful things the villa gardener can have in pots, such as *P. intermedia*, *nivalis*, *Munroi*, *purpurea*, *denticulata*, *formosa*, *Parryi*, &c. Other fine things to winter in pots for blooming in spring are *Anemone fulgens*, *A. apennina*, *A. blanda*, *Dodecatheon Meadia*, *Cypripedium spectabile*, *Scilla sibirica*, *Triteleia uniflora* and *lilacina*, and others too numerous to mention. The frames should have well-drained bottoms, so as to keep the plants as free from damp as possible. If air be given on all favourable occasions, and decaying leaves removed, damp and its attendant evils can be kept at bay.

Kitchen Garden: All kinds of *Fruit-trees* may be planted during the month, but the ground should be deeply dug and made good before doing so. *Wall Trees* may be gone over and nailed, thinning-out the shoots, leaving the strongest and such as are well ripened to bear next year. The actual pruning should not be done till February or March. Re-nail the shoots to the wall, using new shreds. The medicated shreds are very useful for a Villa Gardener. *Pyramid* and *bush fruit-trees* that have made a free growth this summer should be gone over and the shoots thinned-out. Prune some of the longest spurs of *Pears* and *Cherries* to the bud nearest the main branch, as this tends to keep the trees more within bounds. Thin the shoots of *Plums*, leaving the young and two-year-old shoots to become the bearing wood next season. It is best to get this work done in favourable weather, for if all the trees be left till February and March, there are so many other things to be done then, that the trees are apt to be hurried over and imperfectly done.

In the Vegetable Garden, *Carrots*, *Parsnips*, and *Beet* should be lifted, and stored for winter use. If frost threatens, bend a few of the leaves over the heads of *Broccoli* and *Cauliflowers* coming into use. *Endive* requires tying-up when quite dry for blanching, doing a few plants at a time for succession. The final earthing-up of *Celery* may be given to make it snug for winter. *Cabbages* may be earthed-up, and when the weather is fine and dry, the hoe should be used among the plants. A little *Seakale* may soon be forced, putting pots over it, and covering with leaves to the depth of a foot or so. *Rhubarb* may be treated in the same way. Trench, manure, and throw up roughly for the winter all ground that will not be required for use till spring.—D.

GARDEN GOSSIP.

THE so-called Mexican Apple, *Casimiroa edulis*, has recently been fruited in the gardens at Kylemore Castle, Galway, the seat of Mitchell Henry, Esq., M.P. The gardener, Mr. Garnier, states that the plant, which was sent out by Mr. Bull some nine or ten years ago, is now a tree about 10 ft. high, with a clear straight stem and a beautifully formed head, about 5 ft. through. It seems to require some years before it produces fruit. Two years ago it showed some small fruits which did not come to maturity, but others produced this year grew to the size of a good specimen of a St. Michael's Orange. The tree is said to be very prolific. Mr. Garnier considers it the best of all the tropical fruits he is acquainted with. It begins to grow at the end of September, just as the fruit is gathered, and swells very rapidly, soon completing its full growth. The fruit is borne on the two-year-old wood, not in the axils of the leaves; it is of a greenish yellow colour when ripe, and with a delicious melting flavour, like that of a Peach. At Kylemore it is grown in rich, perfectly drained friable loam, mixed with a little peat, and in a large, lofty spau-roofed tropical house, which is never heated much

beyond an intermediate temperature. Though it has received the name of Apple, the *Casimiroa* is more strictly an Orange. The foliage and the outer part of the flower are studded with transparent oil-cysts, as in the Orange, but the leaves are digitate, and the flowers are less conspicuous than those of true Oranges. The tree is a native of Mexico, where it is found in a wild and cultivated state; it has also been widely distributed through various parts of America. Seeman, in the "Botany of the Herald," says it has a remarkable tendency to accommodate itself to different climates; it grows from the lowest coast region to an elevation of 7,000 feet, producing everywhere an abundant harvest. The fruit is said to produce a somniferous effect, and the seeds are reputed to be dangerous, so that caution is needed in the use of it. It seems likely that in many parts of India, the Cape, and the Australian colonies it would prove a valuable introduction.

— AT the last meeting of the Woolhope Club (Oct. 4), M. Maxime Cornu, of Paris, described a *New Disease of the Vine*, which had been brought under his notice in plants from the neighbourhood of Narbonne. It is there called *Anthracnose*, because it appears like dark burnt spots on the leaves and branches of the Vine, and even on the Grapes themselves. In the first or conidial stage the spots are white, and in the second stage they present the blackened and charcoal-like appearance that has given the popular name to the disease. It belongs to a fungus named by Berkeley and Curtis *Phoma uvicola*. Its third condition is yet to be observed. The disease has been introduced into France with young plants from America, and has now been observed in several places. The Vines are also attacked by another fungus named *Cladosporium viticolum* of Cæsatii, which is recognised by its dark brown velvety spots, which have been known for some years; and now it has been pointed out by Dr. Farlow, at Boston, that the French Vines in America are attacked by an ally of the Potato fungus in *Peronospora viticolum*, which attacks the young shoots and branches in the most destructive manner. M. Cornu dwelt on the importance of the most careful attention to the study of these diseases, and called for the assistance of English mycologists in their observations. The remarks were illustrated by most carefully executed drawings of the fungi named above, and their effects on the leaves, stems, and fruit of the Vine.

— THE following remarkably showy *Phloxes of the decussata type* were noted as the best during the late flowering season, at Mr. Parker's Nursery, Tooting. The pride of place must be given to the charming *Coccinea*, so rich is its colour, so neat and floriferous its habit; next come *Madame Thibaut*, amaranth-red, with crimson centre; *Madame Damage*, white, with carmine centre; *Danaë*, creamy white, with purplish-carmine centre; *Madame Cannart d'Hamale*, salmon-rose, with crimson centre; *Madame Autin*, purplish-crimson, with purple centre; *Lothair*, bright scarlet, with crimson centre, a great beauty; *Madame Andry*, purplish-crimson, with crimson centre; *La Candeur*, white, with broad rosy-purple centre; *J. K. Lord*, salmon-red, with fine carmine centre; *Gloire de Poiteau*, clear rosy-lilac, with a white centre, a fine old variety, with a rare constitution; *Sultana*, dark salmon-pink, with crimson centre; *Mons. Donnaud*, a salmon-red, with crimson centre; *Richard Wallace*, white, with a bright carmine centre; *The Queen*, a remarkably fine pure white; *Baron Duraffe*, purplish crimson, with crimson centre; *Lucien Tisserand*, mauve, with crimson centre; *Madame la Comtesse de Turenne*, white, with purplish-lilac centre; *Princess of Wales*, white, suffused with rose; *Sparte*, rosy-purple, with crimson centre; *Professor Koch*, rosy-salmon, with rich crimson centre; *Menotti*, rosy-lilac, with white centre; and *Madame Moisset*, bright rose, with a rosy-crimson centre. Selecting from these a dozen of the best for bedding purposes, we have *Coccinea*, *Gloire de Poiteau*, *Lothair*, *Lucien Tisserand*, *Madame Andry*, *Madame Moisset*, *Menotti*, *Princess of Wales*, *Professor Koch*, *Richard Wallace*, *Sparte*, and *The Queen*, all of which have a fine branching habit, and flowers of perfect form and purity of colour.

— NOT only are *Double Pyrethrums* attractive in appearance, but they are also continuous in flowering. What is best to be done with these during autumn? In an open and somewhat dry border or bed, the plants will do well through the winter, for their great enemies are wet and slugs rather than frost. The stronger and better established the plants are, the more likely are they to stand the winter; where

they are left, a ring of sharp cinder-ashes put round the stools at the end of October will serve to keep the slugs at bay. To propagate them, take the small side growths, which are produced at the end of the summer, carefully remove them as near the stem of the parent plant as possible, and put them singly into small pots, or a few round the sides of a large pot, and they will soon take root. In this manner fine varieties can be increased. The parent plants can be divided, but this is best done at the end of March, just when the plants are getting active. When divided they invariably grow away safely.

— To those who have to meet heavy demands for cut flowers—and their names are legion—the dwarf race of *Early-flowering Bedding Chrysanthemums*, which are making their way into the nurserymen's lists, are to be strongly recommended where a large supply of cut flowers has to be kept up. They prove to be fine border flowers, having a low bushy habit, are lavish in their production of flowers, come into bloom about June, and continue in blossom until frost puts an end to their beauty in autumn. If propagated by cuttings in spring, and grown on under liberal treatment, they make sturdy plants about 15 in. high, and some of the sorts about the same through—invaluable plants for cutting from. If grown in quantities in pots, they would prove very serviceable substitutes for failures in the bedding-out. Mr. Parker has got together a fine collection of them, from which a dozen good varieties of different colours will be found in the following:—Delphine Caboche, Illustration, Cassy, Frederick Pele, Jardin des Plantes, in three varieties, pink and white, yellow, and white respectively; Madame Pecoul, in two varieties, light and dark rose; Nanum, Scarlet Gem, and Précocité. One called Madame Damage, which we have seen at Mr. Cannell's, is a very dwarf free-blooming yellow, of first-class merit.

— As a cure for *Worms on Lawns*, Messrs. Rutley and Silverlock, of 412 Strand, have introduced from China a soap, said to be made from the seed of the Tea plant. It is very efficacious dissolved in water, in the proportion of 1 lb. of the soap to water sufficient to saturate a square yard of turf. The soap has somewhat the appearance and smell of coarse oilcake.

— SPORTIVENESS seems to be a feature inherent in the *Zonal Pelargonium Vesuvius*. This variety is justly popular as one of the very best of the scarlets for bedding purposes. From it sported the semi-double Wonderful, a variety of the same colour, and having all the good properties of its parent, such as dwarf and free-flowering habit, with the doubleness of the flowers superadded. Then came New Life, a scarlet with white stripes, which is very constant to its markings, and when well established is really a striking flower. Still more recently, we hear of a salmon-lake sport, from the same old sort, in every way identical with it except in colour. We hear, too, that Mr. Cannell has just obtained a further advance towards a *Yellow Pelargonium*, in the form of two brilliant flame-scarlet varieties, both of which are marked with distinct rays of yellow. Jealousy, which has hitherto been the most auburn of our pale orange-scarlets, is said to have a dull and ineffective appearance by the side of these new-comers.

— THE Irish papers state that *Amaryllis Ackermanni* has this season been flowering in the open border at Glasnevin. One of the familiar glories of the sunny border during the autumn season is the so-called Belladonna Lily, *Amaryllis Belladonna*, which is the only one of the magnificent genus to which it belongs that has hitherto been induced to display its beautiful flowers out-of-doors. Now it appears that a magnificent variety of *A. Ackermanni*, named *splendidum*, has been flowering finely in the open border in front of the central glass range at Glasnevin, where it formed a striking object, far eclipsing *A. Belladonna*. Here is a hint for further trials in the same direction.

— Now that the *Tuberous-rooted Begonias* have become so numerous, and prove so valuable for decorative purposes, both indoors and out, it is important to know the best mode of keeping them safely through the dormant winter season. Mr. Smith, of Newry, writing from experience, says the tubers should be kept cool and comfortable through the winter; they keep very well in the pots in which

they have been grown, stood upon a damp soil-surface, where the pots will absorb sufficient moisture to prevent them becoming dust-dry—just those conditions where the tubers and even some of the small rootlets would keep fresh and plump. Kept in this way, they start strongly and naturally in the spring, and much earlier than when they have been kept quite dry. A vault or cellar from which frost is just excluded would be a capital place for them. The one thing they do not like is over-drying.

— As a new carpet-bedding plant, the *Gardeners' Magazine* recommends the common white trailing Bedstraw of our moors and heaths, *Galium saxatile*. It is said to be a valuable surfacing plant for beds of lilioms, or for any purpose, indeed, for which a close, green, moss-like growth of herbage may be required. It needs a peaty or gritty soil, and apparently starvation is good for it as a garden plant, for when thoroughly starved it forms a very close, mat-like growth, and does not flower, so that as a green surfacing, it is as nearly perfect as can be imagined.

— THE forms and combinations of forms in Hot-water Boilers seem endless. One which recommends itself to many persons is *Wagstaff's Upright Tubular Saddle Boiler*, and no doubt the action of this boiler must be efficient, since it combines in great measure the good qualities of both the saddle and the tubular kinds. This tubular saddle, being composed of a number of tubular sections or arched ribs, bolted together, with spaces between, is practically a combination of the two forms which are acknowledged to be most efficient. The numerous bolts close to the furnace which this mode of construction involves, appears to be the weak point in its construction, but as long as it keeps sound, the boiler is, no doubt, efficient.

— THERE are many fine subjects for the landscape gardener amongst the *Alders*. Mr. Young, of the Milford Nursery, has one called *Alnus incana variegata*, a new form that has not yet been sent out, the leaves of which, when true to character, are heavily blotched with yellow; but this character does not seem at present to be quite fixed, as the plants occasionally hark back to the green state, to break out again into golden variegation further on. In *Alnus glutinosa aurea* we have the variegation well fixed, and a very pleasing tree it is, with its pure lemon-yellow leaves; indeed it is one of the best of yellow-leaved shrubs. *A. glutinosa imperialis*, with its deeply-cut leaves and elegant pendulous branches, is certainly one of the handsomest varieties of its kind. *A. g. oxyacanthifolia* has pinnatifid leaves, resembling those of the whitethorn, but in consequence of a constriction of the mid-rib, the leaf is curled back from the tip. *A. viridis* is remarkable for the dark-green colour of its wood and foliage. *A. cordifolia* (cordata) with its fine heart-shaped smooth-shining leaves of a similar colour, is a very distinct species, of rapid and symmetrical growth; the last named is sometimes called the Italian Alder, and is almost an evergreen, retaining its foliage well into the winter and spring. For planting in islands on the margins of lakes and streams, and in damp places generally, the Alders are useful for mixing with Willows, &c.; but they do not absolutely require wet ground, thriving perfectly in deep, rich soil.

— UNDER the title *Horticulture*, Mr. Burbidge has compiled a handy volume for one of the series of *British Industries* published by Mr. E. Stanford (Charing Cross). The several chapters are devoted to Commercial Gardening, Fruit Culture, Vegetable Culture, Salad Vegetables, Herbs, Decorative Plant Culture, Plant Propagation, &c.; and under these several headings the author discusses the character of the subjects cultivated, the means necessary thereto, the quantities produced, the expenses incurred, and so forth. In one flower-growing establishment, for example, where the glass-houses and pits are very numerous, we learn that 7 miles of 4-in. hot-water pipes are required for warming them, and in ordinary winters, 600 chaldrons of coke and 250 tons of coal, besides an enormous quantity of breeze, are required for warming them. From this establishment from 80,000 to 90,000 Pelargoniums are sent to market annually, besides 60,000 to 70,000 Hyacinths. Of these 20 dozen are always sent to market the day before Christmas. Another grower imports and cultivates annually 160,000 tulip bulbs. This kind of information, with a brief explanation of the methods adopted, is supplied under the different headings, so that much useful as well as much curious statistical information will be found, which is well worth consulting.



PRIMULA (SINENSIS) MISS EVA FISH.

WITH AN ILLUSTRATION.

THIS beautiful double-flowered variety of the Chinese Primrose has been figured from plants grown in the Pine-apple Nursery by Messrs. E. G. Henderson and Son, by whom it is being sent out. It is a remarkably constant and very distinct and effective variety, and will take a high place amongst the double-flowered sorts, which are so especially useful for ornamental purposes, not only as decorative plants, but for the supply of cut flowers.

The leaves are of the typical or palmatifid type, of a bright, cheerful green, supported on green petioles. The flower-truss is full and whorled. The individual flowers are fully an inch and a half in diameter, composed of three or four series of petaloid organs developed in the place of the stamens within the ordinary salver-shaped corolla; they open of a bright, deep rosy-lilac, whitish at the edge, the eye small and yellowish-green in the younger, but obliterated in the older flowers, and the margins of the segments fimbriate. As they become older, the flowers change to a pleasing shade of pale bluish-lilac, the pallid or white margin being conspicuous in all the stages of development.

Our figure represents the flowers of the brighter rosy tint which belongs to their youth. Later on the rosy tint is more or less absorbed, and the blue becomes more apparent. In all its stages the plant is extremely chaste-looking and charming.

The Messrs. Henderson's collection of Double-flowered Chinese Primulas has long been well known as including most of the choicer kinds, and we find the under-mentioned sorts are now offered by them.—T. MOORE.

- | | |
|---|---|
| ALBA PLENA, white, much used for cut flowers. | KING OF PURPLES, rich full double purple; an effective variety, of free and vigorous growth; a splendid flower. |
| ALBA PLENA FIMBRIATA, double fringed white, a beautiful variety. | MAGENTA QUEEN, magenta-red, finely fimbriated flowers. |
| ATROROSEA PLENA, fine rich crimson, large flower, full petals, extra fine quality. | MAGNIFICA, extra fine fringed magenta; a beautiful variety, lovely colour. |
| BALFOURII, rosy carmine. | MAIDEN'S BLUSH, very pretty, rich blush-coloured flower. |
| BLUSHING BEAUTY, white, suffused with rose; a profuse-flowering plant; fine for pot-culture and cut flowers, very large flower. | MRS. EYRE CRABBE, beautiful white, slightly striped, and speckled with red, flowers large and of good outline; a splendid variety. |
| CANDIDISSIMA, fine fringed white; a most prolific bloomer. | NIVEA PLENA, pretty fringed white. |
| EMPRESS, large double-white full flower, with fern-leaved foliage, beautiful. | PEACH BLOSSOM, the colour of peach blossom a good variety. |
| EMPEROR, rich purple-crimson, fern-lobed leaves, splendid full large flower, most beautiful. | PRINCESS OF WALES, a beautiful full-petaled large double white, extra; the most beautiful form of any in the group; elegantly fimbriated. |
| EXQUISITE, white, elegantly flushed with rose; a profuse-blooming variety, of compact dwarf growth and lovely colour. | RUBRA GRANDIFLORA, fine double crimson, fine robust habit. |
| FAIRY, beautifully fringed double white; a prolific bloomer. | RUBRA PLENA, the old double rosy-purple, very free bloomer. |
| LILAC QUEEN, good full large flower, distinct lilac colour. | |

3RD SERIES.—X.

Z

VINES AND VINE-CULTURE.

CHAPTER XIII.—INJURIOUS INSECTS, AND THE REMEDIES TO BE ADOPTED.

THE Grape Vine is subject to, or becomes preyed on by, a great variety of insects, which feed upon and destroy the vitality of the plant, if left unmolested. It is, therefore, of great importance that the vine cultivator should be thoroughly acquainted with all these pests—their general appearance and mode of life, the causes which may lead to their presence or encouragement; also, the best and surest methods of preventing or guarding against their attacks, and how to destroy them when, unfortunately, they may appear. With these prefatory remarks, we shall now proceed to notice and briefly describe the most injurious of these insect enemies of the Vine.

The Red Spider (Tetranychus telarius).—Fig. 1 is a greatly-magnified sketch of this insect, which is, perhaps, the most troublesome of all, because of its being so general. There is seldom a crop of Grapes produced without some damage or other being committed by this little pest. It is so small that it is scarcely visible without the aid of a magnifying-glass, yet its whereabouts is too easily recognised by the experienced cultivator. It is a true spider, of a pale red colour, and spins fine webs on the leaves, chiefly on the under-side, where thousands of them may frequently be seen congregated, giving the leaves quite a reddish-brown hue. It is this brownish or reddish appearance of the leaves which often first betrays its



FIG. 1.—Red Spider.



FIG. 2.—Thrips.

presence. The insects feed upon the juices of the plant, especially those drawn from the leaves, which soon assume a sickly yellow hue, and are either destroyed or rendered useless. Thus, when the red spider is allowed to feed upon and destroy the vitality of the leaves, the result is equivalent to there being no leaves on the plant; and without leaves there will be no grapes. The first appearance, then, of this pest should be the signal for the commencement of stringent measures for its eradication.

As to the causes which tend to its introduction, the chief is dryness or aridity. Dryness of the atmosphere, especially if produced by fire-heat, is doubtless the most fertile agent. Dryness at the roots will also cause its appearance; and frequently it may happen that want of ventilation in hot weather will favour its

development: that is, those parts of a vinery which are not well ventilated will be more subject to red spider than the freely-ventilated parts. It follows, therefore, prevention being better than cure, that as dryness is the chief cause of its appearance, so moisture and water properly supplied ought to prevent it—and it is so. Hence we may deduce the following rules:—Water freely, and keep the atmosphere at all times thoroughly moist, especially if the temperature be high. If these points are attended to, little injury from red spider need be feared in the case of vines otherwise healthy. If unfortunately it does obtain a footing, water must still be the chief agent with which to compass its destruction; therefore, syringe freely with clear rain-water; also apply sulphur to the hot-water pipes, or dust the leaves over with sulphur, &c., or wash them with soapy water, a decoction of quassia-chips, or any compound of sulphur and soap. These remedies, applied with perseverance, will be sure to destroy it.

The Thrips (Thrips minutissima).—Fig. 2 shows the thrips much enlarged. It is a small, long, slender insect, of a dark brown colour, sometimes pallid or almost white, which is oft-times to be found feeding upon the leaves, much in the same manner as the red spider. The thrips is, however, not nearly so generally to be found on vines as is the red spider, and would rather appear to be introduced to the vineries from other plants; but its ravages are much more severe where the insects are permitted to establish themselves, and they spread rapidly. A dry atmosphere is favourable to their increase, and in like manner water is inimical to them, but they can scarcely be dislodged or destroyed by any amount of mere syringing. It is necessary to wash the leaves with soap and sulphur, or to give them a good dressing with tobacco-powder, or some insecticide, but it must be directly applied to them, or it will be of little avail.

The Mealy Bug (Dactylopius adonidum).—An insect of foreign introduction, but now, unfortunately, very common in our plant-houses. It seems to be at home on most plants, and so the vine does not escape it. The mealy-looking substance which covers the body of the insect (fig. 3) is an excretion, and gives rise to the name of mealy bug. Its presence ought to be rigorously guarded against in the vinery. No plant with any bug on it should ever be taken into a vinery, for if once introduced, it is scarcely possible to get rid of it again. It increases very rapidly, and in the thick, rough bark of the vine it finds at all times a secure hiding-place, so that in winter, be the vines dressed ever so carefully, some are almost sure to escape, and spread from branch to leaf and fruit bunch, and when on the latter, they cannot be destroyed without damaging the berries. We have seen many crops of grapes so destroyed. All that can here be recommended is the utmost care in not allowing the insect to be introduced. To

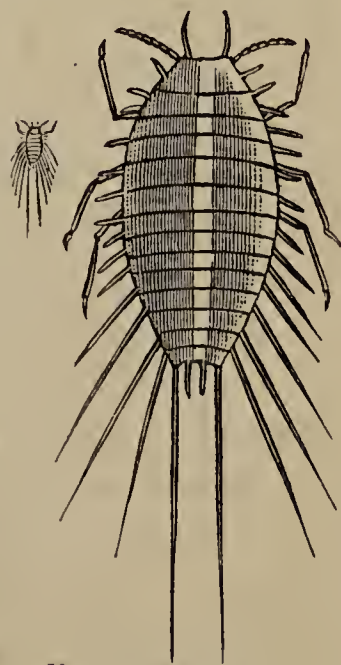


FIG. 3.—Mealy Bug.

destroy it, unceasing care and perseverance in dressing and washing the vines, with insecticides, will be required.

The Vine Scale (Pulvinaria or Coccus vitis).—This insect is more common on the Continent on exposed vines than in this country. It is, however, frequently to be met with in our vineries, and is a terrible scourge, covering the stems at times, and also often appearing on the leaves and even on the fruit. The vine scale is found in great numbers on the Continent, especially in the South, being known by its large size and cottony exudation; sometimes its presence is made very evident by the patches of cottony matter. If this be removed, it will be seen that it lies over a brown scale more or less oblong, wrinkled, and raised in the middle. This is the dried-up body of the mother, and the cotton, if it is the product of the year, will be seen to be full of eggs in winter, which will be hatched during the first fine days in spring. The large, rounded individuals are the insects in the adult stage. Other bodies more elongated and somewhat brown are the males, which in summer are to be found on the under side of the leaf, or even on the branches; their scales are twice as long as broad, and when they are ready to come from under the shield, two long silky hairs are to be seen projecting from the terminal extremity. The adult females are deep yellow, with blackish striæ. The only way to get rid of this pest is by continued careful washing with soap and water, and destroying each insect as it is met with.

Of other Insect Pests, happily not very familiar in this country, but which have been known to do great damage in many vineyards on the Continent, we shall briefly notice the following:—

The Vine Beetle (Lethrus cephalotes).—This somewhat resembles the common dung beetle. It is, according to Kollar, very common in the southern parts of Hungary. It issues from the earth in spring, when the vine has begun to shoot, creeps upon the branches, bites off the leaf and flower-buds, and carries them back to the opening through which it left the earth. The only way to protect the vine from this enemy is to catch each one individually and kill it, and this can easily be done, as it carries on its work by daylight.

The Vine Weevil (Curculio Betuleti).—This is a sort of beetle of a metallic green or steel-blue colour, which appears in spring as soon as the vines are in full leaf, and begins its work. It makes use of the leaves of the vines, partly for constructing a dwelling, and partly as food for its young. It is not very common; but unfortunately commits its depredations during the night.

The Vine Tortrix or Moth (Tortrix vitisana).—This is a moth from the caterpillar of which the vines in the neighbourhood of Vienna have suffered much. The female, early in spring, lays her eggs singly on the twigs or buds of the vine, from which the young are hatched at the time when the blossom-buds are unfolded. These caterpillars fasten several blossom-buds together, and eat off the inner parts of the flowers. When one part is finished they go on to another, and so destroy a great quantity. Instances have occurred in which, though

plenty of blossom has appeared, the whole crop has been devoured by these caterpillars.

The Vine Louse (Phylloxera vastatrix).—This is the most dreaded and dreadful of all the insects which attack the vine, and has unfortunately found its way into our vineries, in many of which it may possibly exist, unrecognised and unknown, if circumstances have not been favourable or the lapse of time sufficient for its development. As we cannot say much of this pest from our own personal knowledge of it, we cannot do better than quote Mr. Andrew Murray's account of it, as given in the new edition of Thompson's *Gardener's Assistant*. This, with Mr. Worthington Smith's sketches (figs. 4 and 5—the former borrowed from the *Gardeners' Chronicle*), will be sufficient to put cultivators on their guard against its intrusion, and enable them to recognise it if, unfortunately, it should make its appearance:—

“The *Phylloxeridæ* are intermediate between the *Coccidæ* and *Aphides*; they have the clubbed digitules on the tarsi which are present in the *Coccidæ*, and wanting in the *Aphides*, and in their younger stages are more allied to the *Coccidæ*, while in their winged and more perfect state they are more nearly allied to the *Aphides*.

“Within the last ten years or so a sore malady has fallen upon the vines both in France and America, and also on the vines in the hot-houses in this country; and although it is not yet admitted by all naturalists to be due to the attacks of the *Phylloxera vastatrix*, few entertain any doubt on the subject. The French Government certainly has entertained none, for it has offered a prize of 20,000 francs for any remedy or preventive against its attacks. This has given rise to a flood of specifics of all kinds. The number of so-called remedies is said to have exceeded 2,000 in number, the examination of which alone has entailed on the French officials an unheard-of amount of trouble, especially as every remedy required to be tested on a fair and sufficient scale, and more than once. All this trouble and expense, however, has as yet been fruitless; no remedy has been found.

“In the earlier part of its cycle (for it has a cycle, as we shall presently explain) it appears under two distinct forms, both wingless, which differ, not materially, but sufficiently from each other, the one having tubercles on the back, and the other being almost without them. The former is found exclusively upon the roots, the latter exclusively upon the leaves; but they have been traced going from one to the other. They are so small that they can hardly be detected by the naked eye, but under a lens are seen to be of a fleshy texture, and light yellowish-brown in colour. Under this form both larvæ and females are found.

“If we examine the root and try to trace the insect, its course of life seems to be this:—It fixes itself, like the *Coccidæ*, to the root by inserting its sucker or beak into the bark of the root, and when once fixed it remains fixed for the rest of its life. While so fixed she lays around her in little groups a quantity of elliptical eggs, which are at first a fine sulphur-yellow colour, but afterwards take by degrees a smoky-gray or blackish hue, a point in which it corresponds rather with the *Aphides* than the *Coccidæ*. After about eight days a larva comes out of the egg, which resembles, except in size, the mother that laid it, but it is of a greenish-yellow colour. The larva thus hatched is at first restless and agile, but at the end of three or four days it has chosen its place, and fixes itself by its sucker, and remains on the spot. It undergoes three moults, separated from each other by from three to five days. After about twenty days the female larva becomes adult and lays about thirty eggs, and the number of generations in a year is estimated at eight, which would give a posterity of from 25,000,000 to 30,000,000 during a season for each individual. That is the course of life of the great majority of individuals of *Phylloxera*, but a few undergo five moults instead of three, which brings them to the superior state of insects endowed with flight. In this stage they have four wings, of which the anterior pair are transparent, but darkened as if with smoke at the end. The winged female lays its eggs in the down of the young leaves and buds, and the eggs that it lays are larger and in fewer number than those of the apterous females on the roots, and they are of two sizes, of which the largest are female eggs and the smaller males. But the insects which issue from them are remarkable in more respects than one. From the female eggs

cane with coal-tar or any other suitable means, since it is that egg that renews the generations that attack the roots. It may not be so easy to do so in the open air in France, but in our vineries we ought to be able to do so more easily (always supposing their hypothesis to prove well founded), first by examining anatomically and microscopically the specimens found, and seeing from the number of their ovarian tubes whether the broods of young are far advanced in the cycle, and likely soon to be reduced to the single egg that renews it; and if so, to take special precautions against it, which ought to be the more easy to do, as it is said always to be laid on the cane, and never on the bud or the leaves.

"In England, as yet, the only effectual means of contending against the *Phylloxera* has been that of stamping it out, by taking up all the vines from the vinery, removing the earth, thoroughly cleaning the interior, and then restocking it with fresh vines and fresh earth."

—A. F. BARRON, *Chiswick*.

LOMARIA DISCOLOR BIPINNATIFIDA.

THIS most beautiful evergreen Fern has been exhibited during the past year or two, both by Mr. Bull and Messrs. Veitch and Sons, and has obtained First-class Certificates both from the Royal Botanic and the Royal Horticultural Societies. Mr. Bull's original plant, grown, as we presume, from a small offshoot, has so far been more symmetrical in habit, the broader sterile fronds spreading from the crown, and what appear to be fertile fronds (being constructed like them) forming an elegant central tuft. These apparently fertile fronds have, however, in most cases proved to be abortive. The plants imported by Messrs. Veitch were in the form of older and stronger caudices, and had a less regular mode of growth; but now that they are fairly established, there can be no doubt of the identity of the two plants, which certainly rank amongst the most ornamental of hardy greenhouse Ferns. Sometimes the abortive fertile fronds come broader than at other times, and are then quite intermediate in aspect between the two extreme forms. Quite recently Messrs. Veitch's plants have produced perfect fertile fronds.

The sterile basal fronds of this fern are fully 2 ft. long, and spread outwards in all directions; they are oblong-lanceolate, with a short dark brown stipe, the primary segments closely set, and the secondary ones densely developed, so that the parts overlap, except near the rachis, when the secondary lobes are not developed. The fertile fronds, as well as those which simulate them, stand erect in the centre, and from the pectinate margin of the segments the latter have a very elegant appearance. The barren condition of many or most of these apparently fertile fronds may perhaps be regarded as rendering the plant all the more ornamental, since there is from them no deposit of spore-dust, such as occurs on many plants having the same general habit.

This species of *Lomaria* comes from Australia, whence also the variety *bipinnatifida* has been imported. Messrs. Veitch's plants were obtained from Melbourne. Dr. Mueller's specimens were gathered in the neighbourhood of the Bunip-Bunip Creek, and also on the Dandenong Mountains. The plant is the same as that exhibited by Mr. Bull, under the name of *L. dobroydensis*, but it

was long since published by Dr. Mueller, in his *Fragmenta Phytographice Australiæ*, under the name now adopted for garden use.—T. MOORE.

THE AURICULA.

CHAPTER XIV.—RECOLLECTIONS OF THE HOME BLOOM.—NOTES BY THE WAY.

ONCE again, we florists have enjoyed the round of all our flowers, and the floral year, that was young with the Auricula, is now passing away, in a green old age, bright to the last, with the Chrysanthemum—a favourite that well deserves its name of “Golden Flower,” if only for bringing us such an unforced wealth of beauty when, on the beds and borders, leaves are fallen and flowers gone; and “the last rose of summer,” perhaps, was but a poor bud cankered at the core; and while in the wider garden of the landscape, the grassy fields are faded, the stubbles stained and rotting in the rain, and the woods all bare, but for the dark foliage of heavily-plumed firs that stand stiff and silent, like mutes in deep mourning, for the death that is all around.

These two distant flowers, the Auricula and Chrysanthemum, I couple together for the moment, because of the specially tender regard we must feel for them, as appearing, the one long before, and the other long after, the full bloom of summer; even as, of all the stars that shine, we love that most which is the first to twinkle after sunset, and the last to fade out of the morning sky.

To travel back in thought to see the Auriculas in bloom, of which I have written aforetime here, let us choose a bright morning towards the end of April, and an early hour, while the red sun is yet entangled in the tree tops of the wood that affords me a most welcome shelter from the bitterness of north-east winds.

The shadows are very long among the gravestones in the quiet old churchyard close by, and the dew sparkles on the sunny strips between, as if rainbows also were laid peacefully to rest in the springing grass.

Notes of singing-birds come from the wood and adjacent trees; and if you will open your window by five o'clock, it is amusing to hear them beginning with the dawn, each with just a short low note under his breath, as if they were the instrumentalists in an orchestra, and this the cautious tuning-up! Add to these melodies the call of the cuckoo, newly come, and the chattering of many sparrows, as of an ill-behaved audience, and you have the wild bird music of the morning in the country at “Auricula time.”

The plants we shall find in their half sunk blooming house with a Southern aspect; and the air is cool and moist, and laden with the gathered perfumes of the night. The blooms themselves have a tender sweetness as of pansies mixed with violets, and the fresh foliage of many varieties is also scented—some like violets, and that of others like russia leather. Strangers, unaccustomed to such colours and combinations of them as the Auricula presents, look with ever growing wonder as the eye becomes gradually educated to the delicate and subtle

beauties. Florists at once turn critically to the bloom to find out old faces and old favourites, and to weigh the merits and promise of any rising young variety.

The Auricula looks always sweetest and prettiest at home, and I am always half-sorry when exhibiting time comes. I know that for the flowers themselves it is the breaking-up of a happy family gathering that never meets quite in the old way again. Plants that are taken to the shows come back weary and worn with (as last time) a week of travel; days spent in a hot, dry air, and nights in a cold sleeping-box—all so unlike home. Thus the harmony, and richness, and duration of the bloom are interfered with; and it perhaps is not too much to say that the quiet enjoyment of the opening flowers at home, allowed to expand at their leisure, with no ever-haunting anxieties as to their being too late or too early, would be the most comfortable self-indulgence in Auriculas.

The most memorable incident of the past bloom here was the splendid race between full and equal plants of Lancashire Hero and George Lightbody, long considered great rival greys. Both flowers were particularly free from the faults that each is liable to. 'Hero' showed no indecision of edge, or crack in the paste or that peculiar want of flatness, technically known as "cockling," which in large pips of this variety is apt to throw the whole flower out of form. George Lightbody was also well mealed on the edge, deep and lively in body-colour, and cleverly free of his well-known fault of one petal too many on the pip, which either helps to form a joint petal of inordinate and awkward breadth that will not flatten, or else lies upon the face of the pip, as a smaller one for which there is no room in the symmetry of the flower.

Both varieties are magnificent Auriculas as plants, and probably honours would be found divided among them, but I could not help giving the shade of preference to Robin Lancashire's grand old seedling. It was such a Hero! A plant of such noble carriage, the edge such a model grey, of bold white meal upon a rich green ground; the body-colour such an intense broad black; the paste so dense and snowy, and the whole flower in every way so full of power, quality, and finish. The Auriculas that will beat the best Lancashire Hero down into the dust are at present past imagining.

The best of known varieties in green-edges were:—Colonel Taylor, which was over before the Crystal Palace Show, owing to the trusses having risen too far in autumn; Mr. Simonite's Talisman, which here was as much too late; Booth's Freedom, which wins its way by the superb brilliancy of all its colours, the vividness of the dark-green edge, the velvety depth of the black body, its density of paste, and richness of tube,—otherwise, as the paste is terribly angular, and the pip sometimes so, the body often too heavy, and the plant a shy bloomer, on a long stalk, Freedom is a flower with grave faults. Anna is a seedling raised from it by the late Mr. Trail, and is a pure green-edge of rounder outlines than its parent, with the body-colour a dead, sooty black that is peculiar.

Page's Champion, raised by a butcher of that name, is an old winner—a kind of "Butcher's Broom" that has often swept up prizes! It was good with me last season, but it is a pity that the plum-red body-colour does not live long enough to support the rich green edge and other parts of the flower. Prince of Greens had not time to get well out; and both my friend Simonite and myself spoiled some blooms of it in trying to get it down for the Crystal Palace Show. It is not a long-lived sort, owing to the weakness of the tube, both in colour and texture, and it is apt to come thin in the paste. However, Prince of Greens, in his youth and beauty, is a superb black-bodied green-edge, much to be coveted as a strong point in "pan" or "class." The pips are usually thrown out very remarkably on long footstalks, which do not droop with the pip. Someone likened them to the awkward legs of a lanky spider, but we had been comparing them with the brilliant way in which a rocket throws out its stars.

Among the great grey-edges here was a flower little known yet. It once peeped out at the head of this strong class at Manchester, but it is not in force enough yet to appear much in public. When it does, it will not discredit the dear and valued name it bears—Samuel Barlow. I think it will be a double first, because of its power to bloom either as a magnificent green-edge from a winter-formed truss, or as a decided grey from one sent up in the spring heart. It is a large, refined, kindly flower, with any amount of staying powers and great force of character, which, by the way, a new flower in the greys must now possess to hold any position of note among them.

In the white-edges, none bore the palm from lovely Smiling Beauty, though she has usually been in more clever character. She was not dressed in that full bridal white which is her charm, and in some instances her edge was insufficient. But those who know her know that this variation is accidental, and that Smiling Beauty is sure to be herself again. There is no lovelier plant in all the family; the wavy frosted silver foliage, and the head of flowers high above it, veiled all but their golden tubes and jet-black rings, in the snowiest meal, form a picture that can only be realised by the eye.

Walker's remarkable white-edge, John Simonite, was also not in best character this year, the edge not being so dense as it properly is. It was, however, much noticed at the Show, and at its best it is a grand flower, but would be improved if the stamens were more bold.

Among the Sels, valuable both for their own inherent beauty and the refreshing contrasts that their quiet colours make among the richer edged flowers, none, I think, beat Pizarro. How nobly he raised his large soft brown balls of heads, as high as Prince of Greens! What life in each great round pip, with its dense white paste, broader and rounder than in any other of the class! The plant is clothed most heavily in meal that hangs upon the foliage, and its edges like feathered hoar-frost crystallized upon the twigs of trees. If I had to grow but one Self, it should be Peter Campbell's Pizarro. There are other good ones

I know; but these notes, with what else I may have to say, will be long enough for the present. It will be better to keep details of other good Auriculas for another time, if it be of sufficient use and interest to write them.*

The season since the bloom has been a curious one. We have gained a closer acquaintance with that unpleasant insect, the mealy aphid, and he seems anxious to make himself as much at home with us as our old friend, the green-fly. Of the two the old is better, because more easily despatched. The difficulty with the woolly one is to get him wet through—a material that would turn water as well as his coat, and be withal so perfectly self-ventilating, would be a fortune to the discoverer! He is a very sluggish and dirty insect, and if the plants are allowed to get some neck fibres dry and exposed, he is almost sure to set up an establishment among them, with branch establishments below.

The autumn growth has been remarkable for its slow and quiet nature. I have hardly had one per cent. of autumn blooms among the blooming stock. Even the seedlings have been so undemonstrative, that my friend, Ben Simonite, and I, who exchange letters over Auricula blooms with almost the fearful rapidity and ferocity of lovers, have had unnatural intervals of torpidity!

There has been good root-action in the cool, moist summer, and most of the plants here are growing more at the late period I am writing at, than they have done in the seasonable months of September and October. However, there is no danger now of trusses getting too forward, and the growth is confined to the making up of fat hearts.

Caterpillars have abounded, but not the maggot that bores down into the heart. Indeed Mr. Simonite's seedlings in one house were so locusted by the former, that I believe he could have accepted an alternative of a charge of snipe-shot to be fired into them as the lesser of two evils, with a feeling of relief! However, continual painstaking saved the sufferers.

The plants may any time now sink to rest, and while they sleep it will be our work to see what fitting reception can be prepared for them in public at blooming time. Meanwhile, it is cheering to hope that as soon as winter is gone, we shall meet again those warm, far-separated friends to whom Flora's garland has bound us in such cherished fellowship.—F. D. HORNER, *Kirkby Malzeard, Ripon.*

STORING SOIL FOR POTTING.

AS this is the season when a supply of good turfy soil for potting purposes is required to be got in for storing, it may be noted that in most places there is great difficulty in procuring it. Gardeners in numerous instances have to put up with most unreasonable shifts in getting a supply, although they are expected to produce first-rate plants and fruits in due season. The fine "turfy loam" and "fibry peat" has often to be procured by stealth, and this

[* As assuredly it is.—ED.]



Peach

1 Early Alfred 2 Magdala.

Cartone, del

Chromo. Doverly. Br.

only in quantities enough to grow a few plants of the rarer kinds. The policy of compelling gardeners to take what soil they can get, and prohibiting them from taking a supply of that which is proper, is not at all profitable to their employers. They will not allow the gardener to take a few cartloads of turfy soil from a field, for fear the land will be permanently deteriorated, even though he says he will replace it with a richer and better grass-producing soil.

A method of getting some good fibry soil from a meadow containing it is to mow the grass off very close, and then skin the turf off as thin as to bear handling; then to take about 3 in. of the maiden loam beneath, and fill up the space with rich garden soil, relaying the skin of turf on the surface, and rolling all well down. In the next summer this patch in the field will grow richer and earlier grass than the rest, if it is well solidified by rolling, and by sowing the seeds of some permanent grasses thickly on it.

In thus pointing out the groundlessness of the notion that gardeners deteriorate the value of grass land by skimming off the turf on the surface, it is yet but right on their part to be as sparing as possible in regard to the supply. A great deal more use might be made of charred refuse, and of the soil shook out of the pots and consigned to the rubbish-heap from the potting benches. If this was sifted out and stored into a heap, it would be found very useful for mixing with fresh soils.

As peat-soil is only found good for potting purposes in a few localities, it is requisite to be as sparing of it as possible, and only to get a supply to supplement any sandy or leafy soil that can be procured on the place.—WILLIAM TILLERY, *Welbeck*.

TWO CHOICE NEW PEACHES.

WITH AN ILLUSTRATION.

ALREADY several of the valuable new stone fruits, for which we are immensely indebted to the late Mr. Thomas Rivers, have been figured in our pages; and we now add representations of two others, from specimens communicated, with high commendation, by the Rev. W. F. Radcliffe, by whom most of Mr. Rivers' novelties were specially grown with a view to ascertain their comparative merits. The samples were sent to us during the second week of September.

EARLY ALFRED (fig. 1) is a roundish, depressed fruit, rather exceeding average size, of a pale greenish straw-yellow with a dash of crimson, and deepening to a brownish crimson on the most exposed parts; the suture is well marked. The flesh is white, melting, richly flavoured, and with a remarkable piquancy of flavour. It was raised from Hunt's Tawny Nectarine. The leaves are serrated, and no glands were apparent on the specimens sent, but they are described as round in *Hogg's Fruit Manual*.

MAGDALA (fig. 2) is also a medium-sized fruit, roundish, inclining to ovate in

outline, having a straw-yellow ground, and flushed with bright light crimson on the exposed side. The flesh is greenish white, tender and melting, separating freely from the stone, and very richly flavoured. The leaves are crenately-serrate, and furnished with reniform glands. It was raised from Rivers' Orange Nectarine, and is itself remarkable for its comparatively smooth skin.—T. MOORE.

COLD HOUSES AND THEIR USES.

I HAD erected here, two years ago, a long range of these useful structures. The first division is 65 feet long, with *Cherries* planted on the back wall, and with a shelf about two feet from the glass in front, which is full at all seasons. Just now—October 29—we have grand pots full of *Mignonette* and winter-flowering *Carnations*, pans of *Watercress*, with *Laurustinus* all in full beauty, making at this dull season a walk in the Cherry-house quite spring-like and refreshing. These will be duly shifted to the conservatory, and their places filled with boxes, 4 feet by 3½ feet, for *Early Peas*, followed by *Strawberries*, *Radishes*, *Mustard and Cress*, &c.

The next department is occupied by *Figs* on the back wall, and in this I have no stage just now. It is filled with standard *Roses* in pots, which are particularly useful in May for bouquets for the London season.

The third and last division has *Peaches* and *Nectarines* planted in front, and no place suits *Camellias* so well as the back wall, which I have furnished with plenty of blossom-buds, and besides this, I winter therein *Carnations*, *Forget-me-nots*, *Stocks*, and a whole host of other things. Oh, Mr. Editor, what a pleasure it would be to turn our ugly fruit walls into span-roofs on Rendle's system! We should be then, and not until then, independent of the weather. My idea is simply this, that if success in hardy fruit-culture is a desideratum, this plan should be adopted.

In conclusion, I may add that no more agreeable promenade could be desired for the ladies, whilst the gentlemen are out shooting, than the cool, refreshing atmosphere of such a house, where they would be surrounded by the works of art and nature combined, and with a glass sky to protect them from the unruly elements.—R. GILBERT, *Burghley*.

VILLA GARDENING FOR DECEMBER.

THE year is growing old. Days of out-door labour have well-nigh reached their minimum length. All nature speaks of changing and decay, but it is not death; it is rather the sleep of repose, the preparation time for Spring's bright morning. But amid it all, the occupation of the gardener knows no cessation; and if he cannot actually labour, there is yet much to do in the way of planning, preparing, and promoting.

The Greenhouse.—There are but few flowers out of doors at this advanced period of the year, and they are apt to become sorely assailed by adverse

weather, the Greenhouse should therefore be made as interesting as possible with such plants as display their blossoms during the winter. What a great assistance a little fire-heat is! It is wanted now to quicken the *Chrysanthemums* into flower, for they are very tardy in opening, and there is every probability these beautiful autumn flowers will be spared much longer to us than usual. Where there is fire-heat, judiciously employed, such things as early flowering *Ericas*, *Epacris*, scarlet *Salvias*, *Cinerarias*, *Heliotropes*, *Pelargoniums*, tuberous-rooted *Begonias*, *Fuchsias*, *Primulas*, *Cyclamen*, &c., will gladden the heart of the gardener for many days to come. A few of the handsome-berried *Solanums* are capital things for the greenhouse at this season of the year. Where a nice warmth can be maintained, *Eucharis amazonica*, the commoner kinds of *Lady's-Slipper*, *Calanthes*, *Bouvardias*, *Lycaste Skinneri*, and a few other things of a higher order of merit may be bloomed and enjoyed.

Strict attention must be given to cleanliness, and the atmosphere kept pure and healthy. By many villa gardeners proper ventilation is sadly neglected, to the injury of the plants. Such a small matter as picking off decayed leaves, greatly assists the appearance of plants; also occasional stirrings of the surface soil to prevent the growth of moss, and the occasional cleansing of the outside of a pot that becomes stained through this cause. Water must, of course, be given to plants that require it, doing it judiciously, and taking care to give it sparingly to tender plants. At this season of the year, many plants are killed through over much water; and if the use of the watering-pot could be restrained a bit, depend upon it the plants in many instances would be the better for it. While the weather remains soft and balmy, fire-heat should be sparingly applied; when the atmosphere is humid, a little gentle heat from the fire by day will be advisable, if ventilation be given with it, but fire at night should not be applied till necessary. If the house be shut up warm before the sun leaves it, it will continue comfortable for hours.

Flower Garden.—At this season of the year beds of *Roses* require attention. Some cultivators adopt the practice of taking a portion of the surface soil from the beds, loosening what remains about them, and then giving the roots a good soaking with liquid manure, returning the soil taken away, and finally adding a good dressing of well-decomposed stable manure as a mulching. As most of the deciduous trees will now have shed their leaves, they should be cleaned up and stacked away in a heap to form leaf-mould; or, if desirable, to make up beds in Spring for early *Potatos*, *Carrots*, *Radishes*, *Lettuces*, &c. The grass-plat should be well swept and rolled, in drying weather; and if the turf requires re-laying, now is the time to set about it. Store-boxes and pots of cuttings of bedding-plants need to be looked over occasionally, to remove damp and decaying leaves. But little water is required during the dull winter months. Now is a good time to plant out seedling *Pansies*, *Foxgloves*, *Canterbury Bells*, *Wallflowers*, *Pentstemons*, and other hardy plants, to flower next summer.

Cold Frames.—Those who have to winter a few bedding and other favourite plants in a cold frame, must be on the alert while the weather is dull, cold, foggy, and rainy. It is essentially necessary that the bed of the pit be well drained, say a foot of brick rubbish, with a layer of ashes at the top, to make a level surface. The soil in the pots must be kept dry, and decaying leaves picked off, to keep down damp. Air should be given on all favourable occasions, and, indeed, during dull weather, if it be mild also, tilting up the lights on the side farthest from the wind. All hardy plants in pots in cold frames should be looked

over, to keep them clean, and occasional stirrings of the soil have their beneficial uses. Little attentions, frequently rendered, have much to do with the wintering of plants. The green-fly is very apt to gather on the under-sides of the leaves of *Auriculas*, *Polyanthus*, &c., in pots; a camel's-hair brush will soon remove them. The *Colchicums* are now very pretty in pots; one of the most attractive is the double variety, as it lasts such a long time in bloom, and the flower-stems are quite stiff and erect.

Fruit Garden.—A little attention to the stems and main branches of *Fruit Trees* is now necessary, and if infected with scale or insects, it is well to paint them over with some preparation: that much recommended by an old fruit cultivator is composed of ten parts of lime, one of sulphur, and four of soot, mixed up with sufficient soap-suds to form a thick paint. This does well for wall, standard, espalier, and pyramid trees. Such a mixture painted over walls in dry weather will be of great service. In pruning *Gooseberry* trees, the shoots should be thinned-out liberally, especially towards the middle of the plants. *Black Currants* should be similarly pruned, but not quite so many shoots must be cut out. The *Red* and *White Currants* should have the principal shoots left at a much greater distance, and the small shoots spurred in.

Vegetable Garden.—Both *Globe Artichokes* and *Rhubarb* should be well mulched with manure and leaves after the soil has been slightly stirred on the surface. Frequently stirring of the surface soil among growing crops is to be recommended; it improves the plants, while it ensures a clean aspect. The ground intended for *Onions*, *Carrots*, and *Parsnips* next year should now be trenched, manured, and thrown up rough for the winter. Soil intended for *Asparagus* should be deeply dug, working in a good dressing of dung, and turning it over occasionally during winter. When planting, in February or March, use some sweet leaf soil about the roots, and mulch with manure afterwards.—D.

GARDEN GOSSIP.

WE have on previous occasions recorded the champion clusters of white Grapes of 25 lb. and 26 lb. weight grown at Esk Bank and Arkleton, and the magnificent 21-lb. Black Hamburgs produced by Mr. Hunter, at Lambton. We have now to record a cluster of *Gros Guillaume*, grown at Charleville Forest by Mr. Roberts, which weighed 23 lb. 2 oz., the greatest weight recorded for a bunch of black grapes. The bunch was fine in berry and bloom, beautifully proportioned, measuring 22 in. in width across the shoulders, and a length of 24 in. to the elegantly-tapered point. Mr. Roberts's fame as a grape-grower does not rest on this wondrous bunch, since for years the Charleville Forest grapes have been especially fine. The vine which produced this monster bunch has been about four years planted; it is growing in a lean-to house; the soil of the border is sound and simple, for Mr. Roberts eschews complicated composts, having faith in the wholesome and satisfying pabulum afforded by the loam obtained from the surface of the Charleville deer-park. The dimensions and firmness of the wood and the plumpness of bud this season, give promise of a sensational crop in the coming one.

— THE publication of a new edition of *Thompson's Gardener's Assistant* (Blackie and Son) has been for some time expected, and is now accomplished. It is not too much to say that the original edition was the best of our modern works on practical gardening, the branches of Vegetable and Fruit-culture, to which Mr. Thompson's life had been more especially devoted, being the most fully dealt with. In the new edition, by modifications of type and by extension, the Flower-garden department

has been fully worked up to the same standard as the other sections, so that the book may now be consulted with advantage in every department. The new matter has been provided by some of our most competent cultivators, whose names are a guarantee of the value of their contributions. The printers deserve full praise for their share of the work, and the publishers merit the highest commendations for the excellent style in which every part has been worked up. For obvious reasons, we say nothing of the editor's share of the labour, but it is only just to those who have so ably seconded his endeavours, and to the original portions still retained, to say, that there is no better exposition of modern gardening extant.

— UNDER the title of *Multum-in-Parvo Gardening* (Crosby Lockwood and Co.), Mr. S. Wood, the author of "A Plain Guide to Good Gardening," has just issued a small volume, explaining his ideas as to how to cultivate an acre of land, so as to realise an annual profit, which he estimates at £620. We do not find that he has filled an acre of ground in the manner he suggests, though he has undoubtedly had some experience, as he says, "I started with one quarter of an acre, and proved with this quantity of ground that a great deal more could be done, by way of making every rod pay far better than is generally supposed," which may readily be conceded, even though we may consider the author over-sanguine in his estimate of produce. His plan is simply this:—To cover the land with 4 ft. walls at 6 ft. apart, and plant them with peaches, nectarines, and apricots on the southern aspect, and red currants on the northern. On the south borders, to grow early potatoes and radishes, followed by dwarf kidney beans, or in some cases by radishes and winter cos lettuces. On the north border, between the currants, to plant a line of strawberries or to grow auriculas for seed, and between the peaches to grow tomatoes. The brief instructions given for management of the peach-trees are good, and there are some useful hints about strawberries. The first outlay is set down at £623. The annual expenses are computed at £129, and the receipts for produce, £753; leaving a nett profit of £624; but we find no mention of rent. The second part of the book shows how a person, with the aid of three green-houses, may realise a profit of £246 at a cost of £60, in addition to his labour. The first house is to be filled first with primulas and then with pelargoniums, repeating these crops annually; the second is to be set aside for cinerarias, succeeded by calceolarias, and then by fuchsias; the third is to serve as a reserve or store for the young batches, and then to yield a crop of balsams. An appendix is devoted to insects injurious to plants, but we cannot say much for the author's knowledge of natural history when he affirms that aphides, for example, are "generated" by an unhealthy atmosphere. In other respects, the work contains hints which may be useful to amateurs.

— A PAMPHLET on the *Colorado Potato Beetle*, by Dr. Andrew Wilson (W. and A. K. Johnston), may be usefully consulted by those who desire to become acquainted with the enemy which threatens to invade our shores and our potato crops. It gives the life-history of the beetle, and is illustrated by coloured figures of the potato plant, with the insect in its various stages *in situ*, and by a plate of the beetle itself, both natural size and very much magnified, "sketched and coloured from nature," and of *Uropoda americana*, a tiny mite, which of all its enemies, is stated to be the most powerful—a mere speck in size, but which, by means of its long flexible sucker pierces the beetles, and subsists on their tissues and fluids.

— THE *Hydrangea* as grown for Market Purposes is one of the decorative plants seen in greater perfection in London than in any other locality. Its large showy heads of flowers, grown in such small pots, are a surprise to country visitors. Like the other plants that the London grower takes in hand, it receives the greatest attention in all its stages of growth. It is nearly hardy in most of the southern counties, but when grown for decorative purposes, it is treated as a half-hardy plant, and carefully protected from frost. Now that we have the fine white one added to the pink and blue, they give us three very useful colours for ordinary decoration, which any one can possess by striking a few plants every spring. The first batch of store and flowering plants are put into a moderate heat the beginning of January. As soon as the cuttings are ready, they are taken off and propagated. All the side shoots and suckers are taken

off the flowering plants for cuttings. This is continued all the season with each succeeding batch of plants. As soon as the cuttings are well rooted, they are potted into 2½-inch pots, in a good loamy soil, with a little manure and sand added. As soon as these pots are well filled with roots, they are potted into 4-inch pots, using the same compost; they may receive another shift by-and-by, but the 4-inch pot is the preferable size for market purposes, and its producing-power is wonderful. As soon as well established and carefully hardened-off, they are plunged out-of-doors in an open situation in prepared beds of coal-ashes or tan, and well attended to till October, when they are housed in a cool house, carefully keeping them from frost till they are introduced into the forcing-house.—So writes "E. W.," in the *Gardeners' Chronicle*.

— A COLLECTION of *Tomatos* has been grown for trial-purposes in pots under glass this year at Chiswick. The collection was represented by over sixty differently-named varieties, two plants of each being grown. The smallest variety was *Red Currant*, of about the same size as a Currant; the largest variety was the *Trophy*, the earliest the *Early Gem*, and the latest *De Lay's*, which is of little value. First-class Certificates have been awarded to *Little Gem* (Bliss), a medium-sized, round, deep-red variety, very free-fruited, and very early; to *New Improved* (Viek), a large, smooth, ovate variety of a distinct rosy-crimson colour, free-fruited; to *Vilmorin's Large Red* (Vilmorin), a very large, slightly-ribbed variety and a wonderful cropper; to *Trophy*, an exceedingly large nearly smooth red variety, of fine appearance, and late. *Hathaway's Excelsior* was found to well merit the certificate that was awarded to it some time ago; also *Carter's Green Gage*, as being by far the best yellow variety. *Conqueror*, *One Hundred Days*, and *Portsmouth*, amongst the new varieties, were greatly admired.—The excellent Tomato called the *Stamfordian*, one of the best varieties in cultivation, was, it appears, selected and grown by Mr. Jackson, at Casewick, and was named and sent out at an earlier date under the name of *Jackson's Favourite*.

— GREAT progress has been made with the *Double Pyrethrum*, and Messrs. Kelway and Son, of Southport, who have lately entered the field as raisers of novelties, own the following sorts, remarkable for their size, fullness, symmetry, and striking hues of colour:—*Amethyst*, pink flushed with violet-blue, large, full, very fine and striking in appearance; *Achille*, rosy pink, large, full and very fine; *Captain Boynton*, cherry-red, a fine dash of colour, large and full; *Captain Nares*, soft magenta, fine shape, and remarkably full; *Ceres*, bright pink, deepening to rose on the ray florets, large and very fine; *Cleopatra*, pure white, large and full; *Duchess of Edinburgh*, pale pink, tinted with violet, and surfaced with silver, very pretty and attractive; *Galopin*, deep magenta shaded with maroon, very fine in colour, large and full; *Kreimhilda*, pale pink, a pretty hue of colour, large and full; and *Queen Mary*, blush flushed with pink, fine and full. These Pyrethrums are most effective border flowers.

— It is said that *Coffee is an Antidote to Strychnine*. Dr. Attilio Lelli having met with a case in which a dose of strychnia was administered in coffee without fatal consequences, was, as we learn from the *Lancet*, led to institute some experiments to determine whether it possessed antitoxic power against this drug. The animals employed were rabbits, and by comparative trials he found that a dose of five centigrammes proved fatal in a short space of time. When the same or a larger dose was given in a very strong infusion of coffee, he found that the coffee either acted as a complete antidote in preventing the poisonous effects of the strychnia, or that it materially diminished the violence of its action.

— IN the Lily house at Kew, according to the *Gardeners' Chronicle*, *Nelumbium aspericaule* has been found to be a great improvement on *N. speciosum* for garden culture, requiring a lower temperature, blooming more profusely, and having flowers that are even more magnificent. The petals are broader than those of *N. speciosum*, narrowing less to the base, and of a deeper rose-colour over the entire surface. The glow of colour within the flower is to the eyes almost like that of some molten metal. It was raised, we believe, by the late Mr. Sylvester. The plant above referred to was grown in a pot, which seems quite sufficient for its development.

INDEX.

- ABIES Menziesii* Parryana, 47, 95.
Abutilon Boule de Neige as a winter-flowerer, 77; *A. rosæflorum*, (woodcut) 210.
Acer colchicum rubrum, 46; *A. pictum*, 46.
Adiantum Cap.-Veneris cornubiense, (woodcut) 104; *A. princeps*, (woodcuts) 243.
 Album Benary, 47.
 Alders, new, 263.
 Allnut's Cactus, and Succulents, 70.
Alnus cordata, 263; *A. glutinosa aurea*, 263; *A. g. imperialis*, 263; *A. incana variegata*, 263; *A. viridis*, 263.
Amaryllis Ackermanni, in the open air, 262; *A. A. splendidum*, 262; *A. Belladonna*, 262.
 American plants, Mr. Anthony Waterer's show of, at the Royal Botanic Society, 48; profusion of bloom on, 167.
Anætochilus, culture of, 170; *A. argenteus*, 171; *A. intermedius*, 171; *A. Lobbii*, 171; *A. Lowii*, 171; *A. Petola*, 171; *A. setaceus*, 171; *A. xanthophyllus*, 171.
 Anthracnose, 261.
Anthurium Andreanum, 192.
 Apple, Calville Blanche, 97, 125; Cox's Pomona, 125; Norfolk Beefing, 79; Striped Beefing, (woodcut) 79; White Winter Calville, (col. plate) 73.
 Apples, best cropping hardy, 231.
 Apple, Mexican, fruiting of, 260.
 Apricot, diseases of, 182.
Aquilegia hybrida californica, 168.
Aralia filicifolia, (woodcut) 125; *A. spectabilis*, 125.
Araucaria Goldieana, (woodcut) 39.
 Arboretum of Edinburgh Botanic Garden, 215.
Ascomyces deformans, 174.
Auricula Fanny Crossland, 124; Frank, 124; Peacemaker, 124; Talisman, 124; Wm. Bradshaw, 124.
 Auriculas: Chap. ix., Notes by the way, Election Lists, 9; Chap. x., Work for February, Top-dressing, Self Alpines, Election Lists, 29; Chap. xi., The Rising Bloom, Spring Treatment of Old Plants and Seedlings, 63; Chap. xii., On the eve of Bloom, Treatment, Packing for Exhibition, 73; Chap. xiii., The Bloom, The Crystal-Palace Show, Novelties, 121; Chap. xiv., Recollections of Bloom at Home, Notes by the Way, 273.
 Auriculas, Alpine, 34, 53; lists of green-edged, grey-edged, self, and white-edged varieties, 10; Self Alpine, 11; National Southern Show of, 114.
Auricula disease, (woodcut) 134.
 Avenues, trees suitable for street, 46.
Azalea Duke of Edinburgh, 143.
 BEDDING, leaf, materials for, 147; plants for permanent, 248; flower-garden, 127.
 Beds, raised, for flowers objectionable, 155.
 Beet-root, to keep colour of, in cooking, 48.
Begonia, boliviensis, 85; *B. Davisii*, (col. plate) 85; *B. kallista*, (woodcut) 220.
Begonias, tuberous-rooted, new, 3; to keep through the winter, 262.
Betula subcordata, 144; *B. utilis*, 144.
 Birch, witch-knots on, 93; new Japanese, 144.
 Bleeding of a vine, how to stop the, 216.
 Blight, American, cure for, 257.
 Boiler, Wagstaff's Tubular Saddle, 263.
Boronia elatior, (col. plate) 145.
Bouvardia Davisoni, 150; *B. elegans*, 150; *B. Hogarth*, 150; *B. Humboldtii corymbiflora*, (woodcut) 150; *B. jasminiflora*, 148; *B. Vreelandii*, 150.
Bouvardias as decorative plants, 147.
 Burbidge's Cultivated Plants, their Improvement, 23, 93.
CALOCHORTUS venustus, how to grow, 215.
Camellia Madame Cachet, (col. plate) 121.
 Camellias, season to pot, 182.
Campanula Barrellieri, 143; *C. fragilis*, 143; *C. Hendersoni alba*, 143; *C. macrostyla*, 240; *C. turbinata*, 143.
Campanulas, dwarf, as pot plants, 143.
Caragana frutex variegata, 214.
 Carbolic acid as a weed-destroyer, 95.
 Carnation and Picotee: Chap. xiii.-xix., Descriptions of the best varieties, old and new, 16, 40, 54, 87, 111, 129, 157.
 Carnations, crimson bizarre, 40; pink and purple bizarre, 42; purple flake, 54; rose flake, 88, 131; scarlet bizarre, 16; scarlet flake, 87; mutilated flowers of, 13.
 Carrots, how to grow, free of wireworm, 48.
Casimiroa edulis, 260.
 Canliflowers, new, of 1876, 46.
 Celery, new, of 1876, 46.
Chamæpeuce diacantha hardy in Hants, 78.
 Cherries, best cropping hardy, 232.
 Chicory, Whitloof, 104.
Chimonanthus fragrans for vases, 60.
Chrysanthemums, early bedding, 262.
Cinerarias, Dicksons' double, 192.
Cissus discolor as a wall plant, 185.
Cladosporium viticolum, 261.
Clematis indivisa lobata, 98; Messrs. Jackman and Son's special show of, at the Royal Botanic Society, 47, 141.
Clerodendron Balfourianum, 138, 185.
Cocos Weddelliana, 164.
Codiaeum variegatum, 56.
 Coffee an antidote of strychnine, 282.
 Cold Houses and their uses, 278.
 Cole's Royal Parks and Gardens, 198.
 Colorado Potato Beetle, 281.
Convolvulus mauritanicus for baskets, 216.
 Cordon Training, (woodcut) 42.

- Corn Salad, 12.
Cornus mascula aurea elegantissima, (col. plate) 109.
Crinum ornatum, hardy, 215. [plate] 109.
Croton Alberti, 58; *C. Bismarcki*, 58; *C. Disraeli*, 57; *C. Lord Cairns*, (woodcut) 58; *C. Queen Victoria*, (woodcut) 257; *C. trilobus*, (woodcut) 56; *C. t. Traveller*, 58.
Cryptomeria Lobbiani, dwarf form of, 142.
 Cucumbers and Melons, notes on, 82; disease, cure for, 191.
 Culture the chief source of improvement, 80.
Curmeria Wallisii, (woodcut) 232.
Cycas Normanbyana, (woodcut) 34.
Cyrtanthera magnifica hardy, 216.
Cytisus, season to pot, 182.
- DAHLIAS, leading new, of the year, 250; unlifted, 173.
 Dandelion as a salad-ingredient, 119.
 Darwin's Fertilisation of Plants, 47.
Dendrobium densiflorum var. *Stewartii*, 223.
 Dietz's Portable Heating Apparatus, 70.
Dioscorea argyrea, 185.
Dracæna Goldiana, (woodcut) 246.
- ECONOMY of Space in Small Gardens, 83.
Epacris onosmæflora flore-pleno nivalis, 96.
Epacris, season to pot, 182.
Erica ornata, 214; *E. Shannoni glabra*, 214.
Eschscholtzia Mandarin, 240.
Euonymus europæus, 132.
Eupatorium Berlandieri, (woodcut) 27; *E. gracile odoratum*, 28; *E. ligustrinum*, (woodcut) 28, 58; *E. odoratum*, 28; *E. riparium*, 28, 58; *E. Weinmannianum*, 28; winter-flowering, 26, 58.
Euphorbia jacquiniæflora, 38.
- Exhibitions: Amsterdam International Horticultural, 70; Carnation and Picotee, 71; Carter's Flowering and Fine-foliage plants, 48; Jackman and Son's Clematis, 141; International Potato, 119; International Horticultural, at Carlisle, 96; Royal Manchester Horticultural Society's National, 141; Manchester Cottagers', 190; Metropolitan, of the present season, 168; National Auricula Society's Northern, 92; National Auricula Society's Southern, 23, 71, 114; National Carnation and Picotee Society's, during 1877, 23; National Carnation and Picotee Society's Northern, 190, 207, 225; National Carnation and Picotee Society's Southern, 118, 186; National Rose Society's, 179; Northern Counties Tulip Society's, 163; Richmond Horticultural Society's, 72; Royal Botanic Society's special, 47; Royal National Tulip Society's, for 1877, 92, 140, 161; Scottish Pansy Society's, 189.
- FERNS, propriety of growing in loam, 143.
 Fig Negro Largo, 8, 32; Lambton, 32.
Fittonias as wall-clothers, 136.
- Floral Decoration, principles of, 213.
 Flore des Serres, reappearance of, 141.
 Flower Garden, work in: February, 45; March, 69; April, 91; May, 118; June, 140; July, 166; August, 184; September, 212; October, 237; November, 259; December, 279.
 Flower Garden, bedding out in, 127.
 Flowers, Darwin's forms of, 239.
 Flowers and Flower Garden, Watts', 141.
 Fruits, Wall, culture of: Chap. viii.-xi., The Peach and Nectarine, 32, 86, 177, 227.
 Fruit Crops, the present season's, 238; hardy, in 1877, 177.
 Fruit Garden, work in: July, 167; August, 184; October, 237; November, 260; December, 280.
 Fruit-trees, best cropping hardy, 231; cordon training of wall, (woodcut) 42.
 Fungus of the peach-blister, (woodcut) 174.
- GALIUM saxatile as a carpet bedder, 263.
 Garden, new botanic, at Hull, 141.
 Garden Gossip, 23, 46, 70, 92, 118, 140, 167, 190, 213, 238, 260, 280.
 Garden Receipts, Quin's, 119.
 Gardener's Assistant, new edition of, 280.
 Gardeners' Year-book for 1877, 24.
 Gardenias, culture of, for cut flowers, 222.
Gentiana acaulis, 146.
 Grafting, on changes effected by, 4.
 Grapes, large clusters of, 280.
 Grape sport, Culford, 234.
 Grape vine, pith in the, 113.
 Greenhouse, work in: January, 21; February, 44; March, 68; April, 90; May, 117; June, 139; July, 166; August, 183; September, 212; October, 236; November, 259; December, 278.
 Guide Pratique de l'Amateur de Fruits, 94.
 Gymnogramma Heyderi, 252.
- HABROTHAMNUS fasciculatus, 78.
 Hares, to prevent, from barking trees, 93.
 Heaths, new, 214; season to pot, 182.
Hedera Helix, 103.
Helminthosporium pyrorum, 205.
Hippeastrum, culture of, 102.
 Hooker, Dr., created Knight, 168.
 Horticultural Directory for 1877, 48.
 Horticulture, Barbidge's, 263.
Humca elegans, 220.
 Hyacinth Queen of Lilacs, (col. plate) 241; lists of single varieties, 242; double, 243.
Hydrangea Thomas Hogg, 215.
 Hydrangeas for market purposes, 281.
Hymenanthera crassifolia, (woodcuts) 201.
- INSECTS, injurious, Newman's, 141.
 Insecticide powder of M. Boudrant, 94.
 Iron, use of rust on, 216.
 Ivy, English, 103.
- JASMINUM nudiflorum for vases, 60.
 Journal des Roses, Cochet's, 47.

- KALMIA latifolia, 191.
Ketchup, making of, 238.
- LAVATERA arborea as sea shelter, 213.
Lawns, cure for worms on, 262.
Leaf-bedding, choice of materials for, 147.
Leaves, mode of skeletonising, 214.
Ledum palustre as insect-powder, 95.
Lettuce, new, of 1876, 46; Hammersmith, 170.
Lilac as a hardy shrub, 106; best varieties of, 108; forced, white flowers on, 142.
Liliums, Mr. Elwes' monograph of, 119.
Lily, Belladonna, 262.
Linum trigynum, 151.
Lobelia Erinus, and other dwarf-bedding, 109.
Lomaria Dalgairnsiæ, (woodcut) 198; L. discolor bipinnatifida, 272.
- MACODES Pétola, 171.
Mallow, tree, as shelter, 213.
Mâche of the French, 12.
Mealy Bug, (woodcut) 267.
Meetings and Greetings, Tegg's, 239.
Melons and Cucumbers, notes on, 82.
Melon-culture, 223; select varieties for, 225.
Mignonette, long flowering of, 215.
Mimulus, double-flowered: Crown Prince, Galatea, and Spotted Gem, (col. plate) 253; Fire King, (col. plate) 253.
Moss, Dovedale, 202.
Multum-in-Parvo Gardening, 281.
Mushrooms, M. Zoller's mode of culture, 192.
- NECTARINE, Lord Napier, (col. plate) 229.
Nelumbium aspericaule, 282.
Nephrolepis davallioides furcans, (woodcut) 18.
Neriums, season to pot, 182.
Nertera depressa for carpet bedding, 8.
Nuts, present season's crops of, 238.
- OBITUARY: Andrews, Mr. James, 48; Barnes, Mr. James, 168; Braun, Dr. Alexander, 144; Cramb, Mr. Alexander, 144; Cunningham, Mr. David Waugh, 144; De Lambertye, M. le Comte Léonce, 240; Dickson, Mr. Thomas, 120; Foster, Mr. William, 120; Gavin, Mr. John, 144; Harrison, Mr. John, 72; Heward, Mr. Robert, 264; Hunt, Joseph, Esq., 120; Ingle, Mr. William, 24; Ingram, Mr. John, 24; Lidgard, Mr. Charles, 192; Melville, Mr. William, 72; Moore, Mr. Frederick, 168; Parlatore, Prof. Filippo, 264; Reeves, John Russell, Esq., 144; Richards, Mr. John, 264; Rivers, Mr. Thomas, 264; Riviere, M. Auguste, 144; Saunders, Mr. M., 120; Smee, Alfred, Esq., 48; Steward, Henry, Esq., 24; Stewart, Mr. Peter, 48; Walker, Mr. Joseph, 192; Webb, Mr. Richard, 264; Weddell, Dr. Hugh Algeron, 240; White, Mr. Robert, 168; Wilkins, F. G., Esq., 48.
- Odontoglossum pulchellum grandiflorum, 26; O. triumphans, (col. plate) 217.
Oidium Tuckeri, (woodcut) 50.
Onion, Trebons, (col. plate) 37.
Orange, Tangierine, (col. plate) 205.
Orchids, select list of cool, 154; as florists' flowers, 150; cool, culture of, 153.
Orchid-growers' Manual, Williams's, 168.
- PEONIA Moutan, for conservatories, 119.
Pæonies for summer beds, 132.
Palm-house, new, at Adelaide, 96.
Pansies, bedding, descriptions of, 244.
Peas, new, of 1876, 46; Laxton's new, 173.
Peach, Belle Impériale, (col. plate) 25; Desse Tardive, 78; Dymond, (col. plate) 185; Early Alfred, (col. plate) 277; Magdala, (col. plate) 277; Premier, (col. plate) 97; new varieties of, at Chiswick, 238.
Peach blister and its fungus, (woodcut) 174.
Peach leaves blistering, 145.
Pear, Amiral Cécile, (col. plate) 61; Beurré de Jonghe, (col. plate) 61; Beurré Giffard, 157; Doyenné du Comice, (col. plate) 133; the Peach, (col. plate) 157; Willison's Queen Victoria, (col. plate) 13.
Pears, best-cropping hardy, 231; best early, mid-season and late, 25; new ornamental Japanese, (woodcuts) 99; very late, 26; stewing, 26.
Pear-fruits, cracking of, 204.
Pear season of 1876, 25.
Pelargonium Princess of Wales, (col. plate) 193; Laxton's seedling, transfer of stock of, 72; Mr. Cannell's yellow, 262; Vesuvius, sportiveness of, 262.
Peronospora viticolum, 261.
Phloxes of the decussata type, 261.
Phœnix rupicola, (woodcut) 164.
Phylloxera and its destruction, 62; stocks resistant and non-resistant to the, 94; description of, (woodcuts) 269.
Phytoptus, witch-knots caused by, 93.
Picotee. See Carnation.
Picotees, mutilated flowers of, 13; descriptions of new, 239; descriptive lists of red-edged, 111; purple-edged, 129; rose, scarlet, or salmon-edged, 157.
Pinus Omorika, 143.
Planting of railway embankments, 215.
Plums, in succession from July to November, 59; best-cropping hardy, 232.
Polyanthus, Duke of Wellington, 143.
Polygonum caspidatum as a town plant, 43.
Potato, Covent Garden Perfection, 72.
Potatos, new, of 1876, 46; present season's crops of, 238.
Potato-shoots, planting, 119.
Pothos argyrea as a contrast to Cissus, 186; as a wall-cloth, 14; P. rubronervia, 14.
Primula cortusoides amœna, new forms of, 36; P. Sieboldii, 36; P. sinensis, double, culture of, 49; P. sinensis Eva Fish, (col.

- plate) 265; *P. sinensis* Marchioness of Exeter, 142; *P. spectabilis*, 143.
Pultenæa rosea, 145.
 Pyrethrums, double, culture of, 261; new, 282.
- RABBITS, to prevent, from barking trees, 93.
 Red Spider, to destroy, (woodcut) 266.
 Rest necessary for plant-cultivation, 95.
Rhizobius helianthemi, 134.
 Rhododendrons: Princess of Wales, (col. plate) 3; season to pot, 182; Mr. Anthony Waterer's show of, 48; sweet-scented hybrid, 142.
 Rivers's Miniature Fruit Garden, 120.
Roella ciliata, 80.
Rogiera gratissima, 146.
 Rose, Magna Charta, (col. plate) 49; Maréchal Niel, greenhouse treatment of, 23; Queen of Bedders, Noble's, 142; Rêve d'Or, for wall-covering, 213.
 Roses, new Cheshunt, 240; Laxton's New, 72; new, of 1875-6, exhibited at Crystal Palace, 191; new, 216.
- SALUS, a remedy for Cucumber disease, 191.
Salvia splendens, 37; *S. patens*, 38.
Saponaria caespitosa, 156; *S. calabrica*, 157; *S. caucasica*, 155; *S. lutea*, 157; *S. oeymoides*, 156; *S. officinalis*, 155.
Sarracenia Drummondii, 255; *S. Fildesii*, 254; *S. flava*, 255; *S. Moorei*, 255; *S. psittacina*, (woodcut) 255; *S. purpurea*, 255; *S. Stevensii*, 254; *S. Williamsii*, 254.
Sedum acre, 202; *S. glaucum*, for carpet bedding, 9.
Selaginella japonica, (woodcuts) 137.
 Shanking of vines, 5.
 Side-saddle flowers, 254.
 Societies: National Auricula, 9, 23, 46, 92; National Carnation and Picotee, 23, 118, 186, 190, 207, 225; National Rose, 92, 179, 240; Northern Counties Tulip, 163; Pelargonium, 92; Royal Botanic, 47; Royal Horticultural, 70, 240; Royal Horticultural, of Ireland, 216; Royal Manchester Botanical and Horticultural, 141, 190; Royal National Tulip, 92, 140, 161; Scottish Pansy, 189.
 Soil for potting, storing of, 276.
 Spruce, Colorado, 95.
 Standish Memorial Fund, report on, 93.
Stephanotis floribunda, 185.
 Stock, dwarf Purple Queen, 95.
 Stonecrop, 202.
 Strawberry, culture of the, 229.
 Strawberries, present season's crops of, 238.
 Sutton's Amateur's Guide, 24.
- TAPHIRINA deformans, 174.
 Thrips, to destroy, (woodcut) 267.
Todea superba, culture of, 245.
 Tomato omelette, 216; sauce, recipe for, 192.
 Tomatos, trial of, at Chiswick, 282.
Torenia Fournieri, 252.
 Tottenham Hailstorm Relief Fund, 72.
Trama auriculæ, (woodcut), and others, 134.
 Trellis, West's Adjustable, (woodcut) 71.
Tritoma Rooperi, the hardiest, 72.
Tulipa Eichleri, (col. plate) 169; *T. Hageri*, (col. plate) 169.
 Tulips, notes on, 193, 217; manner of reproduction of, 219; rectified bizarres, 194, 218; rectified bybloemens, 195, 219; rectified roses, 195, 219; new border, 169; breeder, 219; slow increase of, 191.
- VAN HOUTTE, Louis, monument to, 94.
 Vegetables, new kinds of, of 1876, 46.
 Vegetable Garden, work in: January, 22; February, 45; March, 69; April, 91; May, 118; June, 140; July, 167; August, 184; September, 213; October, 237; November, 260; December, 280.
 Villa Gardening: January, 21; February, 44; March, 68; April, 90; May, 117; June, 139; July, 166; August, 183; September, 212; October, 236; November, 259; December, 278.
 Vines, adventitious or air-roots of, (woodcut) 7; how to stop the bleeding of, 216; fungus on the roots of, 50; woodashes as manure for, 94; mildew on young leaves and fruit of, (woodcut) 50; miniature, for the dinner-table, 233; new disease of, 261; pith of, 66, 113; Baltet's plan of preserving against frost, 94; shanking of, 5; culture of, in pots, 18; varieties suitable for pot-culture, 18.
 Vines and Vine-culture: Chap. xi.-xii., Diseases and Injuries, and their Remedies, (woodcuts) 5, 50; Chap. xiii., Injurious Insects, (woodcuts) 266.
 Vine Beetle, 268.
 Vine Louse, 269.
 Vine Scale, 268.
 Vine-stocks, American, 94.
 Vine Tortrix, 268.
 Vine Weevil, 268.
 Violas, bedding, descriptions of, 244.
 Violet, Neapolitan, 120; alba fragrantissima plena, 48; Lee's odoratissima, 96.
- WALLS, wiring garden, 52.
 Wasps, plan for destruction of, 214.
 Water Lilies, best mode of planting, 264.
 Wighton, Mr., testimonial to, 47.
 Wires for training fruit-trees on walls, (woodcut) 24.
 Wood, how to render unflammable, 216.
 Worms on lawns, cure for, 262.
- ZAMIA crassifolia, (woodcut) 14.

