THE

FLORIST AND POMOLOGIST,

AND

SUBURBAN GARDENER:

A PICTORIAL MONTHLY MAGAZINE

OF

FLOWERS, FRUITS, AND GENERAL HORTICULTURE.

EDITED 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.

1880.

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

MDCCCLXXX.

LIST OF ILLUSTRATIONS.

COLOURED PLATES.

WOODCUTS.

INDEX.

Miss E. Regel del.

Chromo G. Severeyns, Brussels.

Primula sinensis purpurea punctata

THE

FLORIST AND POMOLOGIST.

PRIMULA SINENSIS PURPUREA PUNCTATA.

[PLATE 505.]

GREAT strides have been made of late years in the improvement of the Chinese Primrose, *Primula sinensis*, and when one now happens to meet with the typical form, as originally introduced, one scarcely recognises it as the same plant, its narrow, plain-edged, notched segments looking poor and tame beside the richly-frilled forms now generally cultivated, to say nothing of the immense improvement in respect to colour which has been effected by careful seeding, aided by high cultivation.

The original P. sinensis had the leaves palmatifidly lobed, as in the new variety we now figure; but some twenty or five-and-twenty years since a seedling sport was raised, with the outline of the leaves obovate-oblong, as in the common primrose, but deeply lobed at the edge, so as to resemble a fern frond; hence this race, now almost as varied as the original, was called the Fern-leaved. In early days, too, the leaf-stalk indicated the colour of the flower, the whites having pallid-green stalks, and the purples red stalks; but this no longer holds good, Waltham White, for example, one of the best of the whites, having the leaf-stalks of the deepest tint of red.

In the flowers, the first changes were from single to double, and from plain-edged to frilled, or fimbriated, as it was commonly called. Then, by selecting the best for seeding, we had the whites increased in fulness and substance, until in Princess Louise these properties reached the highest standard, and the rosy-coloured forms became intensified into the larger rich rosy-purple hues which characterise all the carefully-selected strains of the present day, and which are claimed as specialities by various growers. About a dozen years ago we received in this country from Germany the variety called kermesina, which was of a decidedly different hue, approaching a salmon-red, and it is no doubt the admixture with this which has given us the crimson-tinted strains now in cultivation. Other variations, sometimes more curious than beautiful, have from time to time made their appearance on the Continent; but some two or three years since Mr. Barron obtained from MM. Vilmorin-Andrieux et Cie., of Paris, seeds of a very high-coloured race, amongst which were flowers having the edges dotted with white. This, which M. Vilmorin call *P. sinensis purpurea punctata*, was the original of the variety represented in our plate, the portrait of which was taken from one of the plants grown at Chiswick last year. From the same strain Mr. Barron has selected Chiswick Red and rubro-violacea, two of the brightest varieties yet obtained, and both Certificated at South Kensington as real advances on others previously in cultivation, the first having more of the crimson tint, the latter of the violet tint flushing the reddish-crimson of the flower, and both having well-marked yellow eyes. Mr. Barron has also subsequently sent us flowers of a particularly beautiful and distinct form, of a bright magenta-purple, dotted with white, and with a very large bronze eye extended half-way across the face of the flower; the edge is undulated, as well as neatly fringed with crenate toothing, and the five original lobes are so deeply cut in, fully ¼ in., that the several overlapping lobelets of the corolla appear to constitute an almost continuous double layer throughout. This, which has flowers of full size, is one of the handsomest forms we have seen.

A glance at the accompanying plate will show the principal features which mark this punctate Primula to be the large solid flowers, brilliant crimson-colour, the white dotted margin, and large yellow eye. The truss is bold and close, and the habit stout and vigorous, so that altogether this new form will take high rank as a decorative plant.

Mr. Douglas has judiciously remarked in a

recent issue of the *Gardeners' Chronicle* (N. S. xi., p. 717), that it is very desirable indeed that these fine strains should be improved not only by selection, which is a haphazard way, but by careful crossing. In every strain there are two classes of flowers—the thrum-eyed, in which the mouth of the tube is quite filled up with the anthers, and the stigma is quite concealed beneath them; and the pin-eyed, in which the anthers are set down in the tube, while the stigma protrudes from its mouth, or at least is even with it. The thrum-eyed flowers should be used as the pollen-bearers, and the pin-eyed flowers as the seed-bearers. The requisites are good shape and substance, with rich and decided colours; the plant should be of good habit, with the leaves stout and set on rigid foot-stalks. Those who have been fortunate enough to obtain a good flower may yet have experienced much difficulty in obtaining seeds from it. The flowers will, no doubt, in such a case, be found, on a closer inspection, to be of the thrum-eyed character; but if a pin-eyed flower of the same colour, and possessing as nearly as possible the same properties, can be selected from the same batch of seedlings, there would be no difficulty in obtaining a plentiful supply of good seeds by fertilising the latter with the former. Every day about noon the pollen should be conveyed from the flowers of the one plant to the protruding stigma of the other. During the fertilising period the plants should be placed near the glass, in a moderately warm, airy house. The plants may be placed on any convenient shelf near the glass in a vinery, greenhouse, or other structure, not a warm close stove, to mature their seeds, which will ripen during the summer, and when the pods show that these are ripe, they should be gathered and laid out to dry.—T. MOORE.

OUR FORCED-FRUIT INDUSTRY.

THE cultivation of Forced Fruits for the supply of the public is a matter of so much importance to those who are engaged therein, that any improvement which can be made upon the various modes of packing for market, so as to secure a more uniform exemption from damage in transit, will be welcomed, not only as an advantage to the producer, but also as a tangible benefit to the consumer.

It is from this point of view that I admire the liberality and wisdom of Mr. Webber, of Covent Garden, in offering prizes for the most successful plan of packing grapes which have to be sent some distance by rail before they reach a market.

The growing of choice fruits in this country is every year becoming less remunerative, owing to the increasing competition which it has to encounter through importations of foreign fruits. The object which British fruit-growers ought to have in view is HIGH QUALITY in their productions; and they should be careful not to allow trade convenience to reduce that high quality to the level of foreign-grown fruit, which has to be gathered and packed before it has attained its full flavour.

In an article upon packing Peaches in a contemporary, it is recommended that Peaches for market be gathered when "quite hard to the touch." Surely this is an astounding recommendation to come from one who stands in the very front rank of British fruit-growers, a recommendation savouring far more of convenience to the fruit-dealer, than adapted for keeping up to the highest level the standard of merit in our home-grown fruits. Although the system of gathering choice fruits before they are ripe has been recommended by Covent-Garden fruit-dealers for a good many years, I have always felt—convenient as it may be for the retailer's purpose—that it strikes the most deadly blow that can be aimed at the *profitable* production of forced fruits in this country.

There is a stage in the ripeness of all fruits when the flavour is most fully developed. In the case of the Peach, I have invariably found this to be attained when the fruit has been ripened upon the tree. Now, if this be so, it is right that the public should derive the fullest enjoyment from what, under any circumstances, must always be a costly dish in this country, and that the reputation of our hothouse-grown fruits should not suffer merely for the convenience of the dealer. There is no other competing industry, that I am aware of, that could or would allow its productions to be lowered in quality—after all the expense of production has been incurred—simply for the convenience of the retailers of the goods.

If Peaches be carefully handled, there is no

difficulty in keeping them, for three or four days after they have been gathered, in prime eating condition. It is, in my opinion, to improved modes of packing and transit that we must look for retaining British fruit-culture as a remunerative industry, and not to the system of *gathering* the fruit *to pack*, instead of gathering it *to eat*.

Horticultural Societies might add very much to their usefulness, by offering prizes—to be competed for whenever a fruit show is held—for the best and most successful system of packing the various classes of fruit for transit to market. The system should be judged upon trade principles, viz., so as to bring out clearly the plan of packing for long railway journeys, which shall combine the greatest security against damage in transit, with the most expeditious mode of operation, and the least cost in material and carriage.—Z. Stevens, *Trentham Gardens, Stoke-upon-Trent*.

CHRISTMAS ROSES ON CHRISTMAS DAY.

THERE is something about the purity of tone of a forced flower of a Christmas Rose that makes it peculiarly acceptable at the Christmas season. I think we see the refinement of the Christmas Rose only when some steps are taken to assist it in opening its flowers sooner than it otherwise would, and to do this well, not only is protection necessary, but some warmth also. It is only in the case of a peculiarly mild and pleasant autumn, that Christmas Roses can be looked for in flower in the open air at that festive season. During the past month of December, the plants were locked up firmly in the soil by the severe frost, that lasted long, and the flowers, which, when the frost came upon us, were sending up their half-formed buds through the soil, were held fast, and could make no progress. Then is the time to step in and assist the imprisoned ones. The most forward of the clumps should be lifted, even though it is necessary to bring the pickaxe into requisition, and the plants with the frozen soil about them should be put into a temperate house, and left to thaw. As soon as this is accomplished, any unnecessary coating of soil should be crumbled away, and the clumps put into pots only just large enough to take them, and placed in a brisk heat. On a shelf in a low span-roofed stove, near the glass, which is a good position for the plants, they soon commence to throw up their blossoms, and in such a position they take on a snowy whiteness, unusual to them in the open air. There are such things as strains of Christmas Roses. I mean by this that I have met with what I consider an early and singularly free-flowering variety which, when obtained, is best adapted for forcing into flower at Christmas. This particular strain also appears to have flowers whiter than others, the blossoms from which are ofttimes tinted with blush and salmon.

It is the old Christmas Rose (*Helleborus niger*) that must be used for this purpose. A few days since, I saw some flowers taken from a plant forced into bloom in this manner that were of the purest white, and they had undergone a refinement unusual to the Christmas Rose. The eye is the most cunning of painters, and, as Wordsworth says, brings to land or sea a light that never was upon them. But there is no optical deception in the snowy whiteness found in a blossom of a forced Christmas Rose. We cannot transfigure it, for its purity is as patent as its great usefulness in mid-winter. Let us, then, have Christmas Roses at Christmas, as emblems of Nature's bounty to man at the darkest season of the year, and of that hallowed serenity and pure goodness, centring round the historical figure, which gives to the Christmas season its greatest significance.—R. Dean, *Ealing, W.*

PEACH-PRUNING—DUBREUIL.

THERE are two excellent works on the pruning and training of fruit-trees, Mr. Brehaut's and M. Dubreuil's, and were horticulturists to read and study these excellent works, there would not be so much ignorance abroad. I will summarise a portion of Mr. Dubreuil's advice on pruning and training. Some of his hints are beyond my experience; but I will only quote such as I have found by experience to be true :—

1. The wood of the trees ought to be symmetrically trained, which promotes equality of vegetation.

2. The permanency of form in trained trees is dependent on equal diffusion of sap.

3. The strong branches should be pruned

short, and the weak branches allowed to grow long.

4. The strong branches should be depressed, and the weak ones elevated.

5. The buds upon the strong parts should be suppressed as early as possible, and as late as possible on the weak parts.

6. The strong branches should be nailed to the wall early, and close, but the nailing-in of the weak ones should be delayed.

7. Suppress a number of the leaves upon the strong side.

8. Allow as large a quantity of fruit to remain on the strong side as possible, and suppress all upon the weak side.

9. Bring forward the shoots on the weak side from the wall, and keep those on the strong side close to it.

10. Place a covering over the strong part, so as to deprive it of light, but not for longer than from eight to twelve days: if longer, the trees may lose their leaves.

11. The sap developes branches much more vigorously upon a branch cut short than upon one left long.

12. The more the sap is retarded in its circulation, the less wood and the more fruit-buds it will develop.

13. To retard extra luxuriance, uncover the foot of the tree in spring, cut away part of the roots, and then replace the earth.

14. Make fruit-spurs grow close to the branches by pruning them as short as possible; by so doing, the fruit will receive the direct influence of the sap, and acquire a larger development.

15. Keep the fruit with the fruit stem lowermost.

16. Place the fruit under the shade of their leaves during the entire period of growth.

17. The leaves elaborate the sap of the roots, and prepare it for the proper nourishment of the tree, and the formation of buds upon the boughs. A tree, therefore, that is deprived of its leaves is in danger of perishing.

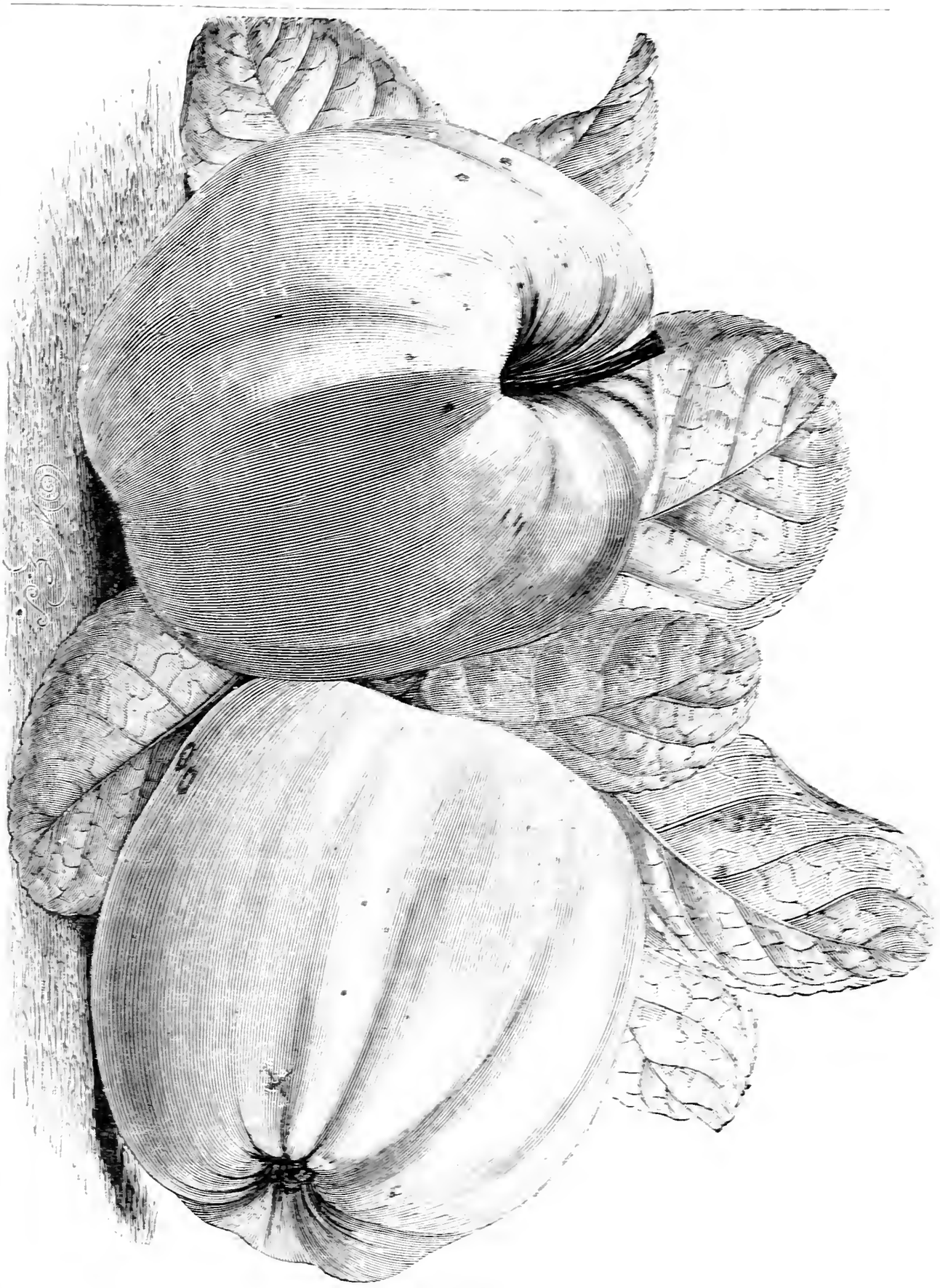
The above directions are useful; and I can testify, by twenty-seven years of experience in Peach and Nectarine culture, that the advice is good and valuable. Many trees will need next spring root-pruning or lifting,—the former is often best.—W. F. RADCLYFFE, *Okeford Fitzpaine, Nov. 5.*

THE DUNMORE PEAR.

FROM inquiries received respecting this very excellent pear, I am led to think that it is not so generally known, nor so extensively grown, as i deserves to be. It have looked through several nursery catalogues, and I do not find it in any of them, which to me seems very strange, since I find they have many kinds very much inferior to the Dunmore. In Loudon's *Suburban Horticulturist* it is thus described:—"Dunmore: Large, oblong-obovate, greenish yellow, and smooth brown russet, buttery and rich; September; a hardy vigorous tree, and bears abundantly as a standard." Downing, in his *Fruits and Fruit Trees of America*, says, "The Dunmore is a large and truly admirable pear, raised by Knight, which has been introduced into this country from the Garden of the London Horticultural Society. It is a strong-growing tree, bears exceedingly well, and is likely to become a great favourite. Its blossoms resist even severe frosts." A remarkable thing happened with the standard tree here, some ten or twelve years ago. It was full of blossoms during the autumn and winter —not merely a small spray or two, as one often sees on Pear and other trees, but the entire tree was in blossom; and as the winter proved mild, as soon as some of the blossoms died off others expanded, so that there was more or less bloom all through the winter and into spring. The tree bore a light crop the ensuing season. I got the tree that is here, with a number of other fruit-trees, about 28 or 29 years ago, from Messrs. Knight and Perry, of Chelsea. With the exception of two or three standard Apple-trees, the whole of them proved true to name. —M. SAUL, *Stourton, Knaresborough.*

DR. HOGG APPLE.

THIS fine new Apple, which was raised from seed by Mr. Sidney Ford, of Leonardslee, near Horsham—who has for some years been a remarkably successful cultivator and fortunate exhibitor of hardy fruits—is described as bearing a close resemblance to the Calville Blanche. It was first exhibited in November, 1878, when it was brought before the Royal Horticultural Society's Fruit Committee, and it was so far approved that it was invited to be submitted again, after being



DR. HOGG APPLE.

cooked, at the meeting in December, when the following report was adopted:—"Dr. Hogg, raised by Mr. Ford, very like the White Calville; probably a seedling from it. Melts perfectly, does not fall at all, juicy, slightly acid, very rich and sugary, delicate aroma. A first-rate baking apple." To this verdict the Committee appended the remark that if the tree proved hardy, healthy, and productive — qualities which have since been vouched for by its introducers, Messrs. W. Paul and Son, of Waltham Cross—it would be a valuable

Apple; and, in the sequel, they awarded it a First-class Certificate.

"This novelty," the Messrs. Paul and Son remark, "should be in every kitchen-garden, as a constant and heavy cropper, bearing large, handsome fruit, which is of the finest quality, and in season longer than any other apple with which we are acquainted, namely, from September to March." The accompanying woodcut, from a drawing by Miss Paul, will give some idea of its size, form and handsome general appearance.—T. M.

MESEMBRYANTHEMUMS AS ROCK-PLANTS.

WHEN Mr. Bevis was foreman of the botanical department of the garden at Syon House, he kept up a collection of these plants, and planted them out on the rock-work in summer, and in sunny seasons they were marvellously fine things. Their name, "Mid-day Flower," sufficiently indicates that a dry and sunny berth best suits them, and their dwarfness of habit shows that they need a prop of rock-work or the like to bring them near the eye. At Claremont there was once a fine collection of these and other succulents, but owing to the immense number of species—probably some 300, or more—they cannot become general in small places. Most of them are free-flowering kinds, and when well grown are exceedingly handsome. Before Mr. Green taught the world how to grow these and the Cactus tribe, and indeed most other succulents, they were always potted in soil heavily charged with lime-rubbish or old mortar, and it would have been rank heresy to have treated them otherwise.

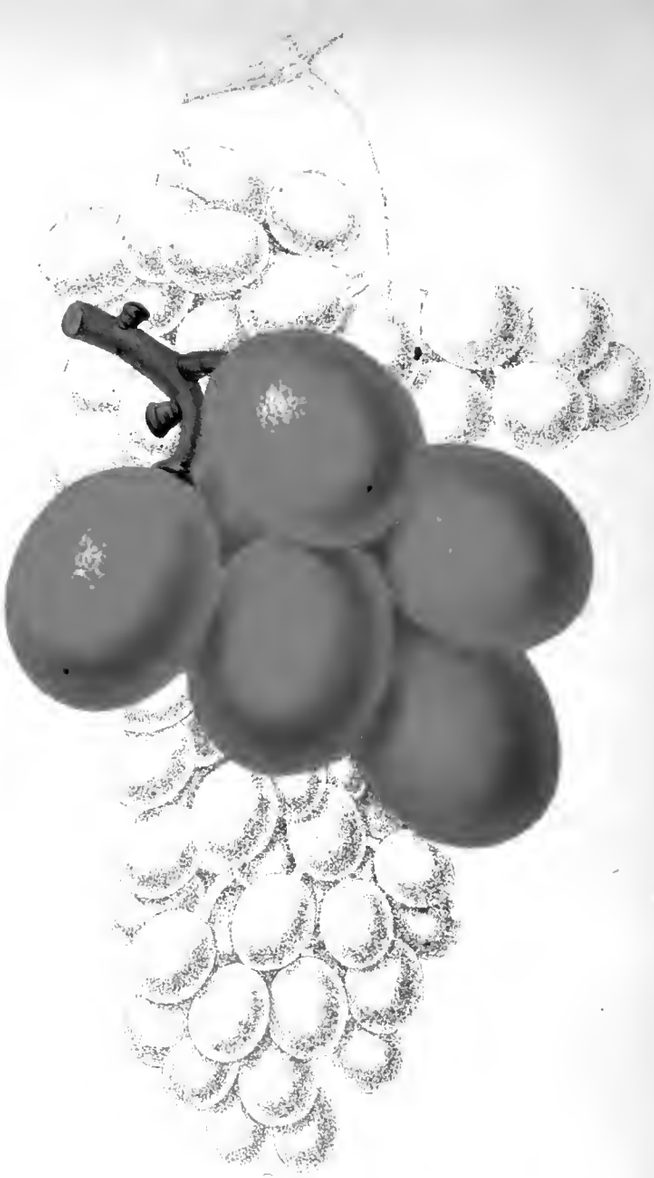
Now there are examples to be found of wallflowers growing in perfection on the old mortar of ruined castles—Conway, for example, and no one has been able to grow this biennial in the same compact, dwarf way that we see it when self-sown, on the bleak and stormy steep it makes its home. The same plant, if sown in rich soil in a garden and sheltered from the storms, will grow long in the stem and branches, and become very unlike in habit to the plant that was without doubt its parent. The Stonecrop, again, is quite at home on any old stone wall; and these have, no doubt, helped to get the idea of lime-rubbish into the soil for other succulents. Mr. Green struck out a system of his own for growing these watery specimens, and introduced plenty of good manure into the soil for potting his succulents; and those who saw his *Epiphyllums* at Chiswick were convinced that "he had hit the right nail on the head." If we do not succeed well with these, it must not, therefore, be laid to the score of the rich soil they are living in.

Besides the soil in which succulent plants are grown, there is, however, an equally important point to be observed in their culture, and that is to *refrain from watering* them when they are, or ought to be, at rest—for their rest should be in dryness. All succulents, including Mesembryanthemums, consist of a series of bags of water, requiring dryness for their propagation, while other plants have to be kept moist until they get their roots to work. In most cases the leaves will make plants, and some succulent stems when divided will make several.

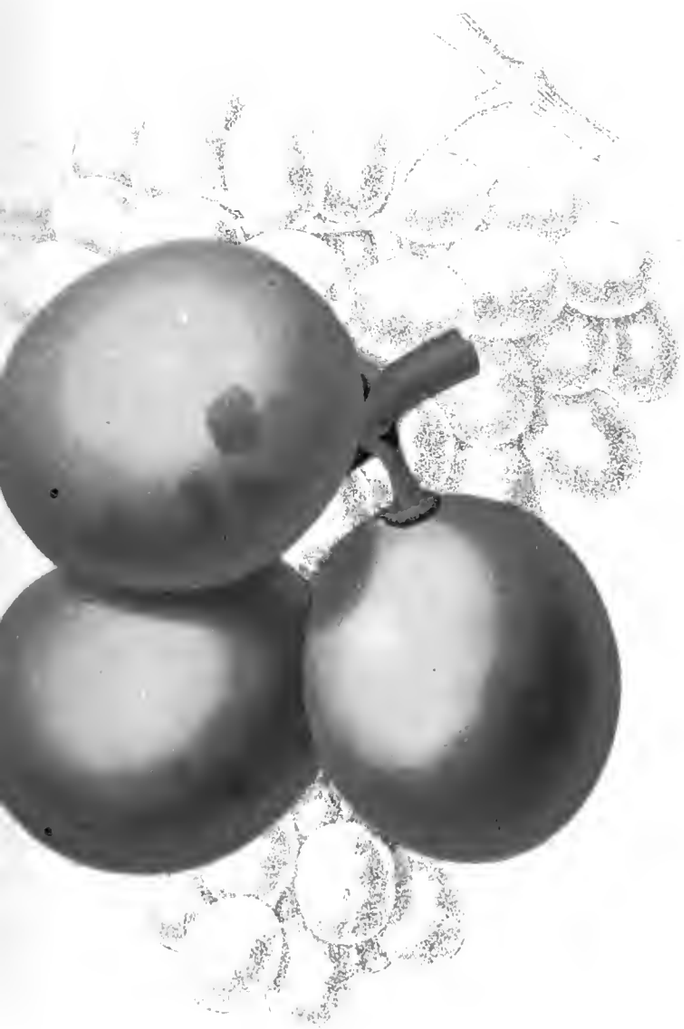
I would recommend to those who design rock-work to give it the Stone-crop character, and that is best done by planting in mud, made up of rich mould, large patches of dwarf plants, and so arranging the work that when a plant is set upon a stone it may show design and adaptation to the site, always bearing in mind that the stones are to be subordinate to the flowers, and not staring out in white spar, as if a chalk cliff were its model. Rock-work black and grim is to be detested, and those who use white spar should either hide it with the foliage of evergreens, or colour it of some quiet hue.

I have mentioned Syon House and its Rockery because it was a gem in its way, and it was kept out of sight, not being a show-place, so that few persons had the privilege of seeing how things were done there. The Mesembryanthemums there, however, suffered from damp wintering in a cold frame, when their protector, Mr. Bevis, was gone, and soon ceased to be propagated, so that in my time the collection had nearly dwindled away. On a stone the size of the crown of one's hat a plant may be put out right in the burning sun, planted in good soil, as has been already said, and always sloping southwards and downwards, like an irregular stair, and we may reckon on its covering the space allotted. The planting must be done in puddle, and not in dry earth, which is unsuitable for this delicate work. The rock-work that admits of trailing shrubs and large bushes is quite a different affair, and is useful as a background and for divisions, but is not in harmony with the tiny tender succulents that Mr. Bevis succeeded so well with on the stones at Syon.—A. FORSYTH, *Salford*.

1.



2.



3.

4.

Chrs. Severeyns, Brussels

Grapes:
1, Muscat of Alexandria; 2, Foster's White Seedling;
3, Duke of Buccleuch; 4, Dr Hogg.

SELECT WHITE GRAPES.

[Plate 506.]

WE give in the annexed Plate figures of four of the most important White Grapes, selected, as also were the Black Grapes published in Plate 501, by Mr. Barron, to illustrate the series of articles on Vine Culture now being published by him in our pages. The varieties will be fully described in their proper places, in the Descriptive List, of which the first portion is subjoined. The figures are all from the pencil of Mr. Fitch, whose drawings have been carefully reproduced by M. Severeyns, of Brussels. As in the companion plate, the general contour of the bunch is shown by the reduced plain figure at the back, while the coloured portion in front shows a few berries of the size and appearance they present when well grown and fully ripened. The varieties represented are the following:—

Fig. 1.—Muscat of Alexandria, the best of all the late white Grapes.

Fig. 2.—Foster's White Seedling, the most useful of the early white sorts for forcing.

Fig. 3.—Duke of Buccleuch, the grandest of all the summer Grapes.

Fig. 4.—Dr. Hogg, a new variety, of good repute.—T. Moore.

VINES AND VINE-CULTURE.

Chap. XVIII.—The Varieties of Grapes.

I COMMENCE here to give a description of the varieties of Grapes, adding some particulars of their history, and such cultural notes as may be likely to prove useful. The numbers in parenthesis after the names refer to their position in the synoptical list given in Chapter XVII.:—

Abercairney, or Major Moray's Grape.—A reputed seedling from the Black Hamburgh growing at Abercairney, Perthshire, but, without doubt, the same as *Alicante:* which see.

Ahbee (35).—An oval, tawny or grizzly Sweet-water Grape.

Vine.—Growth very strong and robust, producing large thick wood, which does not always ripen thoroughly; moderately fruitful. *Leaves* large, thick, deep green, broadly-serrated. *Leafstalks* reddish.

Fruit.—Bunches large, averaging from 10 in. to 12 in. in length when well grown, and weighing from 1 lb. to 3 lb., of regular tapering form, with large shoulders. *Footstalk* thick and strong. *Berries* large, always well-set, roundish-oval. *Skin* thin; at first of a dull greenish colour, changing when fully and properly ripened to a bright rosy pink on the side next the sun. *Flesh* somewhat soft and squashy, and without much flavour.

History, &c.—This grape—as its name, Ahbee, which means "watery," indicates—is a native of India. It was sent to the Horticultural Society in 1836 by Colonel Sykes, from the Deccan (India). It formed one of the first collection of Grapes planted in the great Conservatory at Chiswick, where its merits were fully tested in 1861-62. Its very handsome appearance gained for it considerable popularity, one facetious writer describing it as peculiarly suitable for wedding breakfasts, alluding to its beautiful blush-colour.

Cultural Notes.—There is no record of its successful cultivation elsewhere than that at Chiswick, already referred to. The plant there, which fruited so well, was growing in a very shallow inside border, where the roots were much confined; other plants in good soil proved unsatisfactory. It sets freely, but apparently requires a considerable amount of heat to ripen it thoroughly.

Season.—Late. Improved by hanging after being ripe.

Merits.—Quite third-rate in quality, but exceedingly handsome in appearance. Scarcely worthy of cultivation.

Aleppo (36).—A round, variegated Sweet-water Grape.—*Synonym:* Chasselas Panachée.

Vine.—Growth somewhat slender, producing small wood, which generally ripens freely, and is provided with large prominent buds; fruitful. *Leaves* medium-sized, roundish, deeply-serrated, with a reddish tinge, sometimes striped red and yellow in a singular manner.

Fruit.—Bunches small or medium-sized, somewhat loose and straggling, with slender stalks. *Berries* below medium size, round, variously coloured, some being green, others black, or striped with black or red; frequently a bunch may be all of one colour, or one-half black, the other green. *Flesh* soft, of a sweet and pleasant flavour, but of no particular character.

History, &c.—This appears to be a very old variety, and is known throughout France and Germany. Most probably it is the result of a sport from some other grape. It has been frequently submitted to the Fruit Committee as a new variety.

Cultural Notes.—Has the reputation of requiring heat, but I believe it will succeed in any ordinary vinery.

Season.—Ripens early; fit only for immediate use.

Merits.—Quality third-rate; worthy of cultivation only as a curiosity.

Alicante (74). An oval, black Vinous Grape.—*Synonyms:* Abercairney, Black Alicante, Black Lisbon, Black Portugal, Black St. Peter's, Black Spanish, Black Tokay, Meredith's Alicante, &c.

Vine.—Growth very strong, vigorous and free. The young growing shoots densely coated with down, giving them a whitish appearance, the ripened shoots being also downy, and especially so round the buds, which are large and prominent, and of a dark purplish colour; ripens freely and well; moderately fruitful. *Leaves* very large, deep green, thick and soft, covered with down on the under side, giving them a silvery appearance; they remain long con-

spieuously green amongst others, being late in ripening and changing colour; and they die off yellow, or occasionally tinged with red.

Fruit.—*Bunches* large, or very large, averaging from 2 lb. to 6 lb. in weight, broadly-shouldered, sometimes regularly tapering, and of very handsome form, but more frequently divided, or with large, irregular shoulders that assume the appearance of a cluster of bunches; always very closely and well set. *Stalk* stout and strong, very short, the bunch frequently resting on the shoot. *Berry-stalk* thick, short, and slightly warted. *Berries* large, of a true oval shape, quite black, and covered with a dense blue bloom. *Skin* thick and leathery. *Flesh* somewhat squashy, with a tinge of red, and adhering somewhat to the skin. *Flavour*, in general, somewhat earthy and disagreeable, but when well ripened, and after hanging a long time, they are more brisk and pleasantly flavoured, but seldom rich.

History, &c.—There is no authoritative record of the introduction of this grape. The name is Spanish, but it is applied to several varieties of grapes coming from thence. Dr. Hogg *(Fruit Manual)* states that he has met with it in the vineyards in the south of France, under the name of *Espagnin Noir*. It is no doubt the same as *Speechley's Alicant*, but it is to Mr. Meredith, late of Garston Vineyard, that the credit for the popularity of this grape is due. His excellent and extensive cultivation of it led to its being called *Meredith's Alicante*, in order to distinguish it from *Kempsey Alicante*, at that time much praised and recommended, but which was ultimately proved to be *Black Morocco*.

Cultural Notes.—There are few better-constitutioned or more easily cultivated grapes than this. It will grow and succeed in any ordinary vinery, but the more heat that is given to ripen it, the better the flavour. It is generally very fruitful, always sets well, and colours magnificently.

Season.—It is best suited for late use. Where Grapes are required after Christmas, there is no sort that keeps so well, and it is more largely cultivated for market than any other variety, excepting the *Black Hamburgh*.

Merits.—Quality third-rate, but valuable for its excellent keeping and free-fruiting properties, splendid appearance and fine constitution.

ALNWICK SEEDLING (75).—An oval, black Vinous Grape.—*Synonym:* Clive House Seedling.

Vine.—*Growth* very strong, robust, and vigorous, producing long-jointed wood, remarkably free in constitution; the young growing shoots nearly smooth, reddish in colour; the ripened wood firm, with reddish-brown bark, and large prominent buds. *Leaves* very large, smooth, or nearly so, deeply serrated, dying off bright yellow.

Fruit.—*Bunches* large, broadly and irregularly shouldered, and bluntly conical, the *stalks* very long and strong. *Berries* large, roundish-ovate, on strong *footstalks*, marked with a very distinct line or suture across the apex of each fruit. *Skin* thick and tough, of a deep purplish black colour, covered with a thick blue bloom. *Flesh* firm, tinged with red; seeds large. *Flavour* strong and sparkling, becoming rich and sweet when well ripened, in that respect very much resembling the *Black Morocco;* by some it may, perhaps, be termed harsh.

History, &c.—This is a comparatively new grape, having been first brought under notice by Mr. Bell, of Clive House, Alnwick, who submitted examples of it to the Fruit Committee in 1876, under the name of *Clive House Seedling*. Subsequently it was proved to have been raised at Alnwick Castle, and that name was consequently adopted. It is stated to be a hybrid between *Black Morocco*, which it resembles in flavour, and another black variety.

Cultural Notes.—It is yet too early to form an opinion as to the real character of this grape, or the cultivation required. It is an extraordinarily free grower, but appears to require heat or artificial means to set the berries properly, and much heat to ripen them thoroughly.

Season.—Late.

Merits.—Quality second-rate; valuable as a late grape, for its excellent keeping qualities, and handsome appearance.

AMBER MUSCADINE.—A synonym of *Royal Muscadine:* which see.—A. F. BARRON.

CARNATIONS AND PICOTEES.

NOVELTIES AT LARKHALL RISE.

DESIRING to get an account of the beautiful seedling Carnations and Picotees we had seen last season in the garden of Mr. E. S. Dodwell, we requested our friend Mr. Robert Lord to send us some notes thereupon. In response, he has handed to us the following letter, addressed by Mr. Dodwell to him, which he says "gives a fuller and more perfect record, than the briefness of his stay enabled him to make." Mr. Lord further says, "Mr. Dodwell's notes apply only to the seedlings of 1879. Of those of 1878, he has ten or twelve varieties, at least, 'fit to go anywhere and do anything.'"

Clapham, S.W. December 4th, 1879.

MY DEAR FRIEND,—A bitter frost, now virtually of three weeks' duration, and with every appearance of even a yet longer continuance, seems an inopportune time to descant upon the pleasures of a garden, and the work and results of the past year therein. But as it suspends all work amongst the plants, and perforce compels me to abide by the fireside, it gives opportunity to redeem my promise of writing you a long letter, whilst the barren chill without makes the delights of memory all the more vivid and warm within.

Up to the time of your leaving Chatham Terrace on August 13th, though one or two of the Bizarres, most notably that one called *Charles Turner*, had been promising, I had felt the result of the bloom amongst the seedlings unsatisfactory and disappointing. But the fine summer days from the 12th to the 16th, the only summer days we had here, worked a wondrous change, and the flowers came out with a vividness and beauty which, once seen, could never fade from memory; and in several cases, where expectation long protracted had paled almost into disappointment, reward far beyond anticipation was realised. Especially was this the case with the seedlings from *Curzon*. Here let me repeat an opinion recorded many years ago, and renewed by the experience of the bloom of this, which was, in old Derby phraseology, "grand" indeed, that whatever we may succeed in doing in the direction of diversity, or increased size, or other points, no effort will ever surpass *Curzon* at its best. This I am bound to remark, lest I should mislead even you in what I have to say upon seedlings from it. With this proviso, then, I am gratified to tell you that I have some three or four, fully equal to the parent, and as worthy of naming as that we designated *Robert Lord*, with quite a dozen others of good, average, useful

properties. Then *John Bayley* and *Sportsman* between them gave me half-a-dozen others; *Sir Joseph Paxton*, one; *James Cheetham*, one (the Charles Turner referred to); *Mars*, two; and *J. D. Hextall* and *Marshal Ney*, C.B.'s, one each. It was wonderful to note how quality was marked. True, from many a highly bred parent there came a very degenerate progeny, but in no instance did the converse hold; and again we had it illustrated that from highly bred flowers only could highly bred flowers spring.

In Crimson or Pink and Purple Bizarres, I reserve three from *Captain Stott*, one from *Eccentric Jack*, three from *Milton*, one from *Marshal Ney*, four from *Rifleman*, one from *Wm. Murray*, one from *Sportsman*, and one from *John Keet*, the latter especially fine. Of Scarlet Flakes I have seventeen, viz., four from *Curzon*, one from *Eccentric Jack*, one from *J. D. Hextall*, three from *Clipper*, four from *John Bayley*, two from *Sportsman*, one from *John Keet*,—a repeat of its parent as an S.F., and one from *Uncle Tom*. In Rose Flakes my list is short, having one each only from *Eccentric Jack* and *Marshal Ney*, and five from *John Keet*. How strikingly in these results is diversity illustrated, and what a commentary is afforded upon the assumption of florists who were fathers when I was a neophyte, held to all the more tenaciously because it rested upon a base no solider than their uninformed imagination,—viz., that *good* varieties of any one class could be originated only from that class! Vain limiters of the marvellous richness and bounty of Nature! Whatever delusions we have yet to unlearn, and they may be many, that ignorance is, I trust, effectually dispelled. I have some forty other varieties reserved for further trial, but on those enumerated I rest my hopes, and for a single season's production I am surely not over-conceited in regarding it as a very favourable result.

In Picotees the number is much less, as the number of plants for bloom was in the proportion of one to four of the Carnations only. But from *Fanny*, medium purple-edged, I have two *heavy* purple-edges; the *Lizzie* you saw, and a second I think equally good, but very distinct, having a rich plum-purple edge on a ground equal to the parent,—a medium red edge, and another very fine, almost too fine, a wire edge, of *rose* on a ground of lustrous-white, like the parent. From the *Rev. F. D. Horner*, a repeat, with a slight difference, of that good light or medium-edged red; from *Mary*, light-edged purple, a repeat of the parent as a light-edged red; and two fine wire-edged roses, as to which my sole fear is that the colour is too fine to show perfectly upon a full-grown and well-developed bloom. This time only can determine. From *Minnie* I have a light, wire-edged purple, finer on the edge than the parent, but perfectly distinct, and with a good petal. From *Ethel* one heavy scarlet and three light-edged roses, of which two, at least, fairly surpass the parent; and finally, from *Fanny Helen*, a medium-edged red, an exact repeat of William Summers in his best dress, a heavy scarlet-edge, a broad, heavy rose-edge, and a light rose-edge. Of the heavy scarlet I have the highest expectation, if I can but bring the stock, of which I have four weakly layers only, into good health. Unhappily, the mother-plant had suffered grievously from the wet and chill of the winter and spring, if spring there were; and to add to my misfortunes, a "baleful" cat, seeking refuge from a wretched night, jumped from an open ventilator of my greenhouse on to my best plant, and did it to death. The broad, heavy rose is small, but very distinct; the light-edge of good size and good properties, and will, I think, have to wear a name, though it may never "adorn a tale."

And so ends my rigmarole of the "select orders" of Carnations and Picotees, and probably, ere this, you may, with Macbeth, be inclined to cry, "Hold, enough!" But I must have a word or two upon the *Selfs* and *Fancies*. I have long been familiar with the rich variety of the Dianthus tribe, but never did I know it illustrated with such weathy profuseness as in the past season. I hope I may regard myself as an orthodox florist, that I shall pass unscathed through the severest examination on points of floral faith possible to be framed by a whole synod of fathers, but the Self and Fancies, with their wealth of colours—from deepest tint to softest shade—their symmetrical forms and smoothness of surface and edge, were wondrously winning, and an ample justification for the great admiration they universally excited.

One word as to the lifting the plants for layering. Last year we resorted to this practice from necessity, commencing as the bloom died, and with some misgivings as to its results. But this year the lateness of the flowering made waiting for the waning of the bloom an impossibility. Perforce we lifted and potted the plants immediately the character of the bloom could be determined, and not only was this no injury, but a marked advantage, refining and beautifying the flower notably. Again, in several cases where pods of seed had been set, there was no interruption to its development.

Of the season itself, with all its grievous drawbacks, some of which we have not yet, I fear, come fully to understand, for long-continued low temperatures and excessive wet bring worse evils than non-rooted layers and scarcity of stock, they mean death to weakly constitutioned sorts; but the season itself will, in the majority of places, be remembered as a season of singularly well developed and well coloured flowers, though the latest known in memory; and in this latter feature I hope it will be unique in history.

Many fine seedlings have opened their beauties, as I hear, this year, notably some fine varieties with Mr. Gorton, Mr. Hewitt, and our friend Ben; and hoping that seasons sufficiently early to again bring you to the fore may soon recur, for an early blooming season is ever a seed-harvesting season,—I am, my dear friend, faithfully yours,

Mr. Robert Lord. E. S. Dodwell.

THE SUBURBAN GARDENER.

JANUARY.—December was almost a blank month in the out-door garden, for did not the frost hold the land in its vigorous grip? It came down upon it with unusual severity, and rained snow and hoar-frost thickly over its surface, thus putting a stop to out-door gardening operations. As we write, there are signs of relaxation, the temperature has run up above freezing-point, and a slow thaw has set in. The frost has, however, penetrated so deeply, that it will take days ere the soil be quite free from it, and spade work can be proceeded with.

Kitchen Garden.—Where it is possible to force some *Asparagus*, *Seakale*, and *Rhubarb*, it should be attempted. We have seen an early vinery turned to good account, by making up a bed of leaves and dung, putting

some roots of *Asparagus*, *Seakale*, and *Rhubarb* on the top, and thus getting nice supplies in January and February. There are in almost every garden out-of-the-way corners, which, with a little management, can be utilised in this way. A friend of ours forces *Swede Turnips* by putting them in a little heat, and using as one would *Seakale* the tops they throw out; and when the main growth is cut away, the side growths are similarly utilised; they are pronounced an excellent vegetable when cooked. We are afraid *Lettuces*, *Endive*, *Cauliflower*, &c., must have suffered during the late severe frost. It is a great advantage to have a cold frame in which to plant out *Endive* and *Lettuces*, and the French cloches also come in useful for the purpose. All plots of ground requiring to be dug should be turned up without delay, that the frost may sweeten and pulverise it.

Fruit Garden.—If any transplanting of fruit-trees has to be done; it should be seen to while the weather is favourable for such work. When new plantations have to be made, no pains should be spared to have the ground thoroughly prepared by good drainage which is of much importance, and must be secured. If the soil or subsoil are unsuitable, they should be removed and fresh soil substituted. There is nothing like giving fruit-trees a good start, and then they can hardly fail to succeed. Pruning can be done as the weather suits, but it is best to get this work well ahead; for when the weather is favourable to general gardening operations, there is much to engage the attention of the gardener, the pressure of work being at its heaviest.

Flower Garden.—It is but little that can be done at this season of the year, save and except clearing up leaves, digging where necessary, and making any alterations, as well as planting. Instead of digging shrubbery borders, which often does needless injury to the roots, it is better to top-dress them with good soil. By many, fresh soil is preferred as a dressing to manure. If soils need invigorating, then some manure is indispensable. In dry weather, the shubberies should be thinned-out, though the later this can be deferred, the better, as far as this season is concerned, the young growths of many of the hardy shrubs having suffered severely, and they may be injured back much farther than may be imagined at first sight. One effect of the recent frost has been to loosen the soil in beds of spring plants, and as soon as it can be done, the uplifted plants should be pressed down firmly into the beds. In places, *Wallflowers* have been killed outright; and it is well to make any vacancies good as soon as possible. The grass-plot should be kept well rolled in favourable weather.

The Greenhouse.—Alas! suburban gardeners have again experienced the difficulties attending a long spell of keen frost, where there is an absence of any means of artificial heating. The frost came on very suddenly and severe, and many things went down before it. What made matters worse was, that the two or three days previous were drying and sunny, and water was given freely to growing plants. Then, with the suddenness of a night attack, the frost swooped down on to the moist soil, and many tender things were hopelessly destroyed. We have lost *Agaves*, *Chrysanthemums*, *Kalosanthes*, *Pelargoniums*, *Fuchsias*, *Echeverias*, *Mesembryanthemums*, &c., in a house much exposed to the cold, and heated only with paraffin lamps. In mild weather, this portable means of warmth suffices to keep the frost at bay; but in a time of prolonged severity, when the attack is renewed day after day with untiring persistency, some things must succumb.

In a house heated by hot water, or by means of a flue, the warmth is so regularly diffused all round the house, that if applied in sufficient power, harm cannot come. Happy are those villa gardeners who have had this powerful and indispensable assistance throughout a time of peril from frost. *Zonal Pelargoniums* are still in flower, but they require a brisk warmth to expand their pips. The late-flowering *Chrysanthemums* are still blooming; so is the white *Abutilon*, with some of the old tuberous-rooted *Begonias*, &c. Those who desire to have flowers must give fire-heat by day as well as by night, unless the sun shines out warmly for a few hours; then the fire may be lowered, but it is unwise to discontinue it while it is dull and foggy.

Let the frost be ever so severe, green-fly will gather on the plants. The closeness with which the house has to be kept favours the fly, and the plants must be fumigated, or the shoots affected with fly washed with some insecticide. Cleanliness is of so much importance in the winter management of plants, that it cannot be too strongly insisted on. Leaves that show signs of decay need removal, as they attract damp and become mouldy. The surface-soil needs stirring frequently; it prevents the growth of moss, and assists the aeration of the roots.

Cold Frames.—During the frost these have been practically closed, and it is best to keep them shut while the surface soil is frozen hard. As soon as a thaw sets in, the lights need to be thrown open, and the plants looked over, stirring the soil where it has become green, and removing decaying leaves. This attention is especially necessary in the case of *Auriculas*, *Polyanthus*, *Primroses*, &c., in pots, as the older leaves of these plants decay at this time of the year. *Carnations*, *Picotees*, and *Pinks* in pots are helped by cutting away spotted and dying

foliage, and loosening the surface soil. It is a good plan to have the plants fairly well dry while frosts last, but so soon as it has passed from the soil, all plants needing water should have it freely, giving it early in the day, so that the soil can drain well by night. If frost follows hard on the heels of the watering, the frames should have some additional covering, or there is danger of the pots being cracked by the expansion of the soil caused by the action of frost. Any plants coming on into flower, such as *Christmas Roses*, *Scillas*, *Roman Hyacinths*, *Myosotis dissitiflora*, &c., should be taken into the warm greenhouse and encouraged to bloom. In mild weather, plenty of air should be given, as growing plants become drawn when this is withdrawn from them. —SUBURBANUS.

CYPRIPEDIUM VEXILLARIUM.

HYBRID Cypripediums are now somewhat numerous, thanks to the Messrs. Veitch and Sons, and their able assistants; they are also in most instances very handsome, and have the reputation of being freer as to growth and bloom than the introduced species from which they have been raised, possibly because they have the vigour of youth on their side. The form here represented by a woodcut the Messrs. Veitch have placed at our disposal, is that

which Professor Reichenbach has given the name of *Cypripedium vexillarium*. It is dwarf in habit, with ligulate leaves, marked with few dark hieroglyphic reticulations, and comparatively large flowers, the latter having the back sepal broad, whitish, a little green at the base, washed with purple, and traversed by wine-coloured veins, which are feathered upwards; the ligulate petals are deflexed, wavy, hairy at the margin, the inner veins green, and the outer purple; and the lip has a broad hollow claw, with transverse staminodia, and is brownish-green, with purple reticulations.

The plant was raised by Mr. Dominy in the Royal Exotic Nursery, Chelsea, between *C. barbatum* and *C. Fairrieanum*, which latter was the father. It received the award of a First-class Certificate from the Floral Committee at South Kensington in January, 1871.

THE ECKLINVILLE SEEDLING APPLE.

BEFORE the planting season passes away, I should like to draw attention to the superior merits of this excellent Autumn culinary Apple. It originated in Ireland, where it is extensively grown and highly appreciated, as it is alike good for boiling, cooking whole, or for exhibition. At the autumn shows, its great size, handsome appearance, and superior quality make it the leading fruit in its class on the exhibition table, in the same way as Lord Suffield is shown in this country. Upon my return from Ireland twenty years ago, I obtained trees, and have grown it ever since; and when nearly all other kinds have failed, this has produced heavy crops of clean fine fruit, in fact I have never known it to miss a crop.

In the sister Isle I have seen large standard trees carrying many bushels of fruit, but owing to its great size—when grown in this way—it should be planted in a sheltered situation. It makes a handsome and most prolific pyramid on the free stock, and does well on the Paradise as a bush, in which form it is well adapted for small gardens, as owing to its fruitful propensity it makes but moderate growth, and requires little more than thinning or spur-pruning. Like all large Apples that are fit for use direct from the tree, it has a tender skin, and requires careful hand-picking and storing, when it may be had in use from the early part of September until the middle of December.—W. COLEMAN, *Eastnor Castle.*

NOTES ON BOOKS.

AMONGST the new books lying before us awaiting a record, there is none more welcome than the ROSE ANNUAL for 1879-80, by Mr. William Paul, which is published by him at Waltham Cross. It gives us a variety of information on the Rose, which is all the more valuable for being in this collected form; and it presents us with portraits of some of the new flowers, whose acquaintance we are glad to make, as well among the leaves of the Rose-bush, as on the leaves of a Rose book. The varieties figured in the present annual are H.P. *Pride of Waltham*, a charming picture, if we mistake not from Mr. Fitch's pencil, of a lovely flower, which, we are told, will probably prove one of the most beautiful of light roses, the colour a delicate flesh, shaded with bright rose, with the habit of Countess of Oxford. H.P. *Masterpiece*, a seedling from Beauty of Waltham, which has proved itself during the past unfavourable season entitled to rank amongst the best of its class, but of which the portrait is rather hard and heavy. *Little Gem*, or Crimson Moss de Meaux, a tiny gem, which will be courted and planted by every lover of a garden, but of which the figure, again, is not altogether a happy one. These three are raised by Messrs. W. Paul and Son. H.P. *Jules Chrétien*, a fine, large, deep red, shaded with purple, raised by M. Joseph Schwartz. The literary portion of the Annual comprises the following articles, which we commend to the notice of rosarians and all lovers of roses:—The Current Year, New Roses, The Best Roses, Rose Synonyms, Correspondence, and the Rose Shows.

CORRESPONDANCE BOTANIQUE: Liste des Jardins, des Chaires, des Musées, des Revues, et des Sociétés de Botanique du Monde. Septième édition, Novembre, 1879. (Liége, a la Boverie No. 1.) A most useful list to all who are concerned in botanical correspondence, and for which they owe a debt of gratitude to Professor Morren, who charges himself with the task of keeping it *au courant* with the times. Each successive issue shows manifest improvements.—T. M.

GARDEN GOSSIP.

THE Annual Meeting of the National Auricula and the National Carnation and Picotee Societies (Southern Section) took place on the 16th ult., at South Kensington, G. F. Wilson, Esq., President of the N. C. and P. Society in the chair. The Report of the Committee referring to the success of last season's work, and the accounts of the year, were submitted and adopted, and the energetic labours of the Honorary Secretaries were properly acknowledged. The accounts of the Auricula Society showed a balance in hand of £12 4s. 7d.; those of the Carnation and Picotee Society a balance in hand of £21 8s. 10d. The exhibitions of 1880 were fixed to be held in the garden of the Royal Horticultural Society, on April 20, for the Auricula, and on July 27 for the Carnation and Picotee. The Schedules of last year were in the main adopted, some slight additions being made to the number of classes. A special fund for Seedling Prizes had been raised by those specially interested, and the manner in which this was proposed to be dispensed was set forth in the Schedules of the respective Societies, which were approved by the meeting. These Seedling Prizes will doubtless add very much to the interest of the shows. With the view of extending the area covered by the earlier show, the Committee offer prizes for a collection of 12 Hardy Primulas, to consist of species not included in other parts of the Schedule, six at least to be distinct species. Mr. G. Smith offers prizes for the best plants of his gold-laced Polyanthus Duke of Wellington. The Report and Schedules will be printed forthwith, and may be had of the Honorary Secretaries,—Mr. E. S. Dodwell, 11 Chatham Terrace, Larkhall Rise, Clapham, S.W.; or Mr. J. Douglas, Loxford Hall Gardens, Ilford, Essex. We may hope that these interesting exhibitions of two of the most notable of the older florists' flowers will go on developing as they have hitherto done, thanks to an intelligent Secretariat, and eventually meet with that full measure of success which they honestly deserve.

— THE Annual General Meeting of the National Rose Society was held on the 11th ult., at the Horticultural Club, Arundel Street, Strand, the Rev. J. M. Fuller in the chair. The proposal of the committee to hold the Metropolitan Show at the Crystal Palace on July 3, was adopted, and the Secretary stated that an arrangement had been made by which members' tickets (not transferable) should be admitted to a private view half-an-hour before the general public. After some discussion, the Provincial Show was fixed to take place at Manchester, on July 17. The balance-sheet showed the total receipts to have been £495 7s. 4d., including a subsidy of £105 from the Crystal Palace Company, and £100 from the Royal Botanical and Horticultural Society of Manchester; while the expenditure had been £438 8s. 3d., including £151 13s. for prizes in London, and £135 15s. for prizes in Manchester, leaving a balance in hand of £56 19s. 1d. The meeting was well attended.

— THE WINTER of 1879-80 has commenced with unaccustomed severity, since we have already experienced more than a month of severe frost, itself making a noteworthy winter. As pointed out by Mr. G. J. Symons, F.R.S., at a recent meeting of the Royal Botanic Society, there has not been a warm month for two years, every month since August, 1878, having been colder than the average; the period had also been characterised until the end of September, 1879, by a most unusual deficiency of sunshine and excess of rain. The mean temperatures of December, 1878, and January, 1879, were remarkably low, and yet the winter of 1879-80 has begun with lower temperature than its precursor. The actual minimum temperatures in the neighbourhood of London have been surpassed in intensity on some previous occasions; for instance, on Christmas Day, 1860, and again on January 4, 1867, the temperature of the air at Camden Square fell to 6°.7, and on Christmas Day, 1870, to 14°, while this year the lowest point was 16°.1 on the morning of December 7. The greatest severity of the late frost was, however, felt further north than London, and temperatures below zero—*i.e.*, more than 32° below freezing—have been reported from accurate instruments in many parts of the country.

— THE monster bunches of GROS GUILLAUME GRAPES shown at South Kensington on the 16th ult., by Mr. Roberts, gardener to the Countess of Charleville, at Charleville Forest, Tullamore, were worth a journey to see. The famous vine at Charleville which produced the bunches in question has already borne one weighing 23 lb. 5 oz., and in four seasons has produced seven bunches of the aggregate weight of 126 lb. 11 oz. The two bunches shown on this occasion weighed 20 lb. and 22 lb. respectively—a very remarkable performance, though, as might have been expected, neither of them was well finished either as regards size or colour. They were, however, shown in exceedingly good condition, considering the risks incidental to travel by land and sea. Mr. Roberts well deserved the Cultural Commendation of the Committee and the Bronze Medal, which the Council of the Society was recommended to award to him.

— THE GONIOPHLEBIUM LACHNOPUS, which has been recently introduced to cultivation amongst orchids from North India, is a very elegant stove-fern, with narrow pinnate fronds of delicate texture, bearing abundant and conspicuous sori. It is of deciduous habit, losing its fronds in winter; but it makes a very pretty and useful basket Fern. The numerous fronds grow a foot long or more from a rather small and hairy rhizome. In the spring, when the young fronds first appear, it has a very interesting aspect. It was introduced about three years since to the gardens at Oakley, Fallowfield, Manchester.

— A WRITER in the *Gardeners' Magazine*, in search of the BEST LATE PEA, writes as follows:—"Having to supply late peas during the month of October, I have given all the reputedly best sorts for late crops a fair trial, and now, after three years' experience, a very old pea—Hairs' Dwarf Mammoth—stands first on my list. I have never quite lost sight of this pea, but for several years I allowed some of the newer kinds to take its place, especially for late crops; but the result was that they could not be depended upon. We gathered our last dish of this old pea on November 8, while Omega, the next best late pea, ceased to bear after the middle of October. These were sown about the middle of June, both on the same day."

— THE new DAHLIA JUAREZII was shown at one of the recent meetings of the Royal Horticultural Society by Mr. Cannell, under the

name of the Cactus Dahlia. In the ordinary florist's Dahlia the florets are rolled up so as to resemble so many short quills open at the ends, but in D. Juarezii the florets are all flat, or nearly so, strap-shaped, like the outer florets of the original species (ray florets), and of a rich crimson colour. The appearance is, therefore, very striking, and suggestive of a new race in Dahlias analogous, in some respects, to the Japanese Chrysanthemums. The roots of this Dahlia had been received from Messrs. Ant. Roozen and Son, of Overween, near Haarlem, under the name of D. Juarezii. It was imported from Mexico in 1872 by Mr. Van der Berg, of Juxphaas, near Utrecht, and named by him after the President of Mexico. It forms a dwarf compact-growing plant, the flowers being produced among the foliage.

— MR. W. INGRAM, of Belvoir, writing of the DOUBLE VIOLET MARIE LOUISE, remarks (*Gard. Chron.*):—"I do not think too much can be said in praise of this Violet. Its constitutional vigour is as remarkable as the freedom with which it produces its large and highly-perfumed double flowers; in colour, it is of a darker blue than Neapolitan, and with a distinct and well-defined white centre. It is of a hardier nature than the old variety, and blooms with the greatest profusion in the autumn and throughout the winter and spring. It was planted out in beds in the spring garden last year, and stood well through the trying winter of 1878-9, and formed a most attractive mass in the Violet garden. Those who describe it as only differing from the Neapolitan in its darker flowers, cannot have the true, or at least the variety I am fortunate enough to possess."

— THE new hybrid GLADIOLUS LEMOINEI, shown during the past summer by M. Lemoine, of Nancy, and certified by the Floral Committee, is the offspring of G. purpurea-auratus fertilised by one of the garden varieties of the gandavensis type. It is distinct in form, approaching that of the old G. viperatus,—that is, with the three upper segments projected over the stamens and pistil (the middle one here broader) and the three lower ones smaller and spreading. The colour is pale creamy, with a flush of salmony-red, the lower segments having a narrow maroon crimson patch at the base and another of yellow beyond. The plant is of rather slender habit, and has stood in the open ground without injury for three years.

— ONE simple fertilising agent valuable for flower-garden use is CHARRED REFUSE. There is always in large gardens a great accumulation of rubbish of various kinds, including the clippings of hedges, rotten wood, spray from timber-trees, weeds, &c., to utilise which a fire should be started with dry wood, so as to get a good body of live embers, and the accumulated rubbish gradually throw on to this, taking care to mix the less inflammable with the woody material, so as to keep the fire smouldering—the object in view being, not cremation, or reducing the mass to white ashes, but simply to submit it to the action of heat and the percolation of smoke, in order to destroy the germinating power of whatever seeds of weeds may be present, and at the same time to maintain as great a bulk of the material as possible. Indeed, to increase this when there is a good body of fire, a layer of earth,—any rubbish, even clay will do, may be spread over it. Thus, with a little attention, the time for which may well be afforded during the winter season, a fine heap of material, which Mr. Cox expressively calls "Amendment," far superior as an application to flower-beds and borders than the same material turned over for two or three years, and reduced to the condition of mould, may be secured.

— AT a recent meeting of the *Société Centrale d'Horticulture de France*, M. Lavallée, Secrétaire-Général, produced some branches of ROSA RUGOSA bearing very large, handsome fruits. This rose is very common in Japan, and has produced numerous forms, which have been introduced to cultivation under different names. The *R. Ywara* is one of these forms.

Obituary.

— MR. JOSEPH KEFFORD, for nearly sixteen years gardener to Lord Skelmersdale, died at Lathom, on November 13th, aged 62. At Lathom House he made himself famous as a fruit-grower, and numbers of choice Coniferæ and shrubs were planted by him in the pleasure-grounds. His taste for outdoor pursuits was doubtless acquired when, as a lad, he worked with his father, the late Mr. Richard Kefford, who for a period of twenty-five years was gardener of Pampesford Hall.

— MR. JOHN THOMAS WILLMER, an old celebrity in the floricultural world, and for forty years proprietor of the Sunbury Nursery, died on November 20th, at the advanced age of 93 years. He was a true lover of florists' flowers, and did more perhaps than any other man in his time to advance and extend the taste for these beautiful objects. He was not only the successful raiser of many new Dahlias, Tulips, Auriculas, Carnations, Picotees, and Pinks, but a most successful exhibitor, having during his career won at various exhibitions nearly 400 prizes in plate and money. In 1847 he obtained her present Majesty's Royal warrant as florist. Mr. Willmer was one of the founders of the first Gardeners' Benevolent Institution.

— MR. THOMAS KETTLES, gardener to Lady M. C. Nisbet Hamilton, at Archerfield, died on December 2nd. He was a gardener of first-class attainments, and under him Archerfield maintained the reputation it had long held, especially in the flower-garden department.

— MR. SERJEANT COX died on November 24th, in his 70th year. He claims a record here as a true lover of horticulture, who had latterly greatly interested himself in the collection and cultivation of Orchids. Mr. Serjeant Cox took the chair at the last anniversary dinner of the Gardeners' Royal Benevolent Institution.

— WILLIAM FARNELL WATSON, Esq., J.P., of Redlees, Isleworth, died on November 30th, aged 53. He was a well-known patron of horticulture, and his garden has long been famous for its fine strains of Calceolarias and Cinerarias, strains that are almost unique for massiveness and beauty, in the cultivation of which, his gardener, Mr. James, has unfailingly received from his late employer all the assistance and encouragement that wealth and a love for flowers could give. The exhibition plants from Redlees were always amongst the foremost at the metropolitan shows.

W. & S. Smith

Chr. Lind. & Severeyns, Brussels

Rhododendron Prince of Wales

RHODODENDRON PRINCE OF WALES.

[PLATE 507.]

IN the Rhododendron now figured we have another of the Messrs. Veitch and Son's fine set of hybrids of the jasminiflorum type, to which, by a more recent cross, increased size has been added, along with variety of colour. *R. Princess Royal*, the first break, was a most charming plant, as indeed is the type, *R. jasminiflorum*, but the earlier varieties had smaller blossoms than those of the later batch, which, however, retain, with their increased size, the neat evergreen character and free-growing free-blooming habit which had already won the popular esteem.

We can say of the variety now figured, and which is named PRINCE OF WALES, that it is fully equal to the figure, in which, moreover, Mr. Fitch has well caught the peculiar features of this particular group. The colour is a rich crimson-scarlet, the plant continuing to bear its fine floral coronets in succession as new growth is made and matured. It, of course, requires a moderately warm house.—T. MOORE.

ON JUDGING SHOW PELARGONIUMS.

THE cultivation of several species of the beautiful genus *Pelargonium* has become so universally popular, and the varieties of each species have, in the last few years, so largely increased in number and improved in quality, that it appears to be necessary that some standard of excellence should be generally adopted, by which the merits of any new variety could be satisfactorily determined. This subject was discussed at some length at the late meetings of the Pelargonium Society, and although it was then asserted that standards of this kind had already been published in works on horticulture, yet no one present at those meetings could remember the title of any work in which they might be found. Even then, if they do exist, such standards must be of a very remote date, and probably inapplicable to flowers of the present day.

In this paper my remarks will be confined to the class of Pelargoniums known in floral language as SHOW VARIETIES, since it is in that class alone that I have had much experience. I trust, however, that what I shall endeavour to do for Show Pelargoniums, may also be done for the Zonals and other classes, by those whose knowledge of them is of a more practical nature than my own.

The rules of excellence must vary according to the age of the variety itself, or the mode in which it is exhibited. They may be divided into three standards, viz.:—

1. For Seedlings.
2. For Collections of New Varieties.
3. For Collections of Older Varieties.

In the first of these—SEEDLINGS—nearly all the rules should refer to the flower alone, since the character of the plant cannot be brought out by cultivation, so long as the quality of the flower remains uncertain. I think, therefore, that in the case of varieties exhibited as seedlings, the following qualities should be regarded as the criterion of excellence, and that the comparative value of each should be estimated according to the order in which they are here arranged, those of chief importance being placed the first in the list:—

1. Roundness or Evenness of outline.
2. Substance and Smoothness of petals.
3. Novelty or Brilliancy of colour.
4. Size of flower.
5. Habit of growth.

In these qualities, I have omitted any special notice of "a pure white centre," as I think that is sufficiently provided for under the head of "brilliancy of colour," and although a pure white centre is much to be desired, yet a flower may be of surpassing excellence without possessing that character.

When prizes are offered specially for NEW VARIETIES, regard should be had almost solely to the qualities of the varieties themselves. For this reason, every facility should be afforded for their appearance in competition; no restriction should be placed on exhibitors, or on their productions. Provided that the varieties themselves are not yet in commerce, an exhibitor should be at liberty to show plants which may not have been raised, or even cultivated, by himself. So long as a new variety is brought into public notice, it cannot be of much importance where or how the plant has been obtained.

Although the excellence of the flower must be considered the most important character in seedlings exhibited for the first time, yet every practical gardener is aware that to make a plant, a good habit of growth and fecundity of bloom are indispensable. These qualities should, therefore, be imperatively required in plants exhibited in *collections of New Varieties*. The absence of these qualities is often a fruitful cause of disappointment, for it will sometimes happen that a variety whose flower is of superior merit, is rendered almost useless by shyness of bloom, or by a weak straggling habit of growth. It is difficult to ascertain these qualities in seedlings, until they have passed their first year of trial; up to that period, the uncertainty of their merit precludes the possibility of devoting much space or care to the cultivation of the plant. To ascertain these points should, therefore, be the main object of prizes offered for collections of new varieties, and the qualities required should stand in priority of importance as arranged in the following standard:—

1. Habit of growth.
2. Head of bloom.
3. Excellence of flower.

All that I have hitherto said refers to New Varieties, plants more or less in a state of infancy; but their true perfection cannot be recognised until they have arrived at full development in the form of SPECIMEN PLANTS, those magnificent objects which are, and will, I hope, continue to be, the great ornament of our summer exhibitions. But with specimen plants, the criterion of excellence requires considerable modification, and cultivation should be considered of primary importance. Those who, like myself, can speak from practical experience, well know the amount of labour required for the successful cultivation of specimen plants, and still more for the training and dressing them. To this latter point, indeed, special regard should be given in the award of prizes, for no object can be more unsightly than a plant which, from its bristling array of pointed sticks, appears to have been decorated on the model of a porcupine. The use of sticks is, of course, unavoidable, but such supports should be as much as possible concealed from view, and of no greater thickness than is actually required. In accordance with these remarks, the qualities required in collections of Specimen Plants would arrange themselves in order of importance thus,—

1. Excellence of cultivation.
2. Head of bloom.
3. Excellence of flower.

I will now give in a tabular form the several standards of excellence which have been the subject of my remarks.

SUMMARY OF QUALITIES DESIRED:—

I.—In Seedlings of the current season.

1. Roundness or evenness of outline.
2. Substance and smoothness of petal.
3. Novelty or brilliancy of colour.
4. Size of flower.
5. Habit of growth.

II.—In collections of New Varieties.

1. Habit of growth.
2. Head of bloom.
3. Excellence of flower.

III.—In collections of Older Varieties (Specimens).

1. Excellence of cultivation.
2. Head of bloom.
3. Excellence of flower.

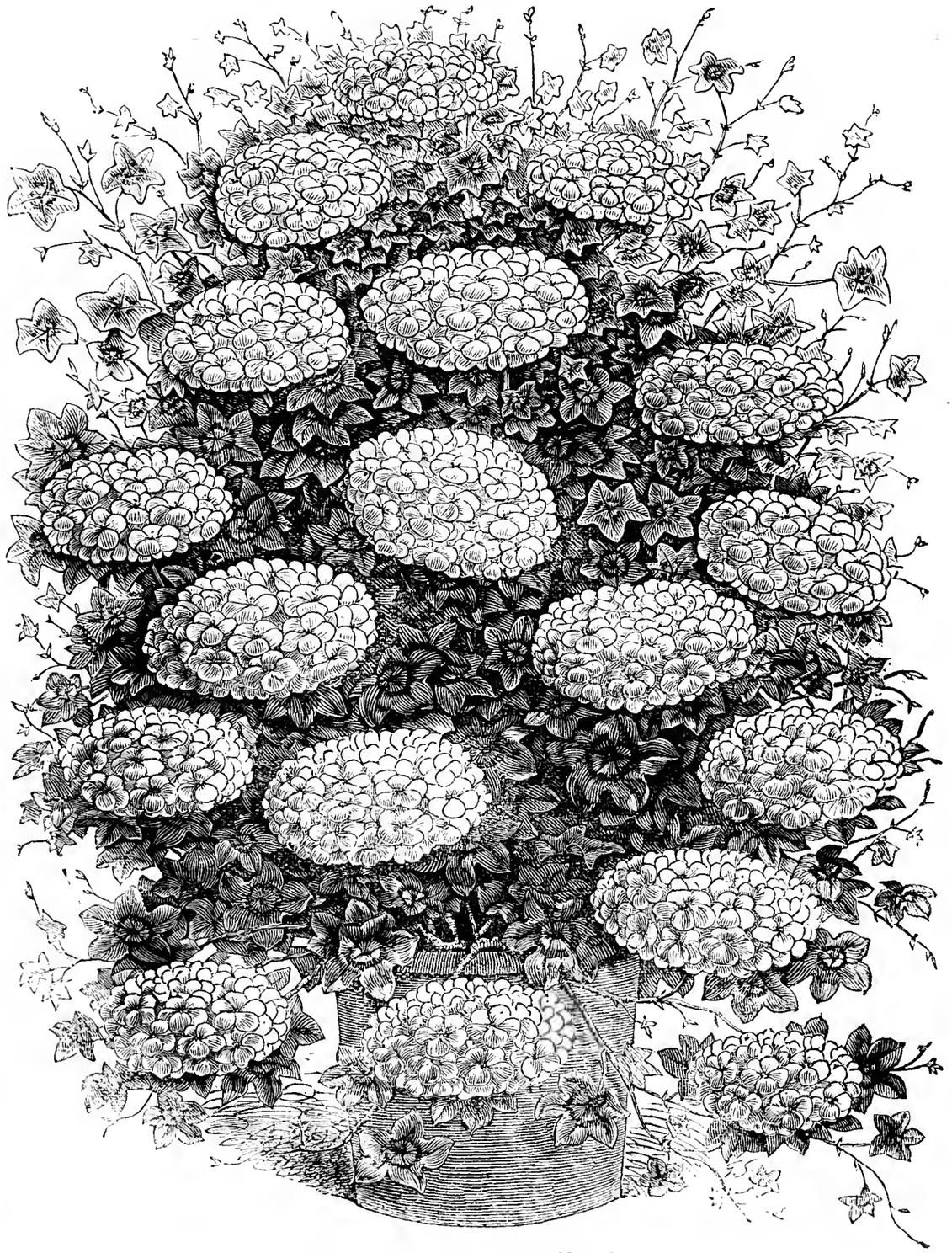
I believe that the foregoing standards of excellence embody the principles which have always influenced the judges at the exhibitions of the Royal Botanic and the Pelargonium Societies; and it was for the purpose of making these principles more generally known and practised, that I proposed at the late meetings of the Pelargonium Society that the above, or some such standard, should be adopted and published with the sanction of the Society. But as that could not be done in the way that I proposed, I now, with the consent of the Editor of the FLORIST, avail myself of the present method of bringing the subject into public notice.—A. MATTHEWS, *Gumley, Leicestershire.*

PELARGONIUM MRS. CANNELL:

NEW IVY-LEAVED.

THE recently published a plate of Mr. George's fine hybrid Ivy-leaved Pelargonium St. George, one of a few very choice and distinct forms which have resulted from his attempts to improve the Ivy-leaved race of Pelargoniums. We now publish a woodcut showing the habit of another striking advance in the true ivy-leaved section, in the variety named Mrs. Cannell, which is the largest and by far the best-shaped flower yet obtained. It is a plant of vigorous growth, and therefore well adapted for growing on into a specimen.

The flowers are large in size, perfect in form, stout and durable in substance, and produced in bold, well-filled trusses; while the colour is a deep mauve-lilac or purple, beside which all the other similarly coloured sorts look pale and ineffective. It is, in fact, much the best variety which has yet been obtained, and we may hope that its vigorous habit and finely formed



PELARGONIUM (NEW IVY-LEAVED), MRS. CANNELL.

flowers may be turned to good account by some of our hybridists. The variety was raised by Mr. Church, and has passed into Mr. Cannell's hands for distribution.

The following Ivy-leaved sorts, both single and double, selected for us by Mr. Cannell, are unquestionably the best and most distinct of those introduced up to the present time, and can be strongly recommended:—

DOUBLE VARIETIES.

VISCOUNTESS CRANBROOK.—A most beautiful blush-white, of a satiny texture, slightly suffused on upper petals with rose-lilac; a very fine variety, producing flowers of good form and large size, in great abundance.

A. F. BARRON.—A very beautiful variety; flowers of a delicate lilac colour, pips of fine form and very double; trusses large. The plant possesses a vigorous habit of growth.

MADAME C. GALLE.—Flowers beautiful fine white, very double and large; one of the best.

LUCIE LEMOINE.—Blush-white, veined on upper petals with purplish-lilac; medium-size trusses and flowers, freely produced. A most useful variety.

MDLLE. A. BARAL.—Flowers very double, of a light lavender-colour; pips large and finely formed; an improvement on König Albert.

M. DUBUS.—A new variety of M. Lemoine's of this season, which promises to be a fine advance on those already sent out; flowers of a pretty pinkish tint.

SINGLE VARIETIES.

MRS. H. CANNELL.—A superb variety, of robust habit, and the grandest stride yet made in the ivy-leaf section, producing large and well-formed flowers, in noble trusses, each pip quite circular and slightly reflexed, which adds greatly to the beauty of its form; it has broad overlapping petals, of a beautiful soft lavender-colour. Raised by Mr. Church from a variety of his own (Mauve Beauty), with pollen from König Albert.

LA FRANCE (a hybrid of Sisley's) is also a grand variety, carrying gigantic trusses, of a rosy-salmon tint; of vigorous constitution, and unlike many of the ivy-leaves, it does not require much supporting by sticks, when grown in pots.

DIADEM.—A richly-coloured variety, of a deep rosy-purple, produced freely in fine trusses; it is also strong in growth.

GEM.—Blush-white, with crimson spot on each petal; a very pretty variety.

PROGRESS.—Beautiful bright pink; free-blooming and attractive.

NEMESIS.—Crimson; dwarf, and free-flowering.

BRIDAL WREATH.—An excellent variety, with pure white flowers, and pale green foliage.

WILLSII ROSEA.—Rosy-scarlet; a fine old variety, produced by a cross between the ivy-leaf and the zonal; blooms freely.

INNOCENCE.—Fine large flowers of a pure white, feathered in the upper petals with deep crimson-maroon.

DOLLY VARDEN is a most beautiful variety of the bronze-zoned type, with rosy-scarlet flowers, and is of short stiff habit, making it a most useful and splendid variety for bedding purposes.

—T. MOORE.

THE COLOURING AND PRESERVING OF GRAPES.

ALL who have made the experiment of ripening early in September those Grapes which are expected to be in use during April or May, are aware that, as a rule, those which are "finished" while there is plenty of sun to warm the air, keep much better, and retain their flavour in a much greater degree, than those which are ripened in the dull, short, and damp days, later in the the season. When I say "finished," I do not mean that they should be merely fully swelled and highly coloured, but rather that when these desirable qualifications are visible, firing with plenty of air should be continued till the berries are well charged with sugar, quite firm and crackling. Then the fire may be gradually withdrawn, and used only to expel damp, and keep the thermometer from falling below 40°, till all the foliage has fallen, after which the bottling may be done, in the usual form.

I have noticed, over a period of twenty years' experience in keeping grapes till spring, that those keep soundest which are most highly coloured and best coated with bloom; and that grapes from vines which are cropped beyond their powers of proper maturation, and are unfinished, through the absence of sugar in the berry, never keep satisfactorily. I have here had a singular experience during this season and last in the ripening of grapes. Last season, the *Gros Colmar* (several other late kinds are in the same house) ripened quickly, and the berries were coloured in about three weeks from the commencement; they proved to be thick-skinned and were moderately well flavoured. The past season they began colouring in August, and kept changing almost imperceptibly till November, and at last finished splendidly, the flavour excellent, and the berries large.—M. T.

VINES AND VINE-CULTURE.

CHAP. XVIII.—THE VARIETIES OF GRAPES.—(*Continued.*)

THE descriptions of the several varieties of Grapes included in the synoptical table already published (*Florist and Pomologist*, 1879, 162-3), and of the historical and cultural notes proposed to be added, are here continued from page 10.

ANGERS FRONTIGNAN (46). — A round black Muscat Grape.—*Synonyms:* Muscat noir d'Angers, Muscat noir des Pyrénées, Muscat noir tardif, Muscat noir d'Eisenstadt, Caillaba.

Vine.—*Growth* free, moderately robust, producing short-jointed wood, with large prominent buds; very fruitful. *Leaves* roundish, of medium size, dying off with a slightly reddish tinge.

Fruit.—*Bunches* medium-sized and very compact, with small shoulders; the berries very closely and well set. *Berries* small, roundish. *Skin* purplish-black, with a thick bloom. *Flesh* firm, yet tender and juicy, very sweet, and rich, with a strong Muscat or Frontignan flavour.

History, &c.—Raised at Angers, by M. Vibert. It has been grown at Chiswick for some years, but is not in very general cultivation.

Cultural Notes.—Succeeds very well in an ordinary vinery, requiring the same treatment as Black Hamburgh, and in good seasons ripening very fairly on the open wall. Excellent for pot-culture.

Season.—Early.

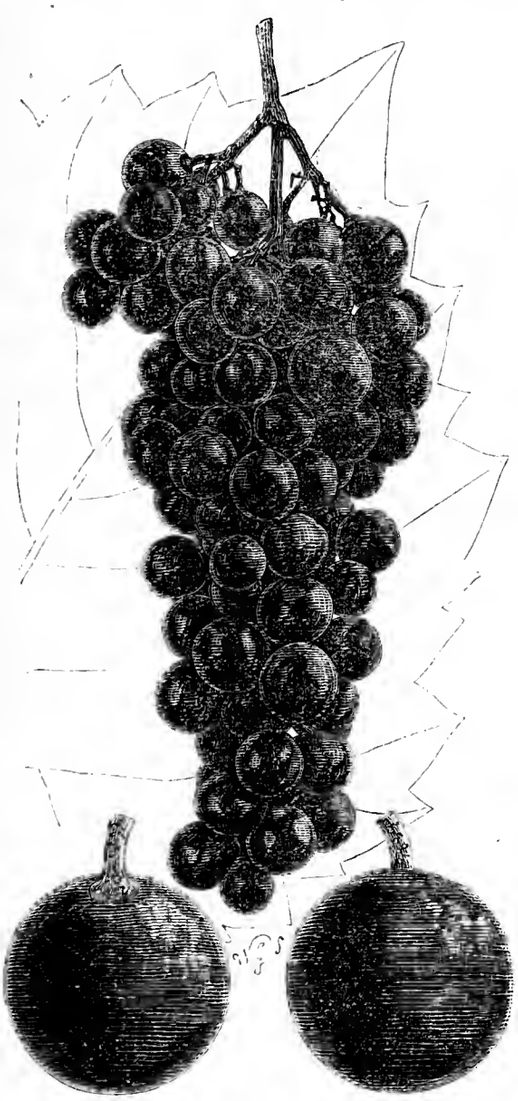
Merits.—First-class as to flavour; an improvement on the Black Frontignan, which it resembles,

ANSLEY'S LARGE OVAL. — A synonym of *Black Morocco:* which see.

ARKANSAS.—A synonym of *Catawba:* which see.

ARAMON (81). — A round black vinous Grape.—*Synonyms:* Burchardt's Prince, Plant-riche, &c.

Vine.—Growth remarkably rampant and vigorous, producing, wherever stopped, a great mass of young shoots, which are remarkably brittle; it requires more trimming and stopping than any other vine, and the spurs soon become very large and coarse. *Leaves* medium-sized, roundish, dying off yellowish.



ARAMON GRAPE.

Fruit.—Bunches large, of a long, cylindrical shape, with a very long stalk, which is remarkably brittle, and may be broken with the slightest touch; very regularly but not closely set. *Berries* medium-sized, roundish. *Footstalk* thick. *Skin* of a dull purplish black colour, with a thin bloom. *Flesh* tender, juicy, with a very brisk rich or strong vinous flavour, when well ripened.

History, &c.—This grape, Dr. Hogg informs us, is largely cultivated in Languedoc and Provence, in the South of France, and is much esteemed as a wine grape. The remarkable brittleness of the stalk of the bunch is some recommendation to it, as no knife being required, the crop is secured in much less time. It has been grown in the conservatory at Chiswick for many years, having been received, under number, from Herr Burchardt, of Landsberg on the Warta, and was named Burchardt's Prince by the Fruit Committee, on account of its resemblance to Black Prince, and largely distributed under that name, but never appears to have become popular, although there are many much inferior varieties of grapes grown.

Cultural Notes.—Although a remarkably free-fruiting grape, wherever grown, it requires a considerable amount of heat to ripen it thoroughly.

Season.—Late.

Merits.—Second-rate, and very frequently third-rate.

ASCOT CITRONNELLE (54).—An oval white Muscat Grape.

Vine.—Growth free and vigorous, but not robust, the shoots slender, always ripening well, and fruiting freely.

Fruit.—Bunches small, bluntly cylindrical in shape, very closely set. *Berries* small, round or roundish-oval in shape. *Footstalk* stout. *Skin* thin, white, or pale straw-coloured, very clear and transparent. *Flesh* tender, juicy, and very richly flavoured, with a strong Muscat aroma.

History, &c.—Raised by the late Mr. John Standish, of Ascot, being a cross between Chasselas Musqué and the old Citronnelle; sent out in 1871.

Cultural Notes.—Excellent for cultivation in pots or cold orchard-houses, where it succeeds very well; it will also ripen, in good seasons, on the open wall.

Season.—Very early; ripens three weeks before the Black Hamburgh.

Merits.—Of excellent quality, worthy of being grown on account of its earliness, but too small for extended cultivation.

AUGUST FRONTIGNAN (47).—A round black Muscat Grape.—*Synonym:* Muscat d'Août.

Vine.—Growth very slender, but free, and maturing properly; very fruitful.

Fruit.—Bunches small, compact. *Berries* small, round, occasionally inclining to ovate. *Skin* thin, of a dark purplish colour. *Flesh* very juicy and sweet, with slight trace of Muscat.

History, &c.—Raised by Mr. Vibert, of Angers.

Cultural Notes.—Has been grown as a pot Grape in this country, for which purpose it is very suitable; it ripens also on the open wall.

Season.—Very early, quite three weeks in advance of Black Hamburgh.

Merits.—Valuable for its earliness and hardiness, but too small to merit extended cultivation.

—A. F. BARRON.

WEIGELA HORTENSIS NIVEA.

THIS plant cannot be praised too highly, and when better known it will become quite as popular as *Deutzia gracilis* as a pot-shrub. It is a chaste, white-flowering plant, with beautiful foliage, somewhat like that of *Viburnum macrophyllum.* When grown in roomy pots in a light house, a few plants will furnish any quantity of white flowers, of a kind that are highly appreciated. You see it in many a Belgian garden, but in home gardens it is not yet so well known as its merits deserve. I have yet to learn whether

it can be got to flower at this season, as we do the Deutzia easily. Anyhow, it flowers in profusion in March and April in a greenhouse. It does well in charred refuse and ordinary garden soil mixed.—HENRY KNIGHT, *Floors.*

POINSETTIA PULCHERRIMA PLENISSIMA.

THIS is assuredly a grand acquisition amongst winter-flowering plants, yet it does not appear to be so generally grown as its superior merits would lead one to suppose. The typical form *P. pulcherrima* is by many exclusively preferred, which appears to me to be a decided mistake, more particularly as the double form is so much more lasting, standing double the time, for every purpose of embellishment. I quite grant that for some time after its circulation, the stock being doubtless weakened by hard propagation, but few heads were seen bearing out the original illustration in fullness and regularity of crest. But I find it is much improved by culture, and this season it is faultless as regards fullness of outline and regularity of its floral leaves, every head coming perfect, and displaying its brilliant array of rich deep vermilion-scarlet bracts, which produce an effect no other plant can surpass. It is also of vigorous habit, and retains its ample foliage much more persistently than the old variety, which it very fitly succeeds in its period of blooming. Moreover, it stands much better in a cool-temperate house. It is a sterling plant, which will amply repay liberal treatment. We have many of the heads measuring from 12 in. to 16 in. in diameter.—GEO. WESTLAND, *Witley Court.*

FLOWERS—AND FLOWERS.

IN a paper of characteristic enthusiasm on exhibiting Roses, "Wyld Savage," in the *Rose Annual* of 1879-80, advises aspirants to "weigh well the cost," and asserts that no "person who wishes to show thirty-six distinct varieties, to say nothing of forty-eight, can hope to do so, unless he is prepared to spend £100 on Roses, and the expenses incidental to their culture and exhibition." 1st, he says, £60 will be required for plants, sixty sorts, twenty plants of each, giving a total of twelve hundred plants; 2nd, £20 for manure; and 3rd, £20 for expenses incidental to competing at four different shows as named.

Upon such a scale few will assume that the expenses are under-stated. Parenthetically, I would remark, that no provision is made for the inevitable cost of cultivating the half acre of ground twelve hundred plants, with necessary means of access, would occupy; but my object is simply to state the case as given by "Wyld Savage," and in no way to introduce limitations beyond these described by him.

The Rose is everybody's flower, universally popular, by common consent the Queen; and I regard it as no unhealthy ambition on the part of the floral aspirant to win honours to himself by devoted service to such a gracious and so graceful a sovereign. But—ominous but—as the Rose is queenly in her attributes, so is she queenly in her requirements. She will consent to smile only in the most favoured of localities, in the purest air, the most open, though perfectly sheltered, of aspects, and in a soil, deep and fat and rich, but without a taint of sourness. In the back slum, the dingy, dirty, smoky two hundred square yards, the average garden of the suburban resident, the Rose simply declines to live; and despite attempts, again and again repeated, to win her smiles, she pines and dies. This is no exaggerated picture—it describes an experience of more than twenty years.

How serious, then, are the difficulties besetting the would-be cultivator and successful exhibitor of the Rose! First, he must have a well-filled purse; next, the command of a large piece of ground, suitable in character and site; and, lastly, a devotion and endurance resolute to know no difficulty or toil in the race for success. How the number of aspirants must be limited by the conditions, so onerous—so, in the case of the suburban resident, insuperable!

Can I, then, name no flower to compensate the poor suburban resident? Certainly I can, many; but prominently two—the Auricula, winsome queen of spring, and the Carnation and Picotee, *dianthus, flos nobilis*, "godlike" flowers of summer. Let me recite a friend's experience:—He long tried the Rose, and successive failures (punishing in the extreme because of the only too pitiably expressed pain of the poor puny plants, pining for pure air,) had in no way subdued his admiration or limited his delight; but two years since,

in the neighbourhood where he lives, he was invited to inspect a famous collection of Carnations and Picotees, and what he then saw gave a direction to his energies, which apparently will last through all his future life. For less than one-fifth of the sum named by "Wyld Savage," aided by the possessor of the collection referred to, he obtained 150 plants in about seventy varieties, pots, frames, soil, shading material, and exhibition-boxes; and incited thereto and aided by what probably may have been a little judicious bottleholding, he went in to win at the National Carnation and Picotee Society's Show, and did win prizes which, though not at the top of the class, were in advance of some who had advantages of situation far beyond his; whilst some of his flowers were spoken of by one of the oldest and most experienced of the judges of the Show as "admirable examples of first-class cultivation."

Of the Auricula, Mr. B. Simonite, of Sheffield, one of the most experienced and most successful of cultivators, says, "It might be grown in St. Paul's Churchyard;" and from what, through many years, I have known of the Carnation and Picotee, I am sure no one will go unrequited who gives pains and attention to their cultivation, even in localities of detrimental surroundings.—Z.

NOTES ON BOOKS.

THOSE who wish to be successful must go the right way to attain that end—so writes Mr. Douglas in the preface to his new hand-book, entitled HARDY FLORISTS' FLOWERS.* We have quoted the phrase for the purpose of adding, that the 'right way' for those who wish to master the cultivation of hardy florist's flowers is to make themselves acquainted with the instructions to that end which Mr. Douglas has succinctly laid down for their guidance in his handy little volume, and to follow them implicitly. They will find his recommendations to be practical, and his warnings opportune. He is no blind guide, but has himself travelled along the road which leads to success, and his readers will find it safe to follow him. A book of this kind, a brief, plain, practical explanation how to grow the several flowers embraced by the title has long been wanted, and now it is provided, though it is, perhaps, not without slight blemishes, we recommend all who take interest in the subject to use it freely. Besides serving as a general reminder for all growers of florists' flowers, it will be especially useful to the amateur who has not yet bought his experience, and to the professional gardener who has not come in the way of these subjects, and who consequently has no clear practical knowledge of the technicalities incidental to the successful growth of many of them. All the more popular of our old hardy florists' flowers, and some of the more modern subjects, are treated on, brief plain directions for propagation, cultivation and exhibition being given. A selection of choice varieties, and a monthly calendar, provided as a finger-post for the inexperienced cultivator, is added. Thus HARDY FLORISTS' FLOWERS is not only a trustworthy, but a tasteful and presentable little volume.

In the HARDY FRUIT BOOK (*Country* Office, 170 Strand), Mr. D. T. Fish discourses at considerable length on the various matters connected with the cultivation of the Apple, the Pear, and the Peach and Nectarine. The various modes of trimming and training are fully explained and illustrated. In the case of the Peach, the treatment of the trees under glass is also fully discussed. The book contains a great mass of useful information brought together in a handy form for reference.

A similar volume to the foregoing is called GREENHOUSE MANAGEMENT FOR AMATEURS, by W. J. May (*Bazaar* Office, 170 Strand). This commences with remarks on the erection and heating of greenhouses, and goes on to describe the culture of some of the most popular plants. It will supply many practical hints to amateur cultivators, for whom it is intended, but the subdivision of the text is rather difficult to understand. The principal sections are headed Hard-wooded plants (amongst which are ranged Bouvardia, Epiphyllum, Sericographis, &c.), Soft-wooded plants, Cool-house plants (by which hardy plants, sometimes grown under glass, appear to be meant), Climbers, Annuals. Chapters on raising seeds, on propagation, and on insects follow, and the volume winds up with a monthly calendar of work to be done.

The pamphlet, WATER FOR NOTHING, by Shirley Hibberd (Effingham Wilson, Royal Exchange), is written to show that every house may be made to yield its own supply. Its object is to point out to the water-consuming citizen "that he may, if he pleases, make an end of his obligations to the water company, by establishing a supply of his own—a supply that will cost him absolutely nothing, and that will

* *Hardy Florists' Flowers; their Cultivation and Management.* By James Douglas, F.R.H.S., gardener to Francis Whitbourn, Esq., Loxford Hall, Ilford, Essex. Published by the Author.

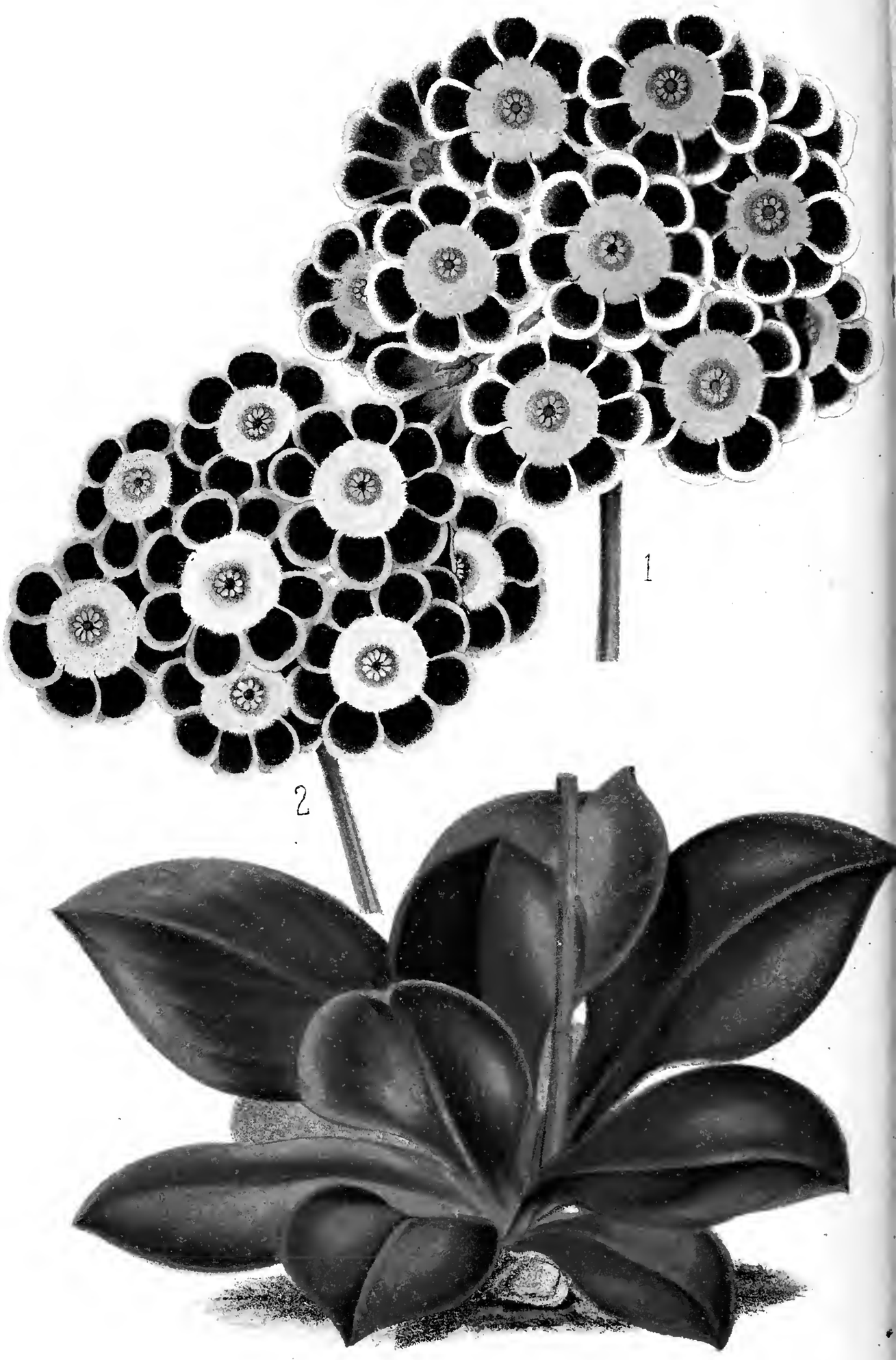
continue, as surely as seed-time and harvest, for himself and his children and his children's children. It is a perfectly new supply, because practically it is unknown, and therefore neglected, but nevertheless it is as old as the hills that fill the lakes, and is the ultimate source of every possible water supply." Of course the source of supply referred to is the rain which falls from heaven—25 inches on the average in London, and the idea of water for nothing implies the collecting and storing of this precious gift from the clouds. The main requisites pointed out are three in number:—(1), The rejection of the first supply, or its separation for rough purposes, because contaminated with washings of the roof; (2), the saving of the bulk of the best water in a cool situation, and in complete darkness, but allowing a current of air to pass over the surface; (3), the filtration of the best water before it is supplied to the table, to render it perfectly bright and completely aerated. How this is to be done is explained and illustrated in the pamphlet, which those who are interested in the subject should read and apply for themselves.

ALBUM BENARY (part vi., 1879) is now before us, and contains excellent chromoliths by Severeyns of five varieties of Borecoles or Kales, of eight varieties of Onions, of six varieties of sugar or edible-podded Peas, and of eight varieties of Tomatos. The figures are well executed, and will be useful for the recognition of the several kinds.—T. MOORE.

EARLY PEAS.

THE gardens at Wycombe Abbey have long been famous for the excellent supply of Fruits and Vegetables obtained by Mr. G. T. Miles, whose success as an exhibitor sufficiently attests the quality of his productions. He has recently (*Gard. Chron.*, N.S., xiii., 14) explained his method of rearing Early Peas, from which source we abstract the following remarks thereupon:—There are, he says, some naturally sheltered places situated at a moderate altitude, where early Peas may, with some degree of certainty, be depended on almost every year, yet this is not generally the case. Here, as in many other gardens similarly situated, in a low valley with the air almost constantly charged with moisture enough to make vegetation most susceptible to frost, the crop is most doubtful. For this reason we have of necessity been compelled to resort to a more certain and effectual method, and, from past experience, our practice is strongly recommended to the notice of those who labour under similar difficulties. Our plan is to have recourse to a temporary erection in the shape of a frame, about 3 ft. high at the back, and 2 ft. in front, with a strip under the junction of the lights in order to facilitate ventilation, the width according with the size of the lights which may be available for the purpose. This frame should be placed on a suitable border, and dwarf kinds of Peas only should be sown, at about 18 in. apart between the rows, which should run from north to south. With such a convenience covering an area of about 20 ft. by 6 ft., and with ordinary coverings applied, a crop of Peas may be safely secured before the end of May, the average of which will favourably compare with the produce of many outside borders of far greater extent, with but little additional trouble. For this purpose we sow thinly, in rows 18 in. apart, Laxton's Unique and Little Gem the first week in January—keeping the lights on until such time as the Peas are becoming visible, when a little air is given them every day. As soon as they are well up they are thinned out to about 2 in. apart, and before they have made much growth they are carefully staked to a height which will just admit the lights to run. At this time they are mulched with 3-in. or 4-in. of the best decomposed manure, and well watered whenever necessary. The frames are likewise covered up as may be required.

Mr. Ward's practice at Longford Castle, as set forth in the same publication, is to sow in large 60-pots, about the end of December or beginning of January. The pots are three-parts filled with leaf-mould, about a dozen peas put into each, covered with the same material, and set near the glass in an early vinery. When a couple of inches high, they are hardened off, and are planted out about January 20th, or as soon after as circumstances permit, on a south or south-west border, in rows 4 ft. apart, and 1 ft. apart in the row. The plants are turned out of the pots, with the balls undisturbed, and put in ground prepared for their reception; a little soil is drawn up to them on either side, and then a line of soot and lime, after which short sticks are put round *pro tem.*, and them some short Spruce boughs on either side to shield them from frost, snow, and biting winds. As they become inured to the weather, the boughs should be gradually thinned, and so soon as the weather becomes



Fancy Auriculas:
1, Captivation. 2, Picotee.

Miss E. Regel del. Chromo. Stroobant, Ghent.

favourable enough (about the end of February) the boughs should be removed altogether, and the plants finally sticked. The haulms of the early Peas are stopped when they come into flower, in order to cause them to pod more quickly than they would under ordinary treatment. The kinds grown for early crops are Sutton's Ringleader, Sutton's Emerald Gem, and Laxton's William I., in the earliness of which little, if any, difference is found; but Ringleader is most depended on, being well tested, good constitutioned, and prolific. William I. bears larger peas, and as it becomes better known will be much grown as an early sort.—M.

NEW LACED ALPINE AURICULAS.

[PLATE 508.]

THE new type of Alpine Auriculas depicted with so much faithfulness and skill by Miss Regel have been denominated LACED varieties, in order to distinguish them from the edged flowers now so much grown. They were produced by Mr. A. Dean, Bedfont, Middlesex, and represent the results of careful crossing and patient selection for a few years. Some flowers obtained from a choice strain of seed received from the Continent were found to have the edges of the segments regularly laced, and the edgings more distinctly defined than in the case of the ordinary-edged Alpine Auriculas. The aim of the raiser, taking the flower he had already raised as a basis, was to secure finely formed flowers, with smooth rounded segments, having the colours distinctly contrasting; and with clear, smooth centres, destitute of any taint of paste or farina. The varieties now figured can fairly lay claim to the possession of these qualities. The clear and distinct edge seen in the case of DEAN'S CAPTIVATION (fig. 1), the bright claret-crimson lobes being sharply and regularly laced with delicate blush-white, gives quite a new combination in these elegant flowers. The colours in DEAN'S PICOTEE (fig. 2) are not so distinct, but the pink lacing is well displayed and very pleasing.

These flowers have yielded seed, after careful crossing, that has produced recent seedlings of fine character. Much has been done in the way of securing rich golden centres of a permanent character, in combination with broad and distinct white lacings to rich purple claret and crimson grounds; and each succeeding year shows a material advance.

These Laced Auriculas have one excellent possession—they are of strong constitution, growing and flowering with remarkable freedom, throwing up stiff, erect, foot-stalks, bearing fine trusses of bloom. To have the lacing as perfect as possible, the plants should be grown in good, but by no means rich, soil, of too stimulating a character, or the beautiful lacing will become clouded. Nor should the plants be over-potted, for they show flowers of the best character when pot-bound, care being taken they are not allowed to suffer for want of moisture at the roots.

In addition to these figured, Mrs. Cooper, Attraction, Mrs. Moore, and Samuel Barlow, are all fine and distinct varieties of great beauty.—RICHARD DEAN, *Ealing, W.*

SOME NOVELTIES OF 1879.

AMONGST recently imported New Plants, though we have had some useful accessions to our already extensive collections, the year 1879 cannot be credited with any very startling novelty. New Fruits are almost *nil*, and New Vegetables offer little that is really important. The choicest acquisitions of the year have been among seedling popular and florists' flowers, and the several groups of Hippeastrums, Hyacinths, Carnations, and Picotees have shown numerous and substantial advances. We propose on this occasion to indicate briefly in the following classified list, some of the best of the floral productions of the year, reserving what are usually called New Plants, for another opportunity:—

FLORISTS' FLOWERS, &c.

AMARYLLIS: The finest is the splendid crimson, Mrs. Baker. Other good sorts are:—Duke of Connaught, Mrs. Morgan, Dr. Masters, Virgil, Thomas Speed, Angus McLeod, Isaac A. Anderson, Queen Victoria, Henry Little, and A. B. Stewart.

AURICULA: Read's Acme (white-edged); Llewelyn's Grey Friar (grey-edged); Horner's Ringdove (dark violet self). Alpines: A. F. Barron, Duchess of Connaught, and Mrs. Ball.

AZALEA (indica): Duke of Connaught, Empress of India, Louisa Pynaert, and Madeleine. Of the mollis type: Baron Constante Rebecque, Charles Kekule, Arthur de Warrelles, Ebenezer Pycke, and Isabella Van Houtte. Of the hardy hybrid race, the double-flowered Graaf van Moran and Narcissiflora are particularly commendable.

BEGONIA (double): Clovis, Comtesse H. de Choiseul, Edouard Morren, Marie Bouchet; (large-flowered single): J. H. Laing, Maude Churchill, Mrs. Howe, Reine Blanche, a very fine white; Royal Standard, Souvenir de Gand, Stanstead Rival; (dwarf-growing, of the Davisii type): Constance Veitch, and Mrs. Arthur Potts.

CAMELLIA (American): C. H. Hovey, rosy-crimson; C. M. Hovey, bright crimson; and Mrs. Hovey, flesh-pink.

CARNATION: Dodwell's Robert Lord, S.B., and J. T. D. Llewelyn, C.B.; Turner's G. F. Wilson, P.F.; Adams' William Spoor, S.B. Of Cloves: Culverwell's Susan Askey, pure white; Turner's Heather Bell, pale pink, fringed; and Barrow's Coroner, rosy-crimson, fine, are all good.

CINERARIAS: James's Earl of Beaconsfield, Master Harold, and Mr. Bland. Mrs. Joseph Grimond is a dwarf, deep purple-flowered double.

COLEUS: These are now as beautiful as they are numerous. Bull's Butterfly, Duchess of Teck, Empress of Germany, Glow, Harlequin, James Barnshaw, Starlight, and Yellow Gem; Lloyd's Dr. Brushfield; King's Majesticus and Maud, are all strikingly handsome, and amongst the best.

CYCLAMEN (large flowered): Duke of Connaught, Picturatum, Queen of the Belgians, Sutton's Reading Gem. Also Crimson King, Baroness Burdett Coutts, pure white; Little's Gem.

DAHLIAS: Ethel Britton, blush, tipped with reddish-purple; Triumphant, rich purple; Mrs. Hodgson, yellow, tipped with crimson; Lord Chelmsford, dark purplish-red; Empress Eugénie, deep purple; Charlie Scott, scarlet, tipped with white. Mr. Turner's George Thomson is a fine yellow-flowered bedder.

FUCHSIAS: Beauty of Wilts (Lye), Eclipse (G. Smith); Jean Sisley (Lemoine).

GLADIOLUS: Duchess of Connaught, Duke of Connaught, James Douglas, Jessica, Electra, Samuel Jennings, T. S. Ware.

GLOXINIA: Charme de Lutice (Lemoine), Yakoob Khan (Veitch), Lady Holmesdale (Veitch), Duchess of Connaught (Veitch), Mrs. Bause (Wills), Unique (Veitch).

HYACINTH (Red): King of the Reds, Delicata, Lord Derby, Trocerado, Loveliness, Salmon King, Leviathan; (White): The Bride (double), Galatea, L'Ornement des Roses, almost a yellow; Catherine Hermina; (Blue): Duke of Norfolk (double), Masterpiece, one of the finest novelties of the year; Duke of Connaught, Royal Blue, Duchess of Connaught, Lord Beaconsfield, John Bright, Pauline Lucca, the four last being pale blues; (Yellow): Kenan Hasselaar, MacMahon, Lord Derby, Brutus; (claret-coloured): The Shah, pale wine-purple with dark stripes, fine and bright looking; The Sultan, claret and magenta, with bright purple dashes.

IRIS KÆMPFERI: Charles Maries, Jersey Belle, Impératrice, Sir Stafford Northcote, James Douglas, Mrs. Cornwallis West.

PELARGONIUMS (show): Foster's Alice, Emperor William, Fireball, Flag Captain, Queen of Scots, Sensation, The Baron, and The Pope; Brehaut's Amethyst; Matthews' Joe; (decorative): Countess of Rosebery (Methven), Madame André (Jackson), Maid of Kent (Hayes), Nellie Hayes (Hayes), and Volonté Nationale (F. Perkins); (fancy): Turner's Electric Light, Mrs. Milne Horne, Thurio.

PELARGONIUMS (zonal): Denny's Dauntless and Pioneer; (doubles): Allegro, Commander-in-Chief, a most useful pale scarlet bedder; Dudu, Horatio, Leander, and Romeo, all flowers of refined character; Catlin's Edgar Catlin, Fanny Thorpe, and Lizzie Smith; Hayes' Mrs. Henry Cox, a new and richly coloured variegated zonal; (ivy-leaved): Bull's Gazelle; Lemoine's Viscountess Cranbrook; Church's Mrs. H. Cannell, deep mauve, fine.

PICOTEES: Turner's Dr. Abercrombie, H.R.E.; Simonite's Violet Douglas, L.R.E.; Wilmer's Clara Penson, L.P.E.; Turner's Baroness Burdett Coutts, L.P.E.; (yellow): Turner's Princess Beatrice, Lady Rosebery, Sultana, Princess Marguerite, Ne Plus Ultra, and Dove; Ware's Chromatella.

POLYANTHUS: Brockbank's John of Gaunt is a Northern gold-laced flower of some promise; Ingram's Golden Gem is a useful bedding variety, with yellow flowers; Dean's Prince of Orange is the same, but of a deeper colour, and having hose-in-hose flowers; Dean's Superbus is a very fine glossy dark variety, excellent for pot culture and exhibition purposes.

PRIMULAS (Chinese): Gilbert's Earl of Beaconsfield, bright double salmon-rose flowers. Other good doubles of the same batch are Mrs. A. F. Barron, Marchioness of Exeter, and White Lady. Ruby King is a fine richly coloured single variety; Chiswick Red and fimbriata rubro-violacea, also from Chiswick, are notable for their decidedly improved depths of colour, the first a near approach to crimson.

ROSE: First come Mr. Bennett's hybrid Teas, Beauty of Stapleford, Duchess of Connaught, Duchess of Westminster, Duke of Connaught, Hon. G. Bancroft, Jean Sisley, Michael Saunders, Nancy Lee, Pearl, Viscountess Falmouth; Ward's Isabella Ward; Turner's Mrs. Harry Turner; Guillot's Madame Alexandre Bernaix is of a pleasing rose colour. The Continental novelties are, as usual, very numerous.

VERBENA: Mould's Mrs. Thompson, orange-scarlet, received a Certificate; Beethoven, Lord Chelmsford, Mr. L. Harrison, Mrs. Mould, Sir Garnet Wolseley, and Sylvia are all fine; Keynes' Lustrous is a rich scarlet of splendid form.

FRUITS.

GRAPE: A black grape raised by Mr. Allen, of Gunton Hall, is noted in the *Gardeners' Chronicle* as a handsome fruit promising to become a useful variety. It is a cross between the Syrian and Alicante.

MELON: Three novelties have been certificated during the year. William Tillery (Miller) is a large handsome fruit; the rind dark green, regularly netted, and very thin; the flesh pale green, sweet and juicy, of excellent flavour. It resembles the old Egyptian green-flesh, and is named as a memento of the late Mr. Tillery, of Welbeck. Victory of Bristol (Carmichael) is also a large and attractive fruit, a free-bearing and good sort, the rind yellowish and very handsomely netted, the flesh green and of excellent flavour. Davenham Early (Jaeques) is a small and very early fruiting sort, from 2 to 3 lb. in weight, raised between Scarlet Gem and Bromham Hall, the rind very distinctly netted, and the flesh green, melting, and very richly flavoured.

NUT: The Norwich Prolific of Messrs. Ewing and Co., figured and described in our last volume, appears to be a novelty of good quality, and a remarkably free bearer.

PEACH: Alexander is said to be the earliest of all American Peaches. It is a medium-sized depressed fruit, the skin pale yellow, mottled with deep crimson, and finely dotted. The flesh is tender, juicy, and briskly flavoured, colourless to the stone. The leaves have the glands round, in some cases tending towards kidney-shaped. It is cultivated by Mr. Rivers.

PLUM: Rivers' Grand Duke may be mentioned as a valuable late sort, and not only late, but of excellent quality; while the tree is one of the best of growers, and succeeds well as a pyramid. It is an oval Plum, not very large, and of a blackish-purple colour.

VEGETABLES.

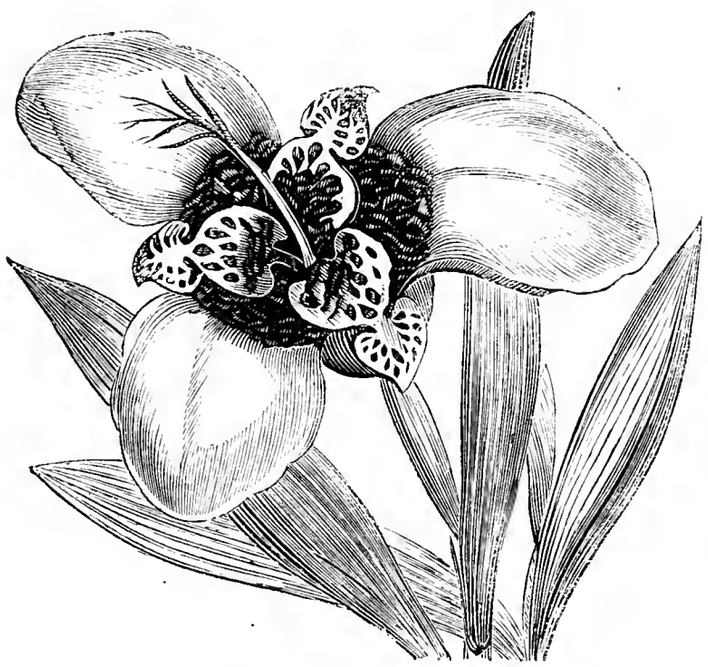
PEA: Carter's Telephone and Culverwell's Telegraph, the former a wrinkled selection of the latter, maintained the high character awarded to them the previous year. Mr. Culverwell is to be congratulated as the raiser of two such meritorious Peas, and yet another giant, named Autumn Marrow, which comes to us from the same source, an extraordinary large-podded Pea, excellent for autumn use and splendid for exhibition purposes. Carter's Stratagem, a dwarf, wrinkled, blue marrow, is a grand acquisition, being a heavy cropper, with large, remarkably well-filled pods, and likely to be largely grown for market purposes. Messrs. Veitch will send out Laxton's The Baron, a monster variety grown at Chiswick in 1873, but not yet distributed.

KIDNEY BEAN: Hurst's New Mammoth Negro is a desirable sort, having fine long pods like Canadian Wonder.

TURNIP: Benary's Early Munich is very valuable for its earliness, coming into use three weeks in advance of the earliest varieties.

RADISH: The earliest and finest is the Early Rose Globe (Rond Rose Hâtif) of Leroy, a rose-coloured variety, intermediate in form between the turnip and olive-shaped sorts; Earliest Red Erfurt and Short-top White Turnip Radishes may also be mentioned as very desirable varieties for forcing, being remarkably early, and with very small tops.

POTATO: Two varieties have come prominently forward as disease-resisters—Magnum Bonum and Scotch Champion. The latter, which is comparatively new, comes from Forfarshire, and is intermediate between the Regent and Irish Rock. Although by no means handsome, it is of fine quality, and a most satisfactory cropper. Amongst newer varieties, Cosmopolitan and Avalanche may be mentioned as smooth white kidney varieties of great promise; McKinlay's Beckenham Beauty, Vicar of Laleham, and Davis's Model Seedling also deserve mention. T. M.



TIGRIDIA PAVONIA.

FEW plants are more gorgeously beautiful than this, which was formerly much more grown than now, and to which a bed or border ought to be appropriated in every garden of any pretensions. The large size of the three outer segments of the tawny or orange-red flowers, and the rich colour and spotting of the three inner segments, make up a flower at once striking for its quaintness, and attractive for its size and brilliancy; while the quantity of blossoms—fugitive though they be—which day after day appear for a considerable period of the summer, give it a position not to be despised amongst decorative and floral objects. The Tigridias seem to have almost gone out of cultivation until last year, when the introduction of a supposed novelty, *T. grandiflora*, but which appears to have been rather the advent of a new and vigorous stock of *T. pavonia* from its native country, led to their reappearance at the London exhibitions, where a pan of the cut flowers created quite a sensation.

They are easy of culture, requiring only to be planted out in March, two or three inches deep, in a light rich soil. When planted in beds, *T. conchiflora*, as being the strongest grower, should occupy the centre. During the growing season the plants will take up a large quantity of water, and will derive benefit from occasional waterings of weak liquid manure.

As they seed freely, the flowering of the bulbs will be very much strengthened by looking over the beds every morning, and picking off the seed-pods of the previous day's flowers, and the further advantage of prolonging the flowering period will at the same time be secured.

Towards the end of autumn—earlier, if in consequence of a warm season, the growth becomes matured early, or later if the season is a backward one, but in any case before they are at all liable to be injured by frost, the bulbs should be taken up, partially dried, and laid in the corner of a store-cellar or shed, being well covered over with stable-litter. Mr. Cox, of Redleaf, points out that mice are very fond of them, and will not leave a bulb, if they can get access to them. He says:—"They may be very well kept by being placed in long shallow boxes, 6 in. deep and 9 in. wide; fill up the box with sand, and place a stout board on the top, and put the boxes under the stage in the fruit-room, or other similar place, secure from wet and frost; but the best plan I have ever adopted, and the one which has kept the roots in the plumpest and best condition, is to dig out a hole against a garden-wall in the open air, about 2 ft. deep; make the bottom very firm, and place thereon a stout Westmoreland slate, on which place four other slates edgewise, two long and two narrow for the ends, so that a slate of the same size as the bottom will cover the top; make the earth secure all round the outsides, and place the bulbs in layers covered with sand in the slate-box; cover with the slate on the top, taking care that the edges all fit securely, so that mice cannot enter, and fill the hole up, and they will be found at planting-time as fresh as if only just lifted."—M.

THE CHRISTMAS ROSE.

THIS fine old plant—the Helleborus niger—is a native of Austria and Italy, and was introduced into the gardens of this country by Gerard, in 1596. In open, mild weather it flowers in January, and hence has been called the Christmas Rose. It will grow in any soil or situation, but like most Alpine plants, it delights in a pure air, a situation moderately moist, and a rich soil. When first I came here, I found several large clumps of this plant in the mixed borders; these I divided, and made a good many plants of them, and I have from time to time since divided them, so that now we have a nice stock of it, in good large clumps.

It is not often that there are many flowers naturally open at Christmas; even a hand-light or frame is not sufficient; a little warmth is necessary. I have several large clumps put into heat about the beginning of December, and these furnish quantities of flowers at Christmas. Another batch of clumps put into heat about the end of December will furnish a supply of flowers until, if the weather be mild, there are blossoms out-of-doors. The flowers, if kept in water, will continue fresh for several weeks.

The plant is worth growing for its foliage, which is very beautiful. I have planted it in different aspects and situations, so that we get flowers late into spring. I have had flowers even in July. The clumps that have been forced should be put into a cold frame or pit until the end of March or beginning of April, when they should be divided and planted out. Besides furnishing beautiful flowers during the winter months, the plant is one of the hardiest of hardy perennials, and will grow in almost any soil or situation. No gentleman's garden should be without so useful a subject. No cottage garden even should be without it.—M. SAUL, *Stourton, Yorkshire.*

SUBURBAN GARDENING.

FEBRUARY.—As we write, the frost is again master of the situation, and holds in its grip the out-door garden. There is a clearness in the air, a redness in the evening sky, and a piercing keenness that betoken frost. It is all in good time; and so far, many things of a common character that are being wintered in the open air, are standing the rigours of the severe weather better than they did a year ago.

Kitchen Garden.—February and March are two of the most important months in the kitchen garden, for they are the season when sowing operations are carried out. While the amateur gardener should not be in too great a hurry to sow, he should, at the same time, take advantage of any favourable opportunity for getting his ground into sowing order. A few *Long-pod Beans* can be sown in drills a yard a part, and about three inches between each bean. Some *Cabbage* seed should be sown in the open ground as soon as the elements will admit, choosing a warm border for the bed. Some *Onion* seed should also be sown, and *Peas:* such as a good cropper like Princess Royal, with Advancer to follow, the former being rather hardier than the latter. Some *Radishes* and *Lettuce*, also *Mustard* and *Cress* should be sown in frames; and if there is a

frame to spare, a few *Ashleaf Kidney Potatos* should be planted. If there is a probability of the weather keeping fine, warm, and open, some *Beet*, *Carrots*, *Parsnip*, and *Spinach* can also be sown; and a little *Celery* under glass. It is a common mistake to delay the sowing of Celery too late, and the plants are consequently small when they require to be planted out. In digging vacant ground, it should be done in fine drying weather, for if it be trod over when in a wet, tenacious state, it does it more harm than good.

Fruit Garden.—New beds of *Strawberries*, if not made in the autumn, should be prepared without further delay; old beds should be cleaned over and top-dressed with a mixture of fresh soil and dung. Fresh plantations of *Raspberries* should also be made, and the old canes pruned and tied up in the usual manner. *Wall-trees* should be dressed and the walls cleared of insects, and the branches of the trees nailed into position. Outdoor *Vines* can also be pruned and nailed securely.

Flower Garden.—*Box-edging* should now be replanted, taking up the plants, thinning them, and treading firmly into the soil as the work is re-done. All edgings, whether of *Thrift*, *Grass*, *Daisies*, &c., should be gone over and made neat and tidy for the spring. *Hedges* should be cut over, and everything made trim and neat. The stock of *Bedding plants* should be gone over, and, if more of anything is required, the stock-plants of such things as *Fuchsias*, *Lobelia*, *Verbenas*, &c., should be put into heat to get cuttings from them. The young growths of these, and other soft-wooded plants, if put into shallow pans filled with silver sand, kept very moist, and placed in a brisk bottom heat, soon strike root, and can be potted off when ready. All arrears of work should be done as soon as possible, for the spring is a very busy time, and if tasks fall behind in execution, it is very difficult indeed to make up the lost time.

Greenhouse.—The somewhat sudden and remarkable changes in the temperature—cold wind and keen frost one day, and then warm, southerly breezes and genial sunshine another—are rather trying to the amateur gardener, and he must be on the alert to keep out that active enemy, the frost. Water early in the day, and water carefully, so that no unnecessary moisture be left on plants, or shelves, or the floor of the house. This remark applies, as might be expected, to a house where fire-heat is put in only as a preventive to injury from frost; under such circumstances, water must be given sparingly, giving more as the temperature rises. *Chinese Primroses* are most useful plants in the greenhouse at this time of the year, because they will bear a little frost without taking much harm. *Cinerarias* also—that is, if they are from early-sown seed—will be coming on also, and *Calceolarias*, the subject that most villa gardeners cultivate, will need potting as the plants increase in size. At this time of the year and onwards, root-action is setting in in the case of the plants that move early, and so they will need increased supplies of water. Such plants as are later in moving, and are still at rest, can remain dry until they show signs of growth.

The practice of the florists of top-dressing their *Auriculas* and *Polyanthuses* in February, when they commence being active, is one that can be followed by the amateur with much benefit to his plants. All plants needing to be repotted should be attended to as soon as convenient, but taking care not to overpot, to give good, sweet, growing soil, and to keep the plants from being harmed by frost while they are making fresh roots. The plants that do not need repotting will be much benefited by some top-dressing. The first thing to be done is to turn the plants out of pots to see they are not defective in their drainage, and to remove any worms from the soil; then, by means of a pointed stick, loosen the surface soil in the pots down to the upper roots, leaving them bare, and add some good soil. This will materially assist the plants, and cause them to make a free growth presently. Hard-wooded plants in particular are assisted by top-dressing.

As the days lengthen the sun will gain in power, and the drying influences in the house will strengthen, and more water will be needed. As the weather waxes warmer green-fly will become troublesome, and measures must be taken to keep them under. Keep the house thoroughly clean in all its parts, and the pots and plants also.

Cold Frames.—The more snugly the plants are kept while sharp frost is on the better. It is of no use to open the frames; it will be better to put on coverings, to decrease as far as possible the effect of the frost. When a thaw comes the lights should be lifted, as directed last month, and decaying leaves removed. Here, as in the greenhouse, top-dressing needs to be carried out, doing it when the frost has departed and a genial thaw has set in. Hardy plants, in pots that are full of roots, will be as much benefited by this treatment as greenhouse plants. The simple aim of the suburban gardener should be to assist the plants to make a kindly growth, so that good heads of bloom may result.—SUBURBANUS.

SALVIA INVOLUCRATA BETHELLII.

THE very beautiful *Salvia Bethellii*, which was so much admired when shown by Mr. Cannell, at South Kensington, in November last, is quite deserving of all that

has been said of it. Like most of the family, it is easily propagated and very easily grown; so that its distinct bright pink colour and profuse flowering habit cannot fail to make it a general favourite when more widely known. When well grown, it continues blooming for a long time. It is a variety of *Salvia involucrata*, and is named after the raiser, Mr. George Bethell, gardener at Nonsuch Park, Cheam, Surrey.

Mr. Bethell has obligingly sent us the following particulars of its origin:—After remarking that he was much pleased to learn that this Salvia, which some of his friends had named after him, had been so much admired at the Royal Horticultural Society's meeting, he goes on to say that the plant in question was raised by him several years since, from seed of a Salvia which was of similar character, except that it was much paler in colour, and very straggly in habit, but of which he did not know the name. This parent kind was evidently the old Salvia involucrata, a fine plant for a large conservatory, but too coarse-growing for pot-culture. The new form which is the subject of this note, Mr. Bethell states, is a very compact, free-blooming variety, and most useful for the autumn decoration of the conservatory, as well as for cutting, for which indeed he prefers it.

The exhibition of this variety will perhaps serve to recall attention to a genus which embraces many other free-growing subjects, which are unrivalled amongst cultivated plants for their brilliancy and beauty.—T. MOORE.

GARDEN GOSSIP.

ALL Societies do well to issue their PRIZE SCHEDULES early, in order that the exhibitors may prepare for the trial of strength which competition involves. Our young florist Societies, the southern branches of the National Auricula and the National Carnation and Picotee Societies, have recently distributed their prize lists for the year 1880, while the more ambitious Pelargonium Society had its schedule in the field some time ago. The Auricula Society, besides the usual classes, offers prizes for Fancy Auriculas, Fancy Polyanthuses, Double and Single Primroses, and for Hardy Primulas other than those represented under the several types of Auriculas, Polyanthuses, or Primroses. We may, therefore, hope to see the beautiful and popular and varied genus Primula well represented. The show is on April 20th, at South Kensington. The Carnation and Picotee Schedule again differs very little from that of last year, except that not only certificates, but prizes, will be awarded to Seedlings, if any should be shown worthy of those distinctions. This show is to take place at South Kensington on July 27th.

— CONCERNING PEACHES ON WALLS, a Roxburghshire gardener, writing in the *Journal of Horticulture*, states that on his walls, 14 ft. high, south aspect, he has had good crops of fruit during the last ten seasons. The Royal George and Noblesse are the two varieties which succeed best. In spring, after being pruned, they are syringed several times with black soap and flowers of sulphur diluted in hot water. This destroys the eggs of green-fly, &c., located on the bark, and especially in the nail-holes and crevices of the wall. A dressing at this period tends to keep the trees clean all the season; it is of little use syringing, when the leaves are all curled up and unsightly. This must be prevented, and success will be the result. The blossoms are protected at the proper period with Frigi Domo, drawn up every morning, except when stormy, and let down every night.

— AMONGST the many modes of DESTROYING APHIDES and other plant-pests of that kind, the *Natal Mercury* mentions a very easy one, which is also said to be efficacious. It consists in stewing in water the leaves and stems of the Tomato, and with the liquor thus obtained, when cleared and cooled, to thoroughly syringe the infested vegetation. The destruction is immediate, and the odour which clings to the syringed plants is of a character most distasteful to the insects; so that a plant once freed from them will remain a long time unaffected.

— TO have ZONAL PELARGONIUMS AT CHRISTMAS, one has only to follow the practice of Mr. Cannell, who exhibited a brilliant series of cut blooms in December and January, the flowers being large in size, massive in substance, splendid in form, and rich in colour. There were some four dozen sorts, all of superb beauty and varied in colour. Mr. Cannell's style of growth is most remarkable, the effect, doubtless, of keeping up a genial heat, and of heating the atmosphere by a series of pipes fixed across the glazed part of the roof. The plants of White Vesuvius were marvellous productions for abundance of bloom and closeness of truss. Of the varieties represented by cut blooms the following were specially noticeable:—*Crimson shades:* David Thomson, C. Schwind, John Gibbons, H. Jacoby, Commander-in-Chief, perfect in form; H. H. Crichton, Titania, and General Grant. *Scarlet shades:* Polyphemus, with large white eye, fine; Tom Bowling, Mrs. Whiteley, Gnome, C. Teesdale, Robert Burns, very fine; Lizzie Brooks and Œnone. *Purple:* Dr. Denny, which, for its splendid glow of purple, like a star of surpassing magnitude, stands alone in its exquisite colouring; Mr. Chandler. *Cerise shades:* The Baron, Hettie, Mars, very fine; Circulator and Mrs. Brown, also very fine. *Orange-Scarlet:* Guinea, which, with its glowing breadth of yellow, stands by itself with strongly marked individuality; its best summer character could not transcend its December brightness. *Pinks:* Heather Bell, Mrs. Strutt, Olive Carr, Lady Sheffield, Sybil Holden, and Louisa—all fine. *Salmons:* Laura Strachan, President MacMahon, Sophia Birkin, Mrs. Clifton, Marguerite Ponton, and Gustave Morlet. *Whites:* Evening Star, Remus, and Miss Gladstone. No other class of flowers could yield so much beauty and brilliancy at Christmas as these charming Pelargoniums.

— In order to obtain Double Flowers, it has been thought advisable to make use of the pollen from double flowers, where it is possible to obtain it, and to apply it to the stigma of single flowers from which it is desired to procure double-flowered seedlings. M. Lemoine desirous of experimenting with Lilacs, found that the only double-flowered Lilac then known had no stamens, and consequently no pollen. He therefore decided to reverse the process, and to fertilise the stigmas of certain double-flowered Lilacs with the pollen from some of the best single varieties. The experiment was so far a success, that out of forty seedlings thirty at least yielded semi-double or double flowers, one of them being very remarkable for its beauty.

— It is stated that plants of the Anthurium Scherzerianum, in the Botanical Garden at Florence, have yielded seedlings, some of which produced white spathes with yellow spadices, and others with rose-coloured spathes with orange spadices.

— In reference to the cure of Scale on Fruit-trees, Mr. Tidmarsh writes that the mixture referred to at p. 190 of our last volume is strongly recommended, not for fruit-trees alone, but for dressing all hard-leaved plants subject to scale, such as the Orange tribe, Camellias, Crotons, Aucubas, Gardenias, Myrtles and their allies, Palms, also Conifers, some of which are much injured by scale, Araucaria excelsa, for instance.

— A new preparation called Fir-tree Oil is strongly recommended by Mr. Harrison, of Knowsley, as an effectual remedy for scale on pear and plum trees, and other tree-pests, and as being neither unsafe in ordinary hands, nor uncertain in action, like spirits of turpentine, every form of petroleum, and oils in general. This Fir-tree oil, recently introduced by Mr. Griffith Hughes, of Manchester, mixes readily with water, and though it is very deadly in its effect upon insect life, it seems to be quite harmless to all but the most tender vegetation, when used at a strength of half-a-pint to two gallons of water. Like other new remedies, it should, however, be tried on a small scale at first.

— The Senecio pulcher, which we have already mentioned as one of the finest additions to the list of hardy herbaceous plants, seems to be equally valuable for greenhouse or conservatory decoration at this season. Mr. Burbidge, of the Dublin College Botanic Garden, conceived the idea of potting one or two plants, which developed their great amaranthine-rayed flowers freely under glass. Mr. Burbidge states that the plant, after being lifted, was placed in a pot in a corridor or porch from which frost is barely excluded, and the flowers continued fresh. This fine Uruguay Groundsel is a little too late in its season of flowering for our climate, and those who wish to enjoy its beauty in perfection cannot do better than lift some of their plants next season on the approach of frost, and put them under glass. Thus treated, every cottager might have it in his window at Yuletide, since the plant is so readily increased by seeds and root-cuttings, that it ought to become obtainable by all who care to cultivate it.

— The Yellow Paradise Stock is thoroughly recommended by M. Carrière for grafting apples. It is said to be hardier than the common Paradise stock, and its growth is, so to speak, continuous, so that it may be worked at any season. MM. Simon Louis think so highly of it that they use no other for dwarfs and cordons.

— The Cruciferous Chorispora Greigi is a charming annual or biennial, figured and described by Regel (*Gartenflora*, t. 984). It is a tufted plant, with elegant pinnatifid leaves and numerous slender flower-stems, rising to a height of 12 to 15 in., bearing numerous reddish violet-purple flowers, about three-quarters of an inch in diameter, and the seed-vessel is also a pretty object, being constricted between the seeds. The stock has been put into the hands of Messrs. Haage and Schmidt, of Erfurt. It is one of the discoveries of Mr. Albert Regel in the Thian-Schan district. Another Chorispora, *C. iberica*, has been found with double flowers. It is a wild specimen from Armenia, and even in the dried state bears evidence that it must be a very beautiful plant when growing.

— The Sonchus japonicus, *alias* Erythrochæte palmatifida, is one of the most striking of ornamental Composites. Grown as a specimen plant on a lawn, or in a conspicuous place in the mixed border, it would make a fine object. The handsome, palmatifid root-leaves have long petioles, and the stout scapes, which are about 4 ft. high, bear lax panicles of large golden-yellow heads, sometimes as many as eight or ten on a single scape. This Japanese perennial requires a good rich soil, and a rather moist position for its full and vigorous development.

— The Sciadopitys verticillata, or Umbrella Pine of Japan, according to a writer in the *Journal of Forestry*, produced two cones last year and three this, at Ardinglass, but the seeds proved to be unripe.

— The now well-known Berberis stenophylla is a very free-flowering elegant-habited shrub, raised and sent out some years ago by Messrs. Fisher, Holmes, and Co., of Sheffield. It is a veritable hybrid between B. empetrifolia and B. Darwinii, both very desirable species, but surpassed by the hybrid offspring. From this hybrid Berberry, hundreds of seedlings have been raised, which show, one would venture to think, every possible intermediate condition between the grand-parents, some being more like empetrifolia, others more like Darwinii, and there are countless *nuances* between them. A better illustration of the dissociation of hybrid characters, as descanted on so learnedly by M. Naudin, could hardly be wished.

— It has been well observed that too little use is made of the Purple Beech in ornamental planting. The beech is the most adaptable of all trees, and will submit to any amount of control, as an illustration of which our beech-hedges may be cited. Why, it is asked, should not the beautifully coloured purple beech be used freely in the bush form in the front of shrubberies, or as a foreground plant, as single specimens or in masses? It could be easily kept to any height or any form, and numerous associations will readily suggest themselves where brilliant contrasts might be easily obtained. "In fact," observes the writer, "I see no reason why it could not be used in the flower-

garden, either as a permanent plant, or as a portable pot specimen; and I have in my eye the bushes, pillars, pyramids, and round-headed standards of the future, giving new features just where they are wanted."

— THE most interesting of the SARRACENIAS at GLASNEVIN are the two remarkable hybrids raised by the late Dr. Moore. The first of these, probably the first hybrid Sarracenia raised [*S. Moorei*], was the result of a cross between *S. flava* and *S. Drummondii*; partaking in a very remarkable manner of the aspect and proportions of both parents, it is in all respects superior to either. The more recent acquisition with which Glasnevin is to be credited has for its parents *S. flava* and *S. rubra*, the former being the female or seed-bearing parent, the latter the male or polliniferous parent. Here, too, as in the foregoing, the participation of the characters of the parents is very striking and interesting, whether we regard the size and form of the pitchers, the length of the scape, or the size and colour of the flowers.

— MR. ANDERSON-HENRY recommends the PROPAGATION OF PRIMULAS by means of cuttings of their roots. He writes:—"I have observed means by which Primulas may be propagated to any extent, and it strikes me that if it is unknown it might be worth communicating. I had raised from seeds sent me from Ladak and Kashmir a great many of the tribe, and as I could not accommodate them under glass, I caused them to be planted out in beds. They were of the P. denticulata type, and principally, I believe, the true P. purpurea. After having stood the winter, and having occasion for the beds last spring, I had them dug up and removed. I filled up their space with other plants more prized, and amongst these I now find the Primulas coming up like weeds. I find in digging them up that fibrous roots had been cut off, and from these spring the numerous progeny I now have to remove as weeds."

— THE KNIPHOFIA CARNOSA, M. Max Leitchlin states, is a unique plant, different in shape and habit from the other species. It is a native of Abyssinia, and was sent to Europe by Schimper. It forms several low spreading leaf rosettes, from the midst of which rise the flower-stalks to the height of one foot, producing a completely cylindrical flower-spike about 3 in. long and 1½ in. broad; but the comparative smallness of the flowers is compensated for by their glowing apricot-colour, which is made still brighter by the protruding bright yellow anthers, laden with pollen. It is a lovely and striking autumn plant.

— AT Cardiff Castle, as we learn from the *Journal of Horticulture*, Mr. Pettigrew has adopted a somewhat novel system of MELON-CULTURE, the principal feature in which appears to be that of supplying the plants liberally with water at all stages of their growth, so as to keep them in a growing and bearing state as long as possible, instead of withholding water at the root and keeping a drier atmosphere as the earlier fruits approach maturity. The experience of the past eighteen years has, he says, proved that the dying-off system was a mistake. "I never allow the plants to suffer for want of water at any time, nor withhold syringing, no matter what state of ripeness the fruit is in, and I have seldom had cracked or a badly flavoured fruit. With plants grown in a house, and trained on a trellis and treated liberally, I have no difficulty in obtaining fruit for a long season in succession in the same way, and with no more trouble than with cucumbers. As the plants grow older they produce fruit more freely, so that I have generally to thin them out, and it is seldom that there are less than from six to eight fruits on a plant, in different stages of growth."

In Memoriam.

— MR. GEORGE ROLLISSON died at Grove Villas, Balham, on December 15th, in his 80th year. His death was a happy release from a state of paralysis, in which he had been lying unconscious for the long period of fourteen years—long enough, fortunately, for him to have remained ignorant of the recent break-up of the establishment of which he had been one of the chiefs, and which at one time had a great reputation for the raising of new and valuable varieties of Heaths, for the introduction and cultivation of orchids, and the importation and dissemination of new plants. He was esteemed for his amiable, kind-hearted, and generous disposition, and his memory will be feelingly cherished by all those who knew him.

— MR. JOHN HALLY died at Arundel on December 21st, in his 81st year. He carried on business for many years at the Blackheath Nursery, and was well known as a grower of Camellias, Pelargoniums, &c.; Monarch and Mrs. Hally amongst the former, and Aurora, Blackheath Beauty, Adonis, &c., amongst the latter, being some of his productions. Blackheath Beauty and Adonis were selected for First-class Certificates at the Chiswick trials in 1860-1. He was a member of the National Floricultural Society, an active floral body, which was the precursor of the Royal Horticultural Society's Floral Committee.

— MR. JOHN GRIER, of Ambleside, Westmoreland, died on December 20th, in his 73rd year. He was a well-known nurseryman in the Lake District.

— MR. THOMAS STANSFIELD, of Tanshelf Nursery, Pontefract, died on December 30th, at the age of 53 years. He was long an active member of the firm of A. Stansfield and Sons, of Todmorden, one of the nursery establishments in which the cultivation of British and exotic Ferns was taken up many years ago in good earnest; and had a thorough knowledge of these plants, and a wide-spread acquaintance with fern-lovers. For many years he acted as Secretary to the Todmorden Botanical Society, and took an active part in its meetings. His extensive scientific and practical knowledge, and his happy and often humorous manner of communicating it, together with his genial disposition, endeared him to those who associated with him, and by whom his smiling, cheerful countenance will not soon be forgotten.

— MR. R. NEAL died on January 1st, at the age of 80 years. He was the founder of the Wandsworth Nurseries, and, as a large contractor for ground-work, had much to do with the formation of the West-End London squares.

Amaryllis Mrs Baker.

H. Fitch del.

P. De Pannemaeker chromolith. (Gand) Belgique

AMARYLLIS (HIPPEASTRUM) MRS. BAKER.

[Plate 509.]

WITH REFERENCE to the accompanying figure, in which Mr. Fitch has by no means 'over-painted the lily,' will show that in awarding this splendid new variety of *Amaryllis* or *Hippeastrum* a First-class Certificate in March last, the Floral Committee had a very easy task before them—its merits being sufficiently obvious at the first glance, and needing no close scrutiny for their discovery. We believe it would be no excessive encomium to say of this novelty, that it is the finest variety of the *Hippeastrum* section ever raised, whether the very large size or the brilliant colour of its flowers be taken into consideration. The fortunate raiser was Mr. G. Baker, gardener to E. C. Baring, Esq., at Coombe Bank, Surrey. The plant was shown at South Kensington, on the occasion alluded to above, by the Messrs. Veitch and Sons, of Chelsea, by whom, we believe, it has been acquired, and to whom we are indebted for the opportunity of figuring it.

When we state that the flowers are as much as seven inches across, and of a bright blood-crimson, and that the perianth is well expanded, with the segments proportionately broad, and when we add to these high qualities the additional merits that the substance of the flower is stout, and the colour is dense and glowing, it will be evident that in the variety we now illustrate a very high degree of perfection has been reached, and on the production of which Mr. Baker may certainly be warmly congratulated.—T. Moore.

LES ORCHIDÉES.*

THIS new work on Tropical Orchids, which is dedicated, by permission, to her Majesty the Queen of the Belgians, forms a fitting companion to the elegant volume on Palms, by M. Oswald de Kerchove de Denterghem, which was issued by M. Rothschild in 1878, and was appropriately dedicated to his Majesty Leopold II. The two books may be regarded as companion works, the one illustrating the power and majesty and the other the grace and elegance of the tropical forests. Both volumes are beautifully printed, and profusely illustrated with woodcuts and coloured plates; and though doubtless less perfect in their contents than would be expected in a monograph of these particular subjects, they nevertheless afford a very pleasant and entertaining general view of the Orchids and Palms respectively, and thus meet the wants of that large class of amateur cultivators who desire to know something of the peculiarity of these favourite plants—the aristocracy of the vegetable world. In order to show the plan on which the book is designed, we must glance through its well-filled pages, and note the leading subjects to which the author has turned his attention:—

The text of *Les Orchidées* is divided into three parts, the first of which is devoted to the matters included under the headings of history, botany, and cultivation. Chapter 1 notes the ancient history of the family, and the singular properties ascribed to the plants, in the course of which the collection and preparation of Salep and the cultivation of Vanilla come in for a share of attention. The modern history of the family is then traced, commencing with Linnæus and Jussieu, to whom very few exotic species were known; and passing on to the early part of the present century, when peace being established in Europe, and the various countries of the world rendered accessible to travellers, a rapid augmentation of the number of known species soon became apparent, thanks to the efforts of various travellers, including Humboldt and Bonpland, Wallich, Forbes, Blume, Galeotti, Van Houtte, Linden, Funck, Ghiesbreght, Libon, Schlim, Warscewicz, Gibson, Skinner, Lobb, Low, Porte, Ellis, and others, who have more or less contributed to our knowledge of the family, and latterly especially to the augmentation of our cultivated collections, until the indigenee of our forefathers has become changed into a veritable opulenee. Towards the middle of the present century, the number of known species was estimated at 3,000, a large per-centage of which had been critically examined and classified or originally characterised by our own great orchidologist, Lindley. Since then, the introduction of new species has gone on still more vigorously, and the mantle of chief orchidologist has fallen on the shoulders of Professor Reichenbach. The author of *Les Orchidées* estimates the number of tropical species now cultivated in European gardens at from 1,200 to 1,500, out of the 4,000 already characterised by botanists, and of the 6,000 which he sets down as the probable muster-roll of the entire family.

Chapter 2 is devoted to a description of the organs of orchids, which present certain peculiarities, a knowledge of which is indispensable to the acquisi-

* *Les Orchidées; Histoire Iconographique, Organographie, Classification, Géographie, Collections, Commerce, Emploi, Culture, avec une Revue Descriptive des Espèces Cultivées en Europe.* Ouvrage orné de 244 Vignettes, et de 50 Chromolithographies, dessinées d'après Nature, sous la direction de M. Leroy, dans les Serres de M. Guibert. By E. de Puydt, Président de la Société des Sciences, des Arts, et des Lettres du Hainaut, Secrétaire de la Société Royale d'Horticulture de Mons, &c. Paris: J. Rothschild, 13 Rue des Saints-Pères.

tion of a familiar acquaintance with these singular plants. The stems, leaves, and roots, the pseudobulbs and tubercules, the individual flowers and collective inflorescence, the sepals, petals, and labellum, the column pollen-masses and stigmatic cavity, and the dehiscent fruits of various form, including the lengthened pods of vanilla, are all fully and clearly explained, and illustrated by a series of excellent woodcuts, which perhaps do more than even the lucid text towards giving the reader a clear apprehension of the nature of the several organs. To this follows a sketch of the botanical classification, in which the several tribes are characterised, and the cultivated genera included in each are mentioned. The remainder of this interesting chapter is devoted to the question of the variability of the species; their hybridism, natural and artificial, and to the curious phenomena of dimorphism and polymorphism. It is observed that M. Roezl has discovered, in Mexico, a double-flowered *Odontoglossum*, and this gives an opportunity to speculate on the possibility at some future day of double-flowered orchids coming into fashion, to the exclusion of the single forms, which are now considered so charmingly grotesque. The curious subject of dimorphism is illustrated by the case of *Vanda Lowii*, which is compared with that of *Cytisus Adami*, being regarded as another example of incomplete hybridisation, in which the dissociation of the forms have an inexplicable constancy. Another case mentioned is the dimorphism of the *Catasetum*, the evidence of which is as follows:—A cultivated plant of *Monachanthus viridis*, after bearing a spike of normal flowers, produced, two months later, a spike of *Catasetum tridentatum*; while Schomburgk discovered in Guiana a plant of *Monachanthus viridis* on which was a flower-spike bearing six blossoms of the *Monachanthus*, and two of *Myanthus barbatus*. These, and other observed facts of a similar character, have served to show that the supposed distinct genera, *Monachanthus* and *Myanthus*, are but variations—erratic and unaccountable—of the original *Catasetum*. Again, in the genus *Cycnoches*, a similar case of dimorphism has been observed, one pseudobulb having borne two stalks, one of which produced the vanilla-scented flowers of *Cycnoches Loddigesii*, the other the scentless flowers of *C. cucullatum*. Similar phenomena have been observed in the genera *Vanda*, *Ionopsis*, *Oncidium*, and *Odontoglossum*. Taking into account the many vagaries of this kind which have been observed in the various organs of orchids, the author throws out the idea that this family is of recent creation, and has possibly not yet acquired fixity of character.

Chapter 3 relates to the geographical distribution of the natural order, which is important to the orchid-grower, from the cultural point of view, and which is noticed in considerable detail under several sub-heads.

Chapter 4 is devoted to studies of climatology, and closes with some judicious remarks on the importance of observing and being guided by natural conditions. It is, remarks the author, a law of nature that every plant is organised to live in a given climate, and that if it is transported to another notably different it undergoes sensible modifications in its development; and these increase, as the conditions depart further from the mean, until the original character becomes lost. It results from this, that if we wish to cultivate a plant belonging to a climate other than ours, we ought, by suitable means, to supply it with the equivalent of air, light, heat, moisture, and assimilable food which it finds under its native sky, as nearly as we can do so. The means which are at our disposal to accomplish this leave yet, and probably always will leave, much to be desired. We are able to create an artificial soil and modify its composition according to the presumed wants of the plants; we are able to distribute the requisite moisture to the roots, and to vaporise it so as to moisten the atmosphere, at least in our closed houses; we produce the necessary heat without difficulty; but the air, and especially the light, are elements whose regulation is beyond our control. The air is not always pure and wholesome, especially in towns, and a vitiated atmosphere is even more injurious to plants than to man, especially to mountain plants; the exterior air is also almost always too dry for Orchids. As to the light, we have on the one hand nothing to make up for the deficiency of that supplied by the sun which we experience during at least three months of the winter season; nor on the other, is it by any means easy to moderate justly that which he gives us in excess during the long days of summer. Thus, when we are told that to cultivate well, we must in all things and all ways imitate Nature, while we are compelled to recognise the excellence of the precept, we must also admit the impossibility of its exact application. The plants must accommodate themselves to the conditions we have to give, and do without the rest.

Chapter 5 refers to the collecting of the plants in their native countries, and their treatment in our hot-houses when newly imported, which is a very critical period, as they often reach Europe in a most exhausted condition. The plants, says M. de Puydt, should be unpacked away from the orchid-house, so that we may not unwittingly bring in any fresh exotic insect enemies which may have insinuated themselves amongst the packing materials. They should first be cleared of all rotten and withered parts—leaves, roots, &c.—the dead stems, rhizomes, or pseudobulbs being cut neatly off up to the living parts, and the remaining portions should be afterwards washed with clean tepid water, carefully avoiding to damage the reproductive buds or to break the living roots. This washing not only secures neatness, but aids the respiration of the plants, and clears them of parasites. They are then to be placed in a house or pit, the heat of which is rather below than above that necessary for their normal growth, and there spread out on a thin bed of dry moss, being shaded if necessary. These first stages require patience; they must come gradually out of this forced repose, and produce their buds and roots. To hasten this result by over-excitement would ruin all. After a few days—more or less, according as the plants may have arrived in a sound or damaged condition—they may be lightly syringed, and the syringing, together with air, light, and heat, may be increased in the case of those which begin to grow, when they may be subjected to the normal conditions, except that the waterings must always be moderate until they are sufficiently provided with new roots.

Chapter 6 is devoted to a description of the structures in which the culture of the plants is carried on, the mode of heating, and such cultural matters as soils, composts, and manures. In reference to the latter, M. de Puydt remarks that orchids, even epiphytes, do not depart from the general plan of Nature, but take nourishment like other plants; when, therefore, the assimilable matters within their reach are insufficient, it must be possible and essential to supply them artificially. The distribution of the various genera in the houses appropriated to them, according to the temperature to be maintained, is discussed at length; and here the treatment of cool-house orchids comes in for its due share

of attention. The question of the atmospheric humidity to be maintained in orchid-houses is also included in this chapter.

Chapter 7 tells of the diseases which beset this group of plants, and the remedies to be adopted; and also of the enemies which prey upon them, and the means of preventing their attacks. Chapter 8 relates to specialities of treatment, including their cultivation in the living-room, and for exhibition purposes. This concludes the first portion.

The second part of the work is taken up by a "descriptive review" of the orchids cultivated in Europe, arranged alphabetically under their generic names. This section, which occupies about 70 pages, would very well bear further elaboration. It would be useful to most of those who are likely to require a book of this kind, to have before them some indication of the tangible distinctions between the different genera, and more especially between the various species, where these are numerous. A synoptical table of the species of each genus, constructed so as to bring out some of the leading characteristics of which cultivators would like to be informed, would very much improve this division of the book, and should it reach, as we hope it may do, another edition, the author would do well to supply it.

The third part consists of fifty chromolithographs, arranged in alphabetical order, each being accompanied by a page of letterpress, giving a brief popular description of the species figured, and sometimes noting a few of the more popular of its allies. The plates are, on the whole, fairly well done; some are very good, a few rather weak and faulty in the colouring, but generally recognisable as portraits of the respective species. The chief objection we see to them is that a number of them are reduced from the natural size, this being evidently done to bring the whole plant within the scope of the page. This mode of portraiture is, however, deceptive, notwithstanding that the proportions of the figure may be clearly marked, for the difference in a reduced coloured figure is never fully appreciated, as it is in a woodcut, and the consequence is that a lower estimate is formed of the merit of the plant so represented than is really due to it. There is this to be said, however, in favour of the plan, that it accords with that of what may be considered as the companion volume, *Les Palmiers*.

It will be seen from this summary of the contents of *Les Orchidées*, that it forms a very important contribution to the literature of cultivated orchids. We know of no one publication which goes so fully into the whole subject, and though there are, as we have said, some features which we should have preferred to have seen amplified, there is a full return, in text, in woodcuts, and in coloured illustrations, for the cost of the book. The publisher must certainly be congratulated on having produced so handsome a volume, at so reasonable a price; and the author may equally be congratulated on having taken so firm a grasp of his subject, as to have brought together and elaborated so much information of interest and importance to the collectors and cultivators of orchidaceous plants.—T. Moore.

CHOICE WINTER FLOWERS.

THE following few plants in flower just now (January) are worth the reminder that they are in their full beauty, and that it is worth any one's while to have them in his collection. *Lælia superbiens* is majesty itself; it commands admiration, and is certainly one of the finest orchids in cultivation. It does best in a light, cool house, in pots of charcoal, surfaced with sphagnum. Five spikes of it in flower, 12-14 flowers on a spike, decorate nearly an entire house.

Rhododendron Princess Royal commenced flowering in October, and will continue to bloom on for another month and more. This is a lovely pink Rhododendron, and the fact of its flowering in the dullest months of the year, without any but ordinary culture, stamps it as a most valuable and serviceable plant. It has a rounded, robust habit, and grows and flowers in a matter-of-fact manner, without aid or guidance.

The major variety of *Odontoglossum pulchellum* is another January beauty, purity itself, with its arched white spikes of sweet-scented flowers 15 in. long. The largest number of flowers we have had on one spike this year was fourteen, each quite an inch in diameter. If there is one plant more than another with which one is in danger of falling in love with, it is this gem.

My eye rests on another plant—*Rogiera gratissima*—which is always in flower, always beautiful, and contented in a temperate heat; in a planted-out condition, it gives any quantity of laurustinus-like pink flowers, of which no one would become tired.—H. K., *Tweedside*.

PEAR PROGENITORS.

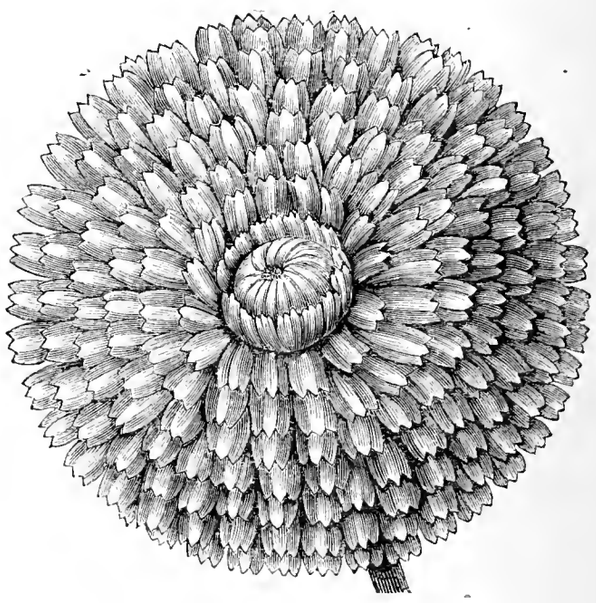
IN the course of a series of lectures published some short time since by the late Professor Karl Koch, the origin of our various fruits is one of the subjects treated on. The learned and travelled professor, in these lectures, mentions six species of *Pyrus* as the progenitors of our cultivated pears, namely, *Pyrus sinensis*, of Desfontaine, from China and Japan; *P. cordata*, of Desvaux, from France, &c.; *P. Achras*, of Gærtner, from the steppes of Southern Russia, and naturalised in France and Germany; *P. Sinai*, of Desfontaine, from Syria; *P. elæagrifolia*, of Pallas, from north-east Asia Minor; and *P. salicifolia* of the younger

Linnæus, from the Caucasus. Linnæus united all the Pears, both wild and cultivated, under the name of *P. communis*, and this name we employ now for the cultivated varieties collectively. At Torek, in the northern Caucasus, Pear trees eighty and even a hundred feet high are not rare, with trunks three to four feet in diameter. Siebold introduced into the botanic garden at Leyden eight varieties of Japanese cultivated Pears, differing widely in size, shape, flavour, and time of ripening.

As a species, *P. sinensis* is distinguished by its rather large ovate, or nearly round leaves, which are abruptly narrowed into a short point, and furnished with bristle-pointed teeth; in the spring, when they unfold, they are of a brownish red. In Germany it is planted for ornamental purposes, but it has not yet borne either flowers or fruit. *P. cordata* is said to occur in Persia, but Professor Koch thinks the Persian tree is probably *P. Achras*. The latter must have originally existed in the steppes of Southern Russia, especially in the country of the Don Cossacks, for so far back as history goes the pear-tree has played an important part in the customs of the people; with them, it is the sign of grief. It is likewise held in high esteem in their festivals, especially at Whitsuntide; and it is under a pear-tree that the annual custom takes place of making the most beautiful maiden the queen for the ensuing year. *P. Balansæ* of Decaisne is probably distinct from *P. Achras*, to which Boissier refers it.

P. Sinai is certainly one of the most interesting of Pear trees; it entered largely into the parentage of the early Italian varieties, but it does not appear to have been introduced into France till towards the end of the last century. The area of its distribution in a wild state is not known with certainty; it certainly is indigenous in Syria, and perhaps also in northern Babylon or Assyria, which was formerly a Persian province, but it is doubtful whether it extends to Persia proper. This species was probably carried by the Phœnicians from Syria to lower Italy and Sicily, as well as *Rosa damascena*, before Homer's time. *P. syriaca* and *P. glabra*, of Boissier, together with the *P. Boveana*, of Decaisne, are varieties of *P. Sinai*, but Decaisne's *P. Bourgeana* seems rather to belong to *P. Achras*.

P. elæagrifolia (not "elæagnifolia," as sometimes written) has played an important part in originating garden varieties. *P. Kotschyana* of Boissier is an Oriental variety, with very woolly leaves, and a large, round fruit. It is uncertain whether *P. salicifolia*, which is a very ornamental species, has contributed to the production of cultivated varieties; but it is the *Achras* of Theophrastus and other early writers, and is still very widely dispersed in Greece.



THE METEOR MARIGOLD.

THE Pot Marigold, *Calendula officinalis*, is one of the oldest of our garden annuals, having been introduced from the south of Europe in or about 1573. It is also one of the most brilliant, its rich orange-coloured flowers and its profuse and continuous-flowering habit rendering it attractive for a long period. The so-called double form of this plant—that is to say, the form in which the whole of the florets become ligulate and the "flower" thus becomes a perfect rosette—is far superior in beauty to the original or typical form, and is probably unequalled for symmetry of outline and arrangement, and it is, accordingly, esteemed by those who possess it. The normal colour is, as we have said, a rich deep orange, but occasionally a yellow-flowered plant appears.

Now it is apparently from the blending of these two forms—the orange and the yellow—that the beautiful new variety illustrated by the annexed engraving has originated. In it, as will be seen by the figure, each of the ligulate florets—which are laid out with the strictest regularity from edge to eye—has a yellow

stripe down the centre and a broad border of orange on each side of it, so that the flower-head, in which the orange-colour predominates, is distinctly and evenly striped with yellow throughout. The result is one of the most beautiful garden flowers that can be imagined, and which, being a free-growing hardy annual, may be regarded as one of the group of everybody's flowers.

How far the variety has become one of fixed character, we know not. It was exhibited at South Kensington last summer both by Messrs. Haage and Schmidt and Mr. R. Dean; but owing probably to some doubt upon this point, it was not certificated. It is being generally offered for sale this season, and those who are fond of flowers of this class would do well to give it a trial, and to select the most perfect flowers only to bear the seeds to be sown another season. In this way, doubtless, like most other similar sports, it may at length become fixed in character, if the work of elimination has not already been carried sufficiently far. The plant is known in the seed shops as the *Calendula officinalis var. Meteor*, which, horticulturally translated, means the Meteor Pot Marigold.—T. Moore.

THE HOLLYHOCK.

THERE is just now a marked scarcity of plants of good Hollyhocks. The disease did its part for several years to woefully thin their ranks; while the two past seasons have been most unfavourable to the production of seed. It is not too much to state that very little indeed, if any, seed of good Hollyhocks was saved in this country in the summer and autumn of 1879.

I paid a visit to that home of the Hollyhock, Mr. William Chater's Nursery, at Saffron Walden, about the end of last summer, and found that he was fortunate enough to have saved a fair quantity of seed in 1877, which had given him a large batch of seedling plants, very many of them true to the sort from which seed was obtained, with large flowers as full and as richly coloured as the parents. In addition, there were a large number of unbloomed seedlings, also from seed of the finest varieties; and these Mr. Chater sells at a moderate figure. I know by experience that many of them produce flowers of a highly satisfactory character.

Anyone desirous of cultivating the Hollyhock, and at the same time in want of plants to grow, could not do better than obtain some of these seedling plants from Mr. Chater in order to start well in their cultural career. The plants are of a good stock, they are free from any taint of the dread disease, and being seedlings, they are free from any suspicion of inherent weakness brought on through the strain induced by propagation from eyes or cuttings, and would, in fact, possess a vigorous constitution. The good flowers could be marked and propagated in the usual way; the indifferent ones rejected. Further, some seed could, no doubt, be had from the finest varieties, and it might fall to the lot of the cultivator to raise some valuable and acceptable novelty.

March and April are the months in which to plant out Hollyhocks. They thrive best in good old garden soil, well trenched to the depth of two feet, with plenty of well-rotted manure worked deeply into it. The soil should be trodden firmly about the plants, but, so soon as a good free growth commences, should be kept stirred on the surface, and well mulched with manure when hot weather sets in. If manure has to be dispensed with, some guano-water, administered twice a week, will be found of great advantage; but in pouring it on the soil, it should not touch the stems of the plants. Stakes about five feet in height are requisite; these should be put to the plants before they get too high, the latter well secured to them, and then they will grow upright, and display their flowers to the best advantage.—R. Dean, *Ealing, W.*

THE ARAMON GRAPE.

I HAVE fruited the Aramon for four successive years, and have formed but a low estimate of its merits; indeed, I consider it a very inferior variety. From what I had read about this grape, I was induced, when planting two vineries, a few years since, to plant a vine of this sort; and I found, when the vines fruited, that one that had been sent to me for General della Marmora proved to be Aramon, so that I had two of them; and as they were of an inferior sort, the circumstance was annoying, particularly as the one I had for General della Marmora was in an early house.

On this vine I have inarched Foster's White Seedling, which is now a good cane, and promises to do well. Both of the vines grow remarkably strong and vigorous. The third year after planting, they were allowed to bear some fruit; on that in the early house I left a light crop, on the other a fair crop. I found that to ripen them, they took the greatest length of time and the most fire-heat of any kind I know. Further, they never coloured to my satisfaction: even the one in the early house, though last year only allowed to bear a light crop, did not colour satisfactorily. When ripe, there is nothing fine or showy about the bunches. It has only one property to recommend it, and that is, it hangs for a long time after it is ripe. It is a grape that will soon pass into oblivion, as few people would care to grow an inferior sort, when there are so many good kinds to be had.—M. SAUL, *Stourton, Yorkshire.*

ADIANTUM AMABILE FOR HANGING BASKETS.

PERMIT me to draw the attention of your Fern-loving readers to the merits of the above-named *Adiantum* as a basket Fern, for which purpose we find it answer admirably; its long drooping fronds being in this way seen to much better advantage than when grown in pots. The basket from which the accompanying photograph [a very elegant example] was taken, was filled last October, which month we find the best for planting any kinds of Ferns or Lycopods in baskets, as they have then time to get partially established before the sun gets much power in spring, and, as is well known, the atmosphere in all temperate ferneries and stoves is at that time more equably charged with moisture than at any other time.

The baskets we use are semicircular in shape, and made of small galvanised wire. They are 15 in. in diameter at the top, and about 7 in. deep in the centre. The compost is made up of three parts good fibry peat to one part good leaf-soil, with a sprinkling of coarse Bedford sand. This suits the finer kinds —such as *Adiantum amabile*—well, but for some of the stronger-growing varieties, such as *Polypodium aureum*, we find one part good yellow loam to be of advantage.

In filling the baskets we first procure some toughish moss from under the trees or any shady place in the woods, and pack this close to the wires, planting small pieces of the fern about 6 in. apart all round, and pressing the compost firmly in until the basket is full; we then place a larger piece in the centre of the basket, give the whole a gentle washing with a small-rosed water-can, and hang them up in their places. In some cases, we put in plants of *Adiantum setulosum*, thinking that *Adiantum amabile* might not grow sufficiently well to completely cover the basket. We now find this to have been a mistake; as one basket since filled with that variety alone, and only using one good plant in the centre, is now a perfect mass of lovely pendulous fronds. It has thrown out its creeping rhizomes all over the outside of the basket.—H. J. Clayton, *Grimston Park Gardens, Tadcaster.*

VINES AND VINE-CULTURE.

Chap. XVIII.—The Varieties of Grapes. *(Continued.)*

THE descriptions of the several varieties of Grapes included in the synoptical table already published (1879, page 162-3), and of the historical and cultural notes proposed to be added, are here continued from page 21.

Auvergne Frontignan (61).—A round white Muscat Grape. — *Synonyms:* Early Auvergne Frontignan, Muscat Eugenien, Muscat de Puy de Dôme.

Vine.—Growth free and vigorous, and always ripening well; very fruitful.

Fruit.—Bunches medium-sized, rather long and cylindrical in shape, closely set. *Berries* small, round. *Skin* clear white, a great portion of the berries becoming of a deep amber, and when so extremely rich and pleasant, with a strong Muscat aroma, the flesh crisp and juicy.

History.—This is one of the many introductions of the late Mr. Thomas Rivers, and was much esteemed by him.

Cultural Notes.—Succeeds well for pot-culture, and in orchard-houses, or on open walls.

Season.—Early.

Merits.—First-class as to flavour, and suitable for cultivation as an early, high-flavoured grape.

Bicane (12).—An oval white Sweetwater Grape.—*Synonym:* Vicane.

Vine.—Growth moderately strong, the wood short-jointed, with rather prominent buds, light-coloured, ripening freely, and moderately fruitful. *Leaves* medium-sized, covered on the under surface with a light, thick down.

Fruit.—Bunches medium-sized, compact, or rather short, with broad shoulders, somewhat shy-setting. *Footstalk* short, stout. *Berries* medium-sized, roundish-oval. *Skin* thin and tender, white, almost transparent, with a thin bloom. *Flesh* tender, very juicy, with a sweet, pleasant flavour.

History.—Received at Chiswick from the late M. A. Papeleu, nurseryman, Wetteren, Ghent. It fruited in 1861-62, and was very favourably reported on by Dr. Hogg at the time, as it thoroughly deserved to be. It has, however, somehow been lost, and awaits reintroduction. The *Pansé jaune*, a large, coarse grape, is frequently, but erroneously, called *Bicane* on the Continent, as I have been informed.

Cultural Notes.—It will succeed admirably in any house suitable for Black Hamburgh.

Season.—Early.

Merits.—A first-class early white grape, well worthy of cultivation.

Black Alicante.—A synonym of the Alicante: which see.

Black Bordeaux (6).—A round black Sweetwater Grape.—*Synonym:* Early Black Bordeaux.

Vine.—Growth moderately vigorous and very fruitful.

Fruit.—Bunches medium-sized, closely set. *Berries* small, or under medium size, round. *Skin* rather thick, quite black, and covered with a thick bloom. *Flesh* tender and juicy, sweet, but with no particular or marked flavour. It greatly resembles small examples of Black Hamburgh.

History, &c.—Only cultivated in this country in large collections, as an early free-fruiting variety.

Season.—Early; ripening several weeks in advance of Black Hamburgh in the same position.

Merits.—Third-rate.

Black Corinth (9).—A round black Sweetwater Grape.—*Synonyms:* The Currant Grape, Zante Currant, Patras Currant, Corinthe noire.

Vine.—Moderately robust and vigorous, matures well, and is very fruitful.

Fruit.—Bunches from four to six or eight inches long, tapering, with long, loose shoulders. *Stalks* slender. *Berries* very small, about the size of peas, round. *Skin* purplish-red. *Flesh* juicy, sweet, and pleasant, and without seeds.

History, &c.—This is the Grape producing the Currants of commerce, "currant" being here a corruption of "Corinth," the berries resembling those of our Currants in size, &c. This Grape is very extensively cultivated in the Morea, Greece, and the Ionian Islands, but more especially in the districts of Zante, Corinth, and near the town of Patras, from whence as much as 75,000 tons of the dried fruit have been exported in one season.

The vines are grown as low bushes, the crop ripening in succession from the first shoots, and the laterals, which also bear. This fruit, after being gathered, was formerly spread out on a specially smoothed plot of ground to dry, in which process the berries dropped from the stalks—which sufficiently accounts for the small stones and grit formerly so often found amongst Currants, and for the necessity for washing them. Now, as we learn from Mr. Maw, of Broseley, the better cultivators use flat wooden trays for drying the fruit, so that it is kept quite clean. Currants have long been used in this country, Sir Walter Raleigh, in the reign of Queen Elizabeth, having a monopoly in their importation. The Corinth Grape, although generally seedless, sometimes produces full-sized large berries with seeds—reverting to the Grape, as it were. Cultivation seems to tend to this, as in many districts, notably at Leghorn, its cultivation had to be abandoned, on account of that tendency.

Cultural Notes.—This Grape is only grown as a curiosity in this country; will succeed in a Black Hamburgh-house, grown in a large pot or box. At Chiswick, it has fruited frequently.

Season.—Early.

Merits.—Quality, second-rate. Very interesting to cultivate as a curiosity, in contrast with the ordinary varieties.

BLACK FRONTIGNAN (48).—A round black Muscat Grape.—*Synonyms:* Muscat noir ordinaire, Muscat noir.

Vine.—*Growth* moderately strong and vigorous, very free, always ripening freely; very fruitful.

Fruit.—*Bunches* compact, long and cylindrical in shape, frequently with one larger shoulder, closely set. *Berries* below medium size, round. *Skin* thin, of a dull, bluish-black colour, with a thick bloom. *Flesh* firm, might be termed thick, of a reddish tinge, with a strong, rich, muscat flavour.

History, &c.—This is one of the very oldest of our Grapes to be found now in cultivation in old houses, or as an orchard-house or open-air grape. It seems to be confused with the Black Constantia, another old grape, now seldom heard of. I have never been able to discover the distinction between them, if there is any.

Cultural Notes.—Grown now generally as a pot-plant, under which conditions it fruits very freely; also on the open wall, where I have seen it exceedingly fine, and of good quality.

Season.—Early.

Merits.—Quality as to flavour, first-class.

—A. F. BARRON.

THE FANCY POLYANTHUS.

THE large mottled, or what is called the Fancy Polyanthus, is destined to take a leading place in all spring gardens. No plant that I know of can compare with it for hardiness and quantity of flower, nor for beauty and gaiety. The culture is so easy, that it is within the reach of the most humble cottager. Those who missed the first and best chance of sowing the seed should now sow in pans, and place them in a gentle heat. The plants will be ready to prick out in the open ground by the middle of May, where they should be liberally treated with water in dry weather.

The best time, however, to sow the seed is as soon as it is ripe, in a well-prepared bed in the open ground, where it will germinate readily, and the plants will get large enough to stand the winter without injury. If they are planted out in April, or early in May, in rich garden soil, they make plants by the end of summer capable of throwing up from twenty to thirty flower-stems each; and if planted out in the bed about six inches apart, the beds become a perfect mass of flowers and are very attractive. Strong plants flower more or less all the winter. Some beds here that were covered up with snow for a few weeks, turned out very fine for a few days after the snow had melted away, until they were cut up with a scorching frosty wind. They are the first plants to brighten up in fine weather. We have over 3,000 of them in the spring garden. Large beds are always attractive if the plants are good. A few of the very best thrum-eyed flowers should be saved for seed, and the others thrown away and a fresh batch of seedlings got ready, as the seedlings throw up a greater quantity of flowers and are much larger. The colours may be sown separately, as they come pretty true. The most effective beds are those planted with the mottled, white, and yellow varieties separately. —WILLIAM CULVERWELL, *Thorpe Perrow.*

FORGET-ME-NOT.

NOTWITHSTANDING all the modern improvements effected in nomenclature and classification, there are old homely names too dear to our youth to be forgotten, on account of their associations, and none more so than that of the darling blue "Forget-me-not," the scientific name of which is *Myosotis.*

The Forget-me-not, notwithstanding its diminutive size, stands high in sentiment. Planted on the grave of a departed friend, it tells its tale of mourning with its living motto. Moreover, it embodies in its still life a "thing of beauty and a joy for ever," and we learn to mitigate our sorrow in the blessed hope of what is yet to come. Though dark and dim as through a glass are God and truth beheld, yet it is only through this darkness that we behold "the worlds of light we could not see by day." There are lessons to be learnt from

Peach Rivers' Early Silver.

the remembrance of departed friends that fall as avalanches—"words of truth and soberness," and there are very few, indeed, who have not felt the weight of at least one such Forget-me-not.

The Myosote of the marshes (*Myosotis palustris*) has sometimes been the kind of Forget-me-not preferred for planting in gardens, and that of the woods (*M. sylvatica*) for spring bedding; but I would particularly call the attention of all growers of Forget-me-not to *Myosotis dissitiflora*, which is the gem of the genus for the flower-garden. It certainly eclipses all that have gone before it, being dwarf and compact in habit, and of a bright sky-blue colour. "Good wine needs no bush," and the heavenly blue of this plant marks it out for "song, romance, and lay."—ALEX. FORSYTH.

THE EARLY SILVER PEACH.

[PLATE 510.]

OUR kind friend, the Rev. W. F. Radclyffe, was good enough to send us the sample of this fine Peach, which Mr. Fitch has faithfully portrayed in the accompanying plate, and with it the following note:—

"'Fruit very large, ovate, or roundish-ovate, and sometimes terminated by a nipple at the apex. Skin of a delicate cream-colour, with a slight flush next the sun, which renders it very beautiful. Flesh separating from the stone, white, melting, and very juicy, with a flavour remarkable for its union of the briskness of the White Nectarine with the noyau of the Peach. Flowers large; leaves with kidney-shaped glands. When fully ripe, this is one of the most delicious of all peaches. It ripens from the middle to the end of August [out of doors]; and when forced, it retains its fine racy flavour better than any other kind. This delicious Peach was raised by Mr. Rivers in 1859, from seed of the White Nectarine.'

"The above description is that of Dr. Hogg, which I endorse. The specimen sent was grown on a plant under glass without fire-heat, and overshadowed by vine-leaves, so that its fine blush is not so pronounced as it otherwise would have been. Ripe, August 6th. The tree was the gift of kind Mr. Rivers. It had a capital crop, but has not borne till this year, though it has been here for several years. This shows the necessity of patience."

Our own memoranda noted on receipt of the specimens last summer were as follow:—*Size* medium. *Form* roundish-ovate, with a deepish suture, in which at the top is a small mucro. *Skin* pale-cream coloured, with a blush of rosy dots on the sunny side. *Flesh* separating freely, and quite white throughout to the stone, very juicy and melting. *Flavour* excellent, rich, with a brisk aroma. *Leaf-margins* crenate, *glands* reniform.—T. MOORE.

CHOICE HARDY PLANTS
FOR CULTURE IN COLD FRAMES.

THERE is a very large and increasing number of the owners of suburban residences interested in the cultivation of flowers. To many such residences there is attached a small greenhouse, which ought to be a source of much enjoyment to its owner. Very often it does afford much pleasure, but not unfrequently the reverse of this is the case. The house is generally crammed full of bedding plants in winter and spring, with a display of naked stages during the greater part of the year. There ought always to be grown a certain number of bedding plants for the decoration of the flower-garden, but there certainly ought not to be so many "Zonals," Calceolarias, Lobelias, &c., that no room is left in the garden for other flowers. Phloxes, in their season, can scarcely be surpassed for their beauty and perfume; they will grow in any garden. Pinks are now seldom seen in such gardens; and where, oh, where! is the gorgeous Tulip?

I was much pleased to read the remarks of "Z." in last month's FLORIST. I cordially endorse all he says about the beauty of the Auricula, Carnation, and Picotee, and, let me add, the laced Polyanthus. Besides all these, there are a great number of plants that may be grown in cold frames up to the time the bedding plants are removed from the greenhouse, to be placed in that structure when they are either in flower, or considerably advanced towards the flowering stage. I may mention some of the choice species and varieties of *Aquilegia*, which do little good in our own garden, if planted out to remain during the winter; even the robust *A. chrysantha* pines and makes but a feeble attempt to flower, but grown in pots and wintered in cold frames, *A. cærulea*, *A. glandulosa*, *A. alpina*, *A. cærulea hybrida*, and *A. californica hybrida* are well worth the little trouble they require.

Each plant is potted in a 5-in., 6-in., or 7-in. pot; they are merely protected by the glass lights until the end of May, and the plants form a novel, interesting, and very beautiful feature in the greenhouse in June.

Primula amœna and its numerous varieties merely require the shelter of a cold frame during winter and spring, and if space can be afforded them in April and May, they will repay the cultivator for any care he may have bestowed upon them. *Ixias* and *Sparaxis* are perhaps more useful to the owner of a green house than the *Primula amœna*, because they flower later, usually in June. I have been surprised this season to see the amount of frost they will stand with impunity. I had a score or more of pots, each containing from six to a dozen plants; these had grown two or three inches out of the soil before the severe frosts set in; and there they were left, to prove how much they would endure; every particle of soil was frozen as hard as stone again and again, and now the plants are growing quite freely, not being injured in the least. They can be grown in the frames, plenty of air being admitted to them, and then be taken into the greenhouse while in flower. Complaints are sometimes made of Ixias not flowering; the reason of this is that they are taken into the greenhouse, and placed on stages too far from the glass, where they cannot get sufficient air.

Getting out of the range of what may be termed "Florists' Flowers," there are a number of herbaceous plants very beautiful indeed, that may be grown in the open borders under favourable conditions, but those conditions are seldom present, nor can they be created by the owners of suburban gardens. Of the *Anthericum Liliastrum*, the beautiful pure white St. Bruno's Lily, if three good strong crowns are planted in a 6-in. or 7-in. pot in November or December, they will also give us their elegant spikes of delicate flowers in June. Quite of another character is the *Meconopsis nepalensis*, which is beautiful in winter as a foliage plant, but more beautiful still with its erect stems furnished with its primrose-coloured poppy-shaped flowers. *Trillium grandiflorum*, too, should be grown in pots, to flower in the greenhouse in early summer, or it may be forced to flower in April. I have seen this plant, in conjunction with the large-flowering variety of *Helleborus niger*, grown to perfection in Mr. Barlow's garden at Stakehill House, near Manchester. Mr. Barlow is an ardent lover of spring-flowering hardy plants, and grows an immense number of them in pots, under very unfavourable circumstances, owing to the atmosphere being tainted with smoke and chemicals; but he triumphs over every difficulty, and has gained both the gold and silver medals of the Manchester Botanical Society with his plants. I merely allude to Mr. Barlow's garden as exemplifying what can be done near a large city.

Besides the few plants I have named, there are many more that may be grown and flowered perfectly, with very little trouble.—J. Douglas, *Loxford Hall, Ilford, E.*

SOME NOVELTIES OF 1879.

WE continue from page 27 our brief notes on some of the more prominent of the novelties of last year:—

Hardy Trees and Shrubs.

Abies brachyphylla, A. homolepis, A. Mariesii, and A. sachalinensis are all handsome Japanese coniferous trees, which may be expected to prove fine additions to the group of Silver Firs, heretofore called Piceas in this country—a name which the law of priority will prevent them from retaining. These all appear to be meritorious introductions, which we shall estimate the more highly when they show more of their natural form and character.

Æsculus rubicunda Briotii, an ornamental flowering tree, raised by M. Briot, of Versailles, having an attractive inflorescence of bright violet-tinted red blossoms, each marked with an orange-red blotch on its upper lobe.

Hibiscus syriacus cœlestis is one of the most charming of flowering shrubs, and should be planted in every shrubbery. The flowers are of a soft celestial blue, with crimson eye. H. s. totus albus, also a good introduction, has the very abundant flowers pure white; both are of Continental origin.

Syringa vulgaris alba grandiflora.—A very fine pure white, far superior to the old sort. S. Mdlle. Marie Legraye, a splendid form with white flowers fully an inch across; these also are Continental.

Hardy Perennials.

Conandron ramondioides: Mountains of Japan: Gesneraceæ.—A dwarf, tuberous, herbaceous plant, with leafless scapes bearing forked cymes of pinkish flowers, with a subglobose, whitish tube, spotted inside with yellow; of remarkable botanical interest, being a regular-flowered, five-stamened Gesnera; and of horticultural interest, being probably hardy.

Spiræa nivosa: Japan: Rosaceæ.—A pretty plant, with bipinnate leaves, and showy panicles of abundant white flowers.

Dracocephalum Ruyschiana japonicum: Japan: Labiatæ.—A showy herb, with bright blue flowers in dense spike-like heads.

IRIS EULEFELDI: Mountains of Thian-Schan: Iridaceæ.—A pretty dwarf-habited species, with short glaucous ensiform leaves, and pale violet flowers, having bearded outer petals, marked with coppery veins, and contrasting strongly with the erect inner petals, of a coppery-bronze hue.

PRIMULA ROSEA: Kashmir: Primulaceæ.—A gem amongst dwarf hardy species of Primrose, the flowers being of a lively tint of pure rose-carmine.

HARDY BULBS.

CHIONODOXA LUCILIÆ: Asia Minor: Liliaceæ.—A gem of the first water, one of the most charming of spring flowers, humble in habit, but with brilliant blue starry blossoms, which rival those of Scilla sibirica.

GLADIOLUS LEMOINEI: a French hybrid, which comes from G. purpureo-auratus, hardy and pretty, the creamy flowers flushed with salmony red, and handsomely blotched with maroon-crimson and orange, quite differently from those of the ordinary Gladiolus.

TULIPA SCHRENCKII: Central Asia: Liliaceæ.—Resembles T. Gesneriana, the parent of our garden Tulips, but is smaller and more funnel-shaped, the colour crimson, with a yellow base. T. KESSELRINGI has the same relationship, and is also small-flowered, yellow, streaked with purple.

FRITILLARIA BURNATTI: Europe: Liliaceæ.—Allied to our native F. Meleagris, and much like it in marking, but the colours are richer, being a deep lurid brownish-red, closely tesselated with white inside, the outer surface being glaucous.

HARDY ANNUALS.

CHORISPORA GREIGI: Thian-Schan, in Central Asia: Cruciferæ.—A very pretty, simple-looking annual (or biennial), with pinnatifid leaves, and erect racemes of purplish flowers, somewhat like those of a Virginian Stock, the seed-pods of which are prettily torulose; it may possibly become a rival to that popular annual, if it proves equally amenable to cultivation.

ERYTHRÆA VENUSTA: California: Gentianaceæ.—A charming little plant, 8 in. to 10 in. high, dichotomously branched, the branches tipped by showy, star-shaped, rosy-scarlet flowers.

NEMESIA CYNANCHIFOLIA: Natal: Scrophulariaceæ. An erect branching plant, 1 ft. to 2 ft. high, with close, terminal clusters of pretty rich, blue-lilac, two-lipped flowers.

GREENHOUSE PLANTS.

We here include the half-hardy subjects which may be grown outdoors in summer, but require to housed during winter:—

DAHLIA JUAREZII: Mexico: Compositæ.—Not absolutely new, but little known, and very remarkable for its double flower-heads, of a rich crimson colour, and its spreading, pointed florets, which has suggested the name of Cactus Dahlia.

SENECIO SPECIOSUS: South Africa: Compositæ.—First known as S. concolor. A pretty radiate composite, related to Cineraria, which may give rise to a new race of ornamental plants. It has pinnatifidly-lobed, blunt, hairy leaves, and beautiful bright purple radiate flower-heads successionally borne on a corymbosely-branched stem.

LOPEZIA GRANDIFLORA: Mexico: Onagraceæ.—A suffrutescent plant of considerable merit, which has turned up in the French gardens; the many subumbellate heads of lively cherry-red flowers are collected into a showy irregular panicle.

IMANTOPHYLLUM MINIATUM LINDENI.—A Continental garden variety of this beautiful plant, remarkable for the large size of its flowers and flower umbels.

MERYTA SONCHIFOLIA: New Caledonia: Araliaceæ.—A rather nice-looking evergreen shrub, thriving in a cold house, and remarkable for its brown-spotted leaf-stalks, and its lyrately-pinnatisect leaves.

SARRACENIA FORMOSA.—An interesting garden hybrid, between psittacina and variolaris. S. ATROSANGUINEA is a remarkably fine variety of the flava type, but with a rich blood-crimson orifice to the pitchers; S. FLAVA ORNATA, a form in which the deep red venation of the lip of the pitchers is singularly prominent and conspicuous.

PALMS AND CYCADS.

KENTIA MCARTHURI, New Guinea; and CYPHOKENTIA ROBUSTA, New Caledonia; are bold pinnate-leaved species. ASTROCARYUM DECORUM, Columbia; COCOS ELEGANTISSIMUS and CALAMUS DENSUS, are elegant and finely divided pinnate-leaved species. The thick-trunked PHŒNIX CYCADIFOLIA, if not an altogether abnormal growth, is peculiar for its striking resemblance to a Cycad. PRITCHARDIA MACROCARPA, Sandwich Islands; and TRITHRINAX ACANTHOCOMA, Rio Grande, are interesting Fan Palms, the latter especially remarkable for the spinescent sheaths which clothe the dwarfish trunk.

CYCAS PLUMA: India: Cycadaceæ.—A beautiful erect-growing plant, the provisional name of which may need critical rectification.

CERATOZAMIA FUSCO-VIRIDIS: Mexico; Cycadaceæ.—A fine species of distinct and striking character, producing pinnate leaves with lanceolate acuminate leaflets, 6 in. or 7 in. long.

FERNS.

ADIANTUM BAUSEI.—A very interesting garden hybrid, between decorum and trapeziforme, remarkable for its distinct aspect. Its peculiarity is the pendent character of its pinnules, a feature which, in combination with its free and healthy growth, will give it much value for decorative purposes.

ADIANTUM MUNDULUM: Continental Gardens.—A charming little plant raised from cuneatum, differing in its dwarf habit, dense but small flattish fronds, and crowded glaucous green wedge-shaped pinnules; quite a gem in its way.

ASPLENIUM HORRIDUM: South-Sea Islands.—A bold evergreen fern, adapted for ornamental purposes. It has great arching pinnate shaggy-stiped fronds, and requires stove heat and a plentiful water supply for their full development.

POLYSTICHUM VIVIPARUM: West Indies.—An evergreen stove fern of decorative character, having arching fronds, proliferous towards the tip.

POLYPODIUM KRAMERI: Japan.—A very pretty dwarf creeping hardy deciduous species, ranking beside Dryopteris, but perfectly distinct.

DAVALLIA MARIESII (provisionally so named): Japan.—This is a neat hardy evergreen plant, allied to bullata, which, however, is deciduous, and to decora, which, so far as we know, is not hardy, while the present plant continues to grow throughout the winter in a cold frame, and is therefore nearly, if not absolutely, frost-proof.

SELAGINELLA KRAUSSIANA AUREA.—This golden variety of the common garden Clubmoss originated in the North of Scotland, and will prove a remarkably brilliant decorative plant, where the golden hue which it strongly developes can be advantageously introduced.

STOVE PLANTS.

BURBIDGEA NITIDA: Borneo: Zingiberaceæ.—A novelty of considerable botanical interest and floral beauty. The tall clustered stems bear elliptic-lanceolate leaves, and panicles of rich

orange-scarlet flowers, of which the three outer segments are broad and spreading. In Borneo, it grows and flowers for nine months out of the twelve.

Dipladenia carissima: of garden origin: Apocynaceæ.—A charming addition to stove climbers, the delicate blush colour of its large flowers affording a fine contrast with the deeper-coloured varieties.

Hibiscus rosa sinensis schizopetalus: West Africa: Malvaceæ.—A stove shrub, whose flowers grow on long pendent stalks from the leaf-axils, the orange-red petals reflexed and cut deeply into a multitude of fringed segments.

Canistrum eburneum: Brazil: Bromeliaceæ.—In the midst of a rosette of maculate green leaves is set a tuft of short, broad, ivory-white floral leaves surrounding numerous small white clavate flowers, which just fill out the opening.

Croton Evansianus: South-Sea Islands: Euphorbiaceæ.—A distinct and pleasing-looking shrub, with dense subtrilobate leaves, the veins at first yellow, then orange. C. Hawkeri has the middle portion of the leaves yellow, the outsides green, and is distinct and striking. C. Massangeanus, a Continental hybrid, has long, lance-shaped, spreading leaves, and is very showy in its yellow, green, and carmine-rosy colouring. C. roseo-pictus has the pretty rosy tint of Williamsii present in its older leaves, which are obovate and well displayed. C. Burtoni is in the way of Veitchii as to colouration, but with the leaf margins wavy.

Aralia reginæ: New Caledonia: Araliaceæ.—A handsome plant, of erect habit, with palmatifid leaves, divided down to the top of the mottled petiole into about six flat, narrow-pointed, bright green leaflets.

Orchids.

Cymbidium Lowianum: Burmah.—A fine showy species, whose handsomely spreading foliage, and long drooping spikes of strikingly if not gorgeously coloured flowers of a pale olivaceous green, with rich maroon blotch on the yellowish lip, mark it out as a popular subject.

Dendrobium cerinum: Malayan Archipelago.—A showy species, with large ochraceous wax-like flowers, the lip marked with rich brown lines radiating from the base.

Dendrobium micans: a cross between Wardianum and lituiflorum.—It has knotted stems and large pallid flowers with deep purple tips, the lips having also two basal dark Indian-purple spots.

Dendrobium splendidissimum.—A beautiful hybrid, with large cream-coloured flowers shining as if varnished, purple at the tip, the disk of the lip dark Indian-purple, with many radiating lines running out from its base, and covered with velvety hairs.

Pescatorea Gairiana: New Grenada.—A handsome plant, the large showy flowers with deep violet sepals and petals, and a broad rose-coloured lip having a radiating callus covering half its surface. P. Klabochorum has white flowers tipped with chocolate, and an ochre-coloured lip with many small purple spots and a sulphur-yellow callus. P. Lehmanni has the sepals and petals white, densely striped with purple, and the lip deep violet-purple, covered with long bristle-like papillæ on the anterior part, and with a callus at the base.

Pachystoma Thomsonianum: tropical Africa.—A distinct and interesting plant, with clustered roundish pseudobulbs, and two flowered scapes of shining white expanded flowers, with a recurved lip of the brightest and richest purple.

—T. Moore.

HOYA CARNOSA
AS A WALL PLANT.

THIS beautiful stove climber, when grown in pots, with its stems coiled round a balloon-shaped or cylindrical trellis, is too frequently seen to bear a sickly appearance. Now, as plant-stoves are generally overhauled about the present time, and unsightly subjects are discarded, while the necessary potting of others to be grown on is performed, I would strongly recommend that this charming subject, instead of being confined to a pot, should be planted out, and trained against a wall, to which it will adhere by its stem-roots with the persistency of Ivy. I had the opportunity of judging of the advantages of this mode of growing the *Hoya* during the summer of '78; as we had one planted in a box, and trained along the back wall of a three-quarter span melon house, where it enjoyed the full sun, and was well syringed twice a day.

The *Hoya* is a plant that is very impatient of anything approaching stagnation of water at the roots. Therefore, whether it be grown in pots or planted out, good drainage is of the greatest importance. The soil should consist of peat, fibry loam, and silver sand, and to these ingredients broken potsherds and charcoal may with advantage be added sufficient in quantity to keep the whole mass of the compost open. Many growers, I have observed, fall into the error of picking off the old footstalks of the flower umbels, but this should never be done, as it causes the loss of the succeeding blossom they would otherwise produce.—Geo. Potts, Jun., *Epsom*.

EUPATORIUM LIGUSTRINUM.

THE above-named plant [more frequently called *E. Weinmannianum*: see Florist, 1877, p. 28] is of great utility where cut-flowers and decorative plants are required for autumn and winter use. Its white flowers can be used in bouquets and vases with excellent effect, and moreover, they retain their freshness in water longer than many other kinds of flowers. The plant is of easy culture, and if the following remarks be attended to, will well repay the cultivator's attention. Cuttings should be put in in February, in a mixture of half silver-sand, and the other half equal parts of peat and loam; and if placed in a bottom-

heat of 60° to 65° will soon form roots, and in about six weeks will be ready to pot into single pots. The soil to be used should be turfy peat and loam in equal parts, with a liberal sprinkling of silver-sand added. The plants should be placed in a moist atmosphere, near the glass, the temperature of which may range from 50° to 55°; provide good drainage, pot moderately firm, and keep the plants well supplied with water, manure-water being given them twice a week. As they progress in growth pinch out the tops of the shoots, to induce them to form compact and bushy plants, but discontinue stopping by the end of June. About the end of July, if due attention has been paid to them, they will have formed nice bushy plants, and will then require to be placed in a frame, set upon coal-ashes well exposed to the sun, and gradually hardened off by admitting more air from day to day until the lights are left entirely off; but they must not be allowed to suffer from drought. By the end of September the lights should be put on at night, and by the middle of October the plants should be removed to the greenhouse to bring them into bloom.

When blooming is over, cut the plants back to well-ripened wood, and keep them rather short of water until they begin to break, when they should be repotted, and treated as before recommended, during the growing season. The plants must be removed into larger pots, as soon as the roots reach the sides of those they are growing in.—H. Chilman, *Somerley*.

SUBURBAN GARDENING.

MARCH.—There is already the faintest symptom of the first breath of spring being diffused abroad: it is passing over the rippling streams, it is setting its sign-manual on the growth of a rich emerald sheen over the pasture-fields, and it may be seen kissing, as it lightly skims along, the Snowdrop, Primrose, and other of the earliest spring flowers, as they open to receive its beneficent influence. The Spring is always a glad awakening time, though it comes attended with biting winds and killing frosts.

Kitchen Garden.—Up to this time, very little sowing of seeds has been done. In nine cases out of ten, it is a great mistake to sow early, and caution is necessary just now, when the seeds generally are, owing to the bad harvest-time of 1879, deficient in germinating power. March is the month for sowing the main crops of seeds of all the leading vegetables except *Beet*, but it is advisable for villa gardeners with small gardens to make small successional sowings, instead of large ones, of any kind of vegetables. *Beans* and *Peas* may be got in, and lines of *Spinach* between the Peas; of the latter, we can recommend *Dr. Maclean*, *Veitch's Perfection*, *Premier*, and *Omega*—all dwarf free-bearing peas of fine quality. *Brussels Sprouts*, *Dwarf Curled Scotch* and *Cottager's Kales*, *Improved Nonpareil Cabbage*, *Savoy Cabbage*, *Early Horn* and *Intermediate Carrots*, *Dwarf Erfurt* and *Walcheren Cauliflowers*, *Musselburgh Leeks*, *Paris White Cos*, and *Hardy White-Dutch Cabbage Lettuces*, and *Small Salads*, can be sown at intervals of a fortnight or so during the month. All the foregoing are good, useful vegetables for a suburban garden.

Last month we alluded to the importance of getting *Celery* sown early. The first pans may be pricked out towards the middle of the month, on a warm border which has not been dug, but covered with six inches of dung, having a sprinkling of some good light soil on the top. The main crop of *Onions* should be sown about the middle of the month, on a piece of deeply-dug, strong ground, worked with manure, and the seed does well when covered with a sprinkling of fine charred rubbish. *Potatos* should be planted; the best mode of doing this is to trench them in with the spade, so that the ground has not to be trodden on, either immediately before or after their insertion, which is the case when the dibble is used. *Asparagus* may be planted towards the end of the month. A clever gardener once said that the best plantations are made by sowing the seed where the plants are to remain, and thinning-out to the required distance apart. *Seakale* may also be planted.

Fruit Garden.—Advantage should be taken of fine drying weather to get *Wall Trees* pruned and nailed in. The buds will soon begin to swell, and if the work be delayed, there is danger of rubbing them off. Though all fruit-trees should have been planted ere this, they may still be got in; a little extra care in case of drought will be necessary, as March is sometimes very trying for all kinds of newly-planted trees; and where some attempt has not been made to keep in position those plants requiring it, it is requisite to do it, as strong winds work much damage to root and branch. Any digging required between *Gooseberry*, *Currant*, and *Raspberry* bushes should be done without delay.

Flower Garden.—*Hardy Annuals* and *Perennials* can be sown; and some *Half-hardy Annuals* in a covered bed. For the latter, a bed of leaves in the open air, with two inches

of fine light soil in it, and with a covering of some kind to protect from frost and cold winds, and also to give shade, answers well. *Zinnias*, *Stocks*, *Asters*, *Phlox Drummondii*, *Helichrysum*, &c., can be raised in this way. Old borders should be trenched up, and the perennial plants divided and replanted; they will become much better in consequence, if some good stuff be put in about the roots. *Chrysanthemums* should be propagated now; by cuttings is the best method, or by dividing the old plants. A cold frame answers well for them; if too much heat is used, they become drawn up and weakly. Plant out such hardy plants as have been kept over the winter in cold frames. Pot *Carnations* and *Picotees* in small pots, for growing on into size for blooming in pots in July, and place them in a north aspect.

Greenhouse.—Such plants as *Cinerarias*, *Primulas*, *Genistas*, *Cytisus*, *Pelargoniums*, and others coming into flower, must have as much light as possible, and plenty of air on bright days; but cold, dry, frosty winds will do much mischief, unless care is taken to screen the plants from its effects. Where it can be done, *Fuchsias* should be got into free growth, being kept in the warmest part of the house, and syringed on favourable occasions. All rapid-growing plants that require it should be stopped, especially *Pelargoniums*, so as to get them into a good shape.

In the propagating and cutting frame, a good, steady heat must be kept up, for the increase of all kinds of bedding plants, &c. *Verbenas* should be put into a high, moist temperature, in rather sandy soil. They will soon root, and if potted and replaced in heat, till the roots take with the new soil, they can then be placed in a close frame, and air increased as the plants begin to grow. This will serve to indicate how other bedding plants can be treated. *Calceolarias*, and other plants of a hardier character, can be planted out in a sunk frame or pit, if pots are scarce. It does the plants good to turn them into rough soil, where they will root freely, and can be lifted out with balls at planting-time. The propagating-frame can be made very useful for starting *Achimenes*, *Gloxinias*, *Gesneras*, &c., into growth.

Cold Frame.—It is now an active time with many of the occupants of the frame. *Primroses*, *Polyanthuses*, *Pinks*, *Carnations*, *Dielytra*, *Lily of the Valley*, &c., are flashing into growth. We have enjoyed some warm sunshine of late, and it has done much good to the plants. When the weather is fine and genial, all these plants must have as much air as possible, using the lights to keep off heavy rains. Warm, gentle rains do a great deal of good. Slugs and other vermin require to be well looked after. In spring they appear to possess voracious appetites, and devour the young growths. *Pansies* in pots should have their side-shoots tied out, and the plants that are growing fast treated to some manure-water. We should like to know that suburban gardeners were turning their attention to this beautiful and interesting class of plants, for they are well deserving a little care in the way of growth in pots.—SUBURBANUS.

GARDEN GOSSIP.

THE ANNUAL GENERAL MEETING OF THE ROYAL HORTICULTURAL SOCIETY took place in the Council-room at South Kensington, on February 10th, Lord Aberdare in the chair. The chairman, in moving the adoption of the report, explained that the Council considered it their duty to remain in possession of the gardens as long as they could, in order to protect the interests of the debenture-holders until the Chancery suit now pending between her Majesty's Commissioners and the Society had been decided. It was clearly the duty of the Society to leave no stone unturned to get the best terms they could, both for the debenture-holders and themselves. The past year had been an unfortunate one all round, and doubly so in their case. The fortnightly meetings had, however, been of an unusually excellent character; still, the stars in their courses had fought against them; the Council had sowed liberally, but had reaped badly, their receipts not coming up to their expenditure by about £600. They had, however, some resources to fall back upon which would enable them to start the year without any great burden upon their shoulders, but that would no longer justify them in running any risks. A good deal of the expenditure of the past year was of an exceptional character, and with a proper regard to economy, he had no doubt they would this year be able to balance their accounts. They had abolished Fellow's entrance-fees, so that the new Fellows had only to pay the annual subscriptions—a circumstance which he trusted would lead to an accession during the year of a greater number of new members. The report was unanimously adopted. Among the new members elected on the Council are Sir H. Seudamore Stanhope, Bart., and the Rev. H. Harpur Crewe.

— THE ANNUAL MEETING OF THE MANCHESTER BOTANICAL AND HORTICULTURAL SOCIETY took place on January 19th, the president, the Earl of Derby, in the chair, when the report of the council was adopted. Dr. Watts stated, with reference to the society's garden at Old Trafford, that their long range of glasshouses, which were erected fifty-two years ago, were giving way as regarded the framing rapidly, and they must contemplate a considerable outlay for their renewal. Mr. Findlay, the secretary, proposed to make the long range semicircular, starting from the first exhibition-house and running back over land which was now, at any rate to a great many of the proprietors, *terra incognita*, and by which means greater space would be afforded, especially for promenading. On the motion of Dr. Watts, seconded by Samuel Barlow, Esq., it was also resolved:—"That the council be at liberty to issue sixpenny

admission tickets, to be distributed by the proprietors and subscribers, admitting at any time, except on exhibition and promenade days."—The schedule for the great Whitsun show has been issued.

— THE veteran gardener at Bothwell Castle, Mr. ANDREW TURNBULL, was recently presented with an address and purse, by a number of his friends, at a dinner which took place on January 28th, at the St. Enoch's Station Hotel, Glasgow. A. B. Stewart, Esq., of Aseog, took the chair. The presentation was made by Mr. W. Thomson, of the Tweed Vineyard. The address, which was beautifully engrossed on vellum, with a border of Heaths, Calceolarias, and the other flowers Mr. Turnbull has done so much to improve, painted round it, read as follows:—"Presented to Mr. Andrew Turnbull, gardener, Bothwell Castle, on the completion of his 50th year as gardener there, along with a gold eyeglass and purse of 170 sovereigns, by his numerous professional and private friends, as a mark of their profound respect for his private worth, and their high appreciation of his practical ability as a horticulturist—more especially the wonderful success of his labours in raising many splendid hybrid Heaths, Calceolarias, &c.; and with every good wish for his future prosperity." The address was signed by the chairman and a number of Mr. Turnbull's oldest friends present, in the name of the 150 subscribers thereto.

— A SAMPLE of a new vegetable, called GILBERT'S CABBAGE BROCCOLI, was shown by Mr. R. Gilbert, gardener at Burghley, at the December meeting of the Royal Horticultural Society in 1878, and to this new Cabbage Broccoli, which gave abundant promise of becoming a most valuable winter vegetable, the Fruit Committee awarded a First-class certificate. The *Gardeners' Chronicle* states that at Burghley this novelty has passed through the late severe weather without the slightest injury, and indeed at the end of January was, with the exception of Brussels Sprouts, the only thing alive in the way of greens. A sample received at that time proved on being cooked to be mild, tender, and delicious in flavour, the heads being of nice size, very solid, and resembling in appearance a small Cocoa-nut Cabbage. Mr. Gilbert is to be congratulated on the possession of such a sterling acquisition.

— THE new red ABUTILON FIREFLY is one of a batch of recent seedlings, raised by Mr. J. George, of Putney Heath. The flowers are of large size and of a much greater depth and vividness of colour than that possessed by other named varieties. Mr. George states that it was raised from a small red variety which had a very lively shade of colour—crossed with pollen of the single crimson Hibiscus—and he thinks that the fine colour obtained is due to this happy inspiration of impregnation.

— THE recently issued portion of Bentham and Hooker's *Genera Plantarum*, which includes the CONIFERÆ, being the most recent standard of authority, will probably settle the names and limits of the genera of that order for many years hence. As in De Candolle's *Prodromus* the *Cupressineæ*, *Taxodieæ*, *Taxeæ*, *Podocarpeæ*, *Araucarieæ*, and *Abietineæ*, are regarded as tribes of the order Coniferæ. The larger genera of the Coniferæ, with one important exception explained below, have been left almost as they are understood by horticulturists. *Callitris* includes Frenela, Widdringtonia, and some other less known names; *Fitzroya* swallows up Diselma; *Libocedrus* includes the recently published Calocedrus; *Thuya* (the spelling adopted), is made to include Biota, Thuyopsis, Chamæcyparis, and Retinospora, this being the greatest deviation from what may be termed the ordinary nomenclature; *Sequoia* supersedes Wellingtonia; *Ginkgo* is retained for the Maidenhair Tree, Salisburia; and *Agathis* replaces Dammara. The *Abietineæ* are divided into *Pinus*, *Cedrus*, *Picea*, *Tsuga*, *Pseudotsuga*, *Abies*, and *Larix*. With regard to the names Picea and Abies, Don misapplied them in Loudon's *Arboretum*; but the authors of the *Genera Plantarum* have correctly returned to Link's original definition, so that henceforth the *Piceas* will be the Spruce Firs, which have persistent cone-scales, whilst the *Abies* will consist of the Silver Firs, whose scales fall with the seeds from the cones.

— WE have received from Mr. Cannell flowers of the Continental FUCHSIA JEAN SISLEY, which is a French hybrid, raised between *F. spectabilis* and *F. Dominiana*. It is one of the most brilliant of its race, and must be a charming shrub for a conservatory. The flowers have a tube, of a brilliant crimson-scarlet, 1½ in. long, fully half an inch in diameter at the mouth, and slightly tapered at the base. The four sepals are each just an inch long, crimson at the base and passing into green at the tip. The four petals are spreading, measuring 1¾ in. across the face of the flower, roundish-obovate, a little wavy at the edge, and of a brilliant orange-scarlet. Altogether, we have not previously seen so brilliant a Fuchsia. The leaves are largish elliptic, deep, almost olive-green, and purplish on the under-surface.

— WE are glad to see that AMIES' HORTICULTURAL MANURE, of which, from experiment, we have formed a very favourable opinion, has now acquired a satisfactory position in the market. The chemists agree with the cultivators, and both have found it a clean, convenient, effectual, and cheap fertiliser. The analysis of Dr. Voelcker and Mr. Bernard Dyer show that it comes through the chemical test honourably, the per-centage of the respective ingredients being as follows:—

Moisture	4·03
Organic matter, carbon, and salts of ammonia	22·34
Phosphoric acid	20·42
Lime	26·85
Oxide of iron	7·10
Sulphuric acid	7·10
Alkaline salts and magnesia ...	6·11
Carbonic acid, &c.	1·34
Insoluble siliceous matter	4·71

Dr. Voelcker specially notes that it contains in well-balanced proportions a high per-centage of phosphate of lime (bone phosphate), salts of ammonia (yielding about 4 per cent. of ammonia), potash salts, and other useful fertilising ingredients, and thus differs materially in its constitution from purely ammoniacal manures, which, containing ammonia exclusively, or in excessive proportions, are apt to cause over-luxuriance of the leafy parts of the plants at the expense of the proper maturity of their produce; and that as it has no unpleasant smell, it may be used without inconvenience, in conservatories and other places where strong-smelling compounds are inadmissable. To which Mr. Bernard Dyer adds, that it contains an ample supply of potash, nitrogen, and phosphates, and that in a favourable condition for assimilation by plants.

— THE SOJA BEAN (*Soja hispida*), as we gather from the *Revue Horticole*, is attracting considerable attention in France; it indeed appears to exceed all other kinds of pulse in nutritive properties. M. Blavet, President of the Horticultural Society of Etampes, has occupied himself in a special manner with its culture, and from the result of his labours M. Carriere concludes—1. That under the name of *Soja hispida* there exist different kinds, varying as to constitution, productiveness, hardiness, and earliness. 2. That the variety called *Soja d'Etampes*, which is hardier than the haricots, is also one of the richest in nutritive matters, and also very palatable, and is, therefore, to be preferred to all others. According to M. Blavet, the proper way of cooking the *Soja* is to put the beans into boiling water for five minutes, then to take them out and finish them in other water.

— THE neat little MONOCHÆTUM ENSIFERUM has few rivals as a winter-flowering greenhouse plant. It thrives in a soil composed of peat, leaf-mould, and loam in equal parts, and may be grown and flowered in a six-inch pot. Cuttings of the young shoots strike freely in the spring, in a propagating-house or frame. About the end of March the old plants will commence to make new growth, and should then have a moderate shift into larger pots, and be placed in the warmest part of the house, where they should remain until the end of June, after which they do better in a pit or frame. By the autumn they should be returned to the warmest part of the house, where the temperature does not fall below 45°, and they will begin to flower in December, and continue for a considerable period in bloom.

— IT seems a pity that a taste for the wholesome PARSNIP, so easy to cultivate and preserve during the winter, and withal so toothsome, is not more generally acquired. Its nutritive power stands higher than that of Beetroot, Carrots, or Turnips, as the following analysis by MM. Corenwinder and Contamine, in the *Annales Agronomiques*, shows :—

Water	79·340
Nitrogenous matter ...	2·363
Sugar	8·257
Glucose	1·563
Starch	1·075
Cellulose	2·050
Pectine, &c.	4·327
Mineral matters	1·027—100·000

The per-centage of nitrogen in Parsnips is considerably higher than in Carrots, Turnips, or Beet, thus :—

	Nitrogen.
Parsnip	0·378 per cent.
Sugar-Beet	0·249 „
Red Dutch Carrot	0·226 „
Swede Turnip	0·225 „
Long Turnip	0·211 „
Yellow Beet	0·174 „
Red Beet	0·167 „
White round Turnip ...	0·161 „

— THE aquatic EICHORNIA or PONTEDERIA AZUREA is a most charming plant, as it has been seen flowering during the whole of the past autumn in the Royal Botanic Gardens, Regent's Park. It flowers very freely, the delicate purple flower-spikes rising among the large, shining leaves, and the shoots running freely over the surface of the water. With the exception of the water-lilies, says the *Garden*, we know of no more valuable plant; and from its size, it could probably be grown easily in a tank in a warm house. The flowers have a bright little yellow eye, which gives them a pretty aspect when closely examined; but the distant effect is even more remarkable.

— IT is stated in the *Gardener's Magazine* that CHRYSANTHEMUM LA BELLE is a pure double-white form of that king of tasselled flowers, James Salter. It has been fixed as a sport by Mr. George Neal, gardener to P. Southby, Esq., Bampton, Oxon., and was exhibited at the late Oxford Chrysanthemum Show, and secured a first-class certificate. It will prove a noble acquisition to the group to which it belongs.

— IT is quite practicable to grow WATER-CRESSES WITHOUT WATER. Mr. Barron does this at Chiswick, by sowing seed some time during the summer under a north wall. These cresses are as plentiful, crisp, and sweet as if grown in water, and they are perhaps free from some of the impurities incidental to water. The fact serves to show how a spare piece of a garden can be utilised and made to yield a good return during the winter months. When severe weather comes a few odd lights could be well turned to account by covering them over the beds to preserve the cresses from damage. It is said that a bed raised from seed sown on well-prepared ground on a suitable spot will yield water cresses for several years, as the plants sow themselves, but a yearly top-dressing would probably be found necessary.

— UNDER the name of PTERIS SERRULATA PELLUCIDA, a recent addition to the group of tasselled varieties of this familiar species, has been noticed in the *Garden*. It is described as being remarkable for its much-branched crests and pellucid texture, which give it the appearance of some of the green sea-weeds. The divisions of the crest are linear, and almost wingless, as if composed of a duplication of the mid-vein only. In this feature it is peculiar, as in most of the other varieties the divisions of the crests are broadly wing-margined, or connected by a green membrane. Its graceful habit and delicacy of texture render it both striking and ornamental.

— THE POINSETTIA PULCHERRIMA PLENISSIMA has scarcely yet taken its rightful position amongst decorative plants. Thus "C. B. S." writes in the *Gardeners' Chronicle* from Jersey :—"I saw at Rouge Bouillon House, the residence of Charles Fodfray, Esq., corymbs of both the double and single varieties, which measured nearly 15 inches in diameter, and of the most brilliant colour. I thought them so beautiful, especially the double variety (the centre of which was fairly filled up with its crimson leaflets, the central ones being erect, and forming a splendid head of bloom), that they were worthy of being placed on record."

— UNDER the title of the ANTIQUARY (Eliot Stock), a new monthly periodical has been started, "devoted to the study of the past." The magazine may be commended as containing articles interesting to others than professed antiquaries. The paper and type are both exceedingly good, and not only so, but characteristic.

1

2

3

Chromo Stroobant Ghent.

1. The Pope. 2. Alice. 3. Emperor William

NEW SHOW PELARGONIUMS.

[PLATE 511.]

WHETHER attributable to the influence of the Pelargonium Society, as it would be but fair to infer, or whether only the natural result of progressive development when a flower is taken lovingly in hand by the hybridist, certain it is that a very fine lot of new Pelargoniums of the show class made their appearance last bloom-tide, chiefly from the collections of E. B. Foster, Esq., of Clewer Manor, and the Rev. A. Matthews, of Gumley—whose rules for judging Pelargoniums were published not long since in our pages. The improvement has been most remarkable during the last few years, large size, great substance, perfect form, and an abundance of bloom being the chief points in which the advance has been made. A reference to the early volumes of the FLORIST, in which will be found portraits of Centurion, Honora, and Rosamond, which were considered gems in those days, and a glance at the portraits of those selected for our present illustration—for blooms of which we are indebted to Mr. C. Turner, of Slough, by whom they will be sent out—will show that we are fully justified in speaking highly of the year's results from this point of view. The varieties portrayed are from Mr. Foster's stock.

Fig. 1. THE POPE.—This is a remarkably fine, solid flower, quite new in colour, perfect in form, and remarkable for its smoothness of surface and its depth of colouring. The top petals are clouded over most of their surface with a rich velvety-black, which is bordered by a bright rosy-purple, such as occurs in the outer half of the lower petals, the eye or centre being pure white. It is very distinct and effective, and was considered fully deserving the award of the Pelargonium Society's Certificate of Merit, when shown early in July last, as also were the other varieties figured.

Fig. 2. ALICE.—The characteristic of this variety is its soft tint of pink, delicate but clear, and intensely fascinating. The black spot on the upper petals is comparatively small, breaking outwards into a few feathery lines, leaving a broad margin of rosy pink, which is narrowly bordered by the delicate tint which pervades the lower petals; the centre is white and pure. In smoothness and substance of petal, roundness of form, and satiny richness of colouring, it leaves nothing to be desired.

Fig. 3. EMPEROR WILLIAM.—This is perhaps the finest flower of the three, taking all points into consideration. Its size is of the largest, its form is unexceptionable, its colouring is rich and varied, its centre is pure. The petals are smooth and lie well when expanded, forming a symmetrical flower. The colour of the top petals is a bright carmine-crimson, palest at the extreme edge, but almost covered by a dense veiny clouding of dark maroon; the outer half of the lower petals is carmine-rose, slightly pencilled with crimson; the inner half pure white.

We may take the opportunity to mention that on the occasion of the Pelargonium Society's Show this year, which takes place on June 29th, the seedlings exhibited for the Certificate, which is open to competition both to members and non-members, will have to be accompanied by historical testimonials and descriptive particulars, which must be filled in by exhibitors on blank forms, to be had of the Secretary for that purpose.—T. MOORE.

PROPERTIES OF THE FLORIST'S GOLD-LACED POLYANTHUS.

I HAVE now for more than forty years, taken great interest in the Gold-laced Polyanthus, having grown it from pure love when a boy, and having been familiar with it as a florist flower for the last thirty-two years. In 1848, I attended, for the first time, the Annual Exhibition of the Middleton Auricula and Polyanthus Society, and was much impressed with the beauty of the Gold-laced Polyanthus, as there exhibited. Since 1848, I have attended many other Polyanthus exhibitions, and have inspected repeatedly many collections of choice florist's varieties; further than this, I have had the advantage of association with the old florists and those of our time, and have often heard the florist properties of the Polyanthus criticised and discussed, according to the standards laid down by Glenny, Harrison, and Slater—our best authorities of thirty years ago. Being quite familiar with the various properties and faults which determined the judgment of the plants,

it may be timely that now, when great interest is being taken in this lovely flower, and a decided revival of its culture has set in, that I should write down, for the guidance of all concerned—admirers, growers, and judges—the rules upon which the Polyanthus was judged thirty years ago. These rules have never since been altered or questioned, and we are bound now to adhere to them strictly, or the gems of an olden time which may be shown, or those which may follow hereafter, may, by lack of a proper standard and incompetent judging, be swamped by inferior flowers, to the disgust of the true and earnest florist, who knows what they ought to be; and to the confusion of properties,—the lowering of the standard of perfection, and the consequent deterioration of this lovely florist's flower.

PROPERTIES OF THE GOLD-LACED POLYANTHUS.

Habit of Plant and Truss.—The flower-stem should be strong, straight, and elastic, and from 4 in. to 6 in. in height. The foot-stalks of the flowers should be of such a length as to bring all the flowers well together into the truss, which should comprise a minimum of five flowers, which should be as nearly uniform in size and quality as possible. The foliage should be healthy, and cover the pot well.

Note on the Truss.—The old florists used to cut down the truss to three flowers, so anxious were they to exhibit perfect flowers only; and when, a few years ago, the minimum was raised to five flowers, it was objected by some of the old stagers that five perfect flowers were never to be seen in one truss, even in the best kind that was ever raised. In addition to the five flowers by which the plant should be judged, the exhibitor may leave as many more flowers on his plant as he likes. He will, however, act wisely in removing from the truss any flowers which are coarse and out of character, retaining as extras only those that come fairly near the florist's standard. The flowers, in addition to the five best, are simply left on to show the free-blooming habit of the plant, and add to its general effect on the stage, and must not prejudice the judges, who should decide upon the merits of the five best flowers only.

Size of the Flower.—This is of less importance than the quality; still, no flower ought to be exhibited which is less than five-eighths of an inch in diameter. From this minimum, size is practically unlimited, providing quality accompanies it. From six to seven-eighths of an inch is about the best size for the flower.

Structure and Form of the Flower.—The flower of the Polyanthus, like that of the Auricula, is formed of one petal only, which is divided into three parts. First, in the centre, is the tube or eye, which should be well filled out with anthers, and raised a little on its outer edge; second, the centre, which should be as circular in form as possible; and third, the ground or body colour and the lacing. This flower, or "pip," as it is technically called by the florist, is divided on its outer edge for the depth of the body colour and lacing down to the centre into five or six segments, which have the appearance of separate petals. Each of these segments has an indentation in the centre, giving it a kind of heart-shaped form. This should not be cut too deeply, but should correspond with the indent shown in the flower at the junction of each two of these segments, which ought to be close, so as to preserve the circular character of the flower, so that a glance ought not to show which is the actual division of the segments and which is the indent in the centre. Five of these segments usually go to form the flower, but six are allowed, and in some flowers are an improvement.

Proportion of Eye, Centre, and Ground Colour to the Lacing.—Draw a circle to represent the size of the flower; measure its diameter, and divide that into twelfths. The middle six-twelfths will represent the eye and the centre, of which two-twelfths ought to be diameter of the eye, and four-twelfths that of the centre surrounding the eye. The remaining six-twelfths, or diameter of the outer half of the flower, which represents the segmented portion, is filled with ground colour and lacing.

Colour.—The colour of the centre and the lacing should be the same in each flower, and should be of a bright golden or a bright lemon yellow; and the centre should be a self-colour, free from shading, or the presence of another colour. The ground or body colour to be in black grounds as near black, and in red grounds as near a rich Indian red as possible; each colour should be decided, solid, and free from shading, and to have a texture of a velvet-like appearance, so as to give the flower a brilliant and attractive look.

Lacing.—The lacing to be clean cut all around each segment to the centre, but to be a little thinner or more refined as it approaches the centre. It must also cut clean through the middle of each segment. This last is very important.

There must be a due proportion between the quantities of the ground colour and the lacing in each segment; fully three-fourths should be ground colour, and the remainder should be lacing.

Faults of Form.

A small centre, and consequent over-proportion of ground colour and lacing.

An over-large centre, and too little of the ground colour and lacing.

The segments narrow, and showing too much space between them. Such flowers were termed by the old florists "wingy," and were looked upon with disfavour; a sixth petal usually improves flowers of this character.

A decidedly pentangular centre. Unless the centre is too small, this is not a very serious defect, for as most of the Polyanthus flowers contain only five outer segments, a more or less pentangular form follows, as a matter of course; still, the nearer the centre approaches the circular form, the better.

Faults of Colour.

A difference between the colour of the centre and that of the lacing. If the difference is obvious at a glance, it is a serious fault; if very marked, such as a lacing nearly white to a full yellow centre, it is a disqualification.

A centre of two decided colours, say an orange star upon a yellow ground, is a serious fault. If the centre is at all shaded, it is a fault, but not so great as when two decided colours appear in it.

The ground colour being shaded, or of a weak, undecided, or foxy colour, neither good black nor good red, is a fault.

The yellow centre and the lacing, even though both may be alike in colour, if dull and muddled, is a fault.

The gravity of these two faults of colour can only be properly estimated by comparing a truss of blooms in which the colours are strong, decided, and brilliant, with another in which they are the reverse. A first-class polyanthus will "fetch" one at a glance, by its brilliant appearance. To lack brilliance is a defect of degree, and if carried to dullness, a serious fault.

Faults of Lacing.

The lacing failing to cut through the middle of each segment is a fault so serious as to be almost a disqualification.

A more common fault is the lacing failing to cut quite through the outer edges of the segments to the centre. This is a serious fault, but not so great as the lacing failing to cut through the centre.

The lacing to be ragged and rough at its union or junction with the ground colour. This is a fault of degree; it may be small, or it may be so irregular and rough as to make the flower worthless.

A want of due proportion between the ground colour and the lacing. If the lacing is too heavy, the flower has a spotty appearance. If the lacing is too light, the flower looks too heavy. These are faults of degree, and may be slight, or they may be very serious. An educated eye will soon detect this want of due proportion.

Disqualification.

The pistil of the flower to show above the anthers in the tube or eye. Such flowers are termed pin-eyed, and are worthless, whatever other merits they may possess. A pin-eyed plant will disqualify any stand.

I have now finished. The awakened interest in this too-long-neglected flower is cheering, and makes one hopeful of the future. True lovers of the Polyanthus are working earnestly at raising seedlings, but they must be warned not to put too much faith in seed of promiscuous generation. I have tested some thousands of such seedlings, the seed being gathered from well-known, good sorts, and the result has been to leave nothing worthy of note to add to the scanty roll of fine sorts. To be successful, the best sorts only must be selected for parents; and these should be most carefully and judiciously crossed. This being done, there is little doubt but that in a few years we shall be in possession of a stage of these lovely plants equal to anything that was ever seen in the palmy days of old. Such kinds, indeed, as Pearson's Alexander, Hufton's Lord John Russell, and Addis's Kingfisher, all now extinct, will long remain as pleasant memories,

though tinged with regret, yet, with Tennyson, the writer feels,—

"'Tis better to have loved and lost,
Than never to have loved at all."

—SAMUEL BARLOW, *Stakehill House, Castleton, near Manchester.*

PITMASTON DUCHESS PEAR.

AMONGST those Pears that have been the least affected by the adverse character of the season, that handsome sort, the *Pitmaston Duchesse d'Angoulême,* stands out pre-eminent. Here it has certainly been the finest Pear of the year. Both pyramids and bushes have cropped abundantly, and perfected fruit of excellent quality—I may say, almost equal to the produce of ordinary years—which is saying much for its behaviour in this untoward season, when so many of our best sorts are absolutely worthless. The Duchess possesses every favourable point to recommend it, as it is a vigorous grower, possessing a hardy constitution, and being likely to thrive on any soil, and to prove a prolific bearer, while it produces large melting fruit of the richest quality. This variety, as it becomes better known, is destined to be extensively grown for market, for which, in my opinion, it has no equal, and I confidently recommend it.

The behaviour of the majority of Pears this season is somewhat remarkable. Many of the sorts upon which we usually depend for supplies are perfectly worthless—being small in size, dry, cracked, and specky. Amongst such are *Jargonelle*, *Williams's Bon Chrétien*, *Beurré Diel*, *Louise Bonne of Jersey*, *Gansel's Bergamot*, *Passe Colmar*, *Knight's Monarch*, &c. Very late sorts are not likely to ripen. Amongst those which have produced fruits approaching to the average size and quality may be named:—*Beurré de Amanlis*, *British Queen*, *Doyenné Boussoch*, *Swan's Egg*, *Maréchal de Cour*, *Doyenné du Comice*, as pyramids. From walls, the very best have been *Marie Louise*, *Winter Nelis*, *General Todtleben*, *Triomphe de Jodoigne*, *Joséphine de Malines*, *Durondeau*, *Beurré Bosc*, and *Beurré Sterckmans*, all of which have ripened well.—GEO. WESTLAND, *Witley Court.*

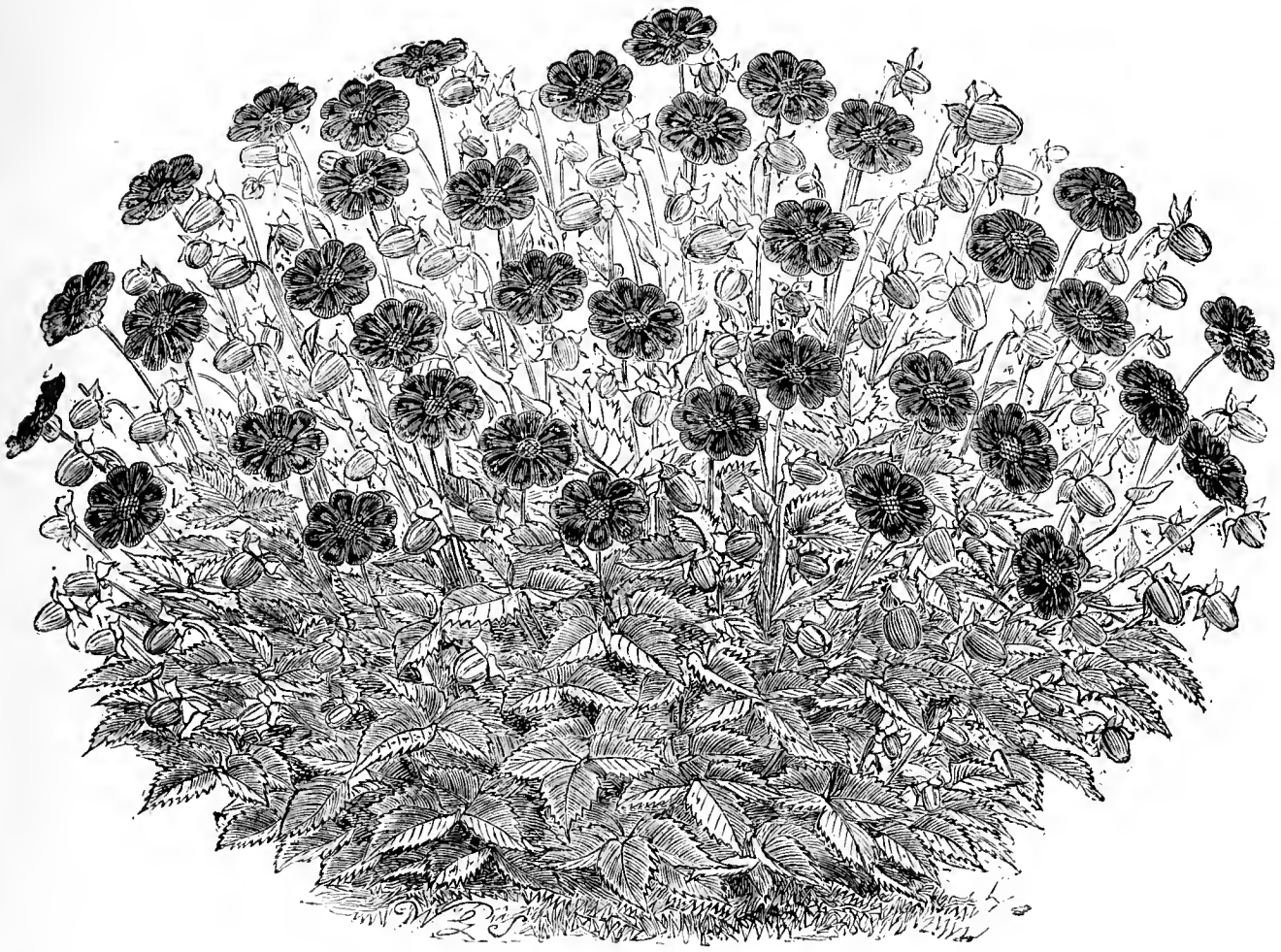
[A. S., writing in the *Gardeners' Chronicle* not long since, states that out of a collection of upwards of thirty kinds of Pears, grown as pyramids in a heavy, coldish soil, the *Pitmaston Duchesse d'Angoulême* has, during the past unfavourable season, maintained its high character better than any other variety, and that he had gathered eighty-two splendid fruit from a small tree. "All things considered," he says, "it may, I think, be pronounced the best pear we possess, being a strong, healthy grower, and combining the three chief requisites of size, quality, and productiveness. *Madame Treyve*, *British Queen*, and *Doyenné du Comice* are also good, while *Louis Bonne*, *Beurré Diel*, and some others are worthless."]

DAHLIA COCCINEA AS A DECORATIVE PLANT.

FEW of our garden flowers are more truly decorative than this old-fashioned but little known Dahlia—a single-flowered Dahlia, as might be disparagingly said by the florist, whose so-called double Dahlias must be perfect models of symmetry, high-crowned and full-centred; while the *Dahlia coccinea* presents to view its yellow disk and star-like arrangement of ray florets of the most brilliant orange-scarlet, and is not only graceful in habit, but showy and attractive in the extreme—more so than most flowers, in consequence of its winning colour. *Dahlia coccinea*, in its type form, grows about 3 ft. in height; has a purplish stem which appears grayish, from the numerous short, stiff hairs which cover it; and orange-scarlet, showy blossoms, which are produced in profusion for a long period.

Of this very showy flower-border plant, we have had the good-fortune to obtain from seeds some remarkably distinct and handsome varieties, some more particularly adapted for bedding purposes, and others suitable for the mixed-flower border. They are not florists' flowers, nor suited to the taste of the florist, but all lovers of graceful and elegant flowers will at once welcome them for the summer and autumn decoration of their borders and parterres.

The two following varieties are especially adapted for beds, being not only dwarf in habit, but exceedingly floriferous. The habit of one of them, named Scarlet Dwarf, is well shown by the accompanying woodcut, prepared from a sketch taken by Mr. W. G. Smith in the Chelsea Botanic Garden. This plant was about 2½ ft. in height, and had, at the time the drawing was made, as many as sixty blossoms either expanded or in an ad-



DAHLIA COCCINEA—SCARLET DWARF, FROM A SKETCH MADE AT CHELSEA.

vanced stage of budhood, while innumerable younger bud-knots were forming on each successive lateral shoot as it became developed, which is one of the characteristics of the plant.

1. *Scarlet Dwarf*—so named to indicate its habit—grows about $2\frac{1}{2}$ feet high, and is very bushy. It is of the true coccinea type as regards its hairy stems and its starry orange-scarlet ray-florets, but is of denser habit, and more floriferous. The parent plant continued to produce abundance of flowers for about four months, being well advanced when planted out, and gave fresh blossoms till destroyed by frost. The colour is a very light bright scarlet or flame-scarlet, and the plant is very showy. It is an extra fine strain.

2. *Yellow Dwarf* is in habit the exact counterpart of the last, being dwarf, and exceedingly floriferous. It grows about $2\frac{1}{2}$ feet high, is densely branched, and very attractive, from the bright yellow colour of its ray-florets, From twenty to twenty-four perfectly expanded blooms were counted on a single-stemmed plant of this variety on several days late in October last, after many other kinds showed unmistakable signs of exhaustion. It is also a very fine strain, having a broad flat ray.

Amongst the seedlings were some varieties which proved to be of somewhat taller habit than the foregoing, and which, though less suited for bedding, are especially adapted for planting in the mixed flower-borders. The following are highly meritorious varieties of this type, and can be recommended :—

3. *Scarlet Gem.*—Perhaps the most floriferous of all that came under our notice. The plants grow about 3 ft. high, and bear a continuous head of bloom throughout the season. The colour is an orange-red, and the ray-florets broad and well disposed, forming a flat starry blossom. A very ornamental variety, good in all points—colour, form, habit, and endurance.

4. *Yellow Gem* is the counterpart in yellow of the variety Scarlet Gem, just described. The plants grow 3 ft. high, and are very floriferous. The colour of the florets is a beautiful clear pure yellow ; the florets broad and overlapping, so that the shape is all that can be desired.

The foregoing varieties are in the hands of Mr. Cannell, of Swanley, by whom they will be distributed. They are well worth the attention of those who prize elegant flowers of distinct and striking character, which these single

Dahlias really are. We have no doubt other choice forms will in due time appear, for in our limited experience we have had other seedlings, which indicate still greater variety. Amongst them were two liliputians, one yellow, the other scarlet, with flower-heads just the size for button-hole stars, and which, if they keep true, will be invaluable for the *bouquetiers*. One had yellow florets, tipped with red; another, scarlet florets, with a ring of yellow around the disk; a third had yellow florets, streaked or flushed with fiery-orange; and a fourth had scarlet florets, with golden tips. The development of these during the next season will be a source of much interest. One prominent feature in all the Dahlias of this type is that the flower-heads are supported by long and slender stalks, which greatly facilitates their effective employment as cut flowers. —T. MOORE, *Chelsea*.

ELECTRO-ILLUMINATION FOR GARDENS.

IT has for some time been known that Dr. Siemens was engaged in making experiments with the view to ascertain whether or not electric light exercised any visible effect on the growth of plants. So far as they have gone, these experiments supply to this question a distinctly affirmative reply. At the meeting of the Royal Society on March 4, Dr. Siemens gave an account of his proceedings and their results, and from a summary of his paper published in the *Gardeners' Chronicle*, we glean the following particulars:—

The experiments were made by means of a lamp of 1,400 candle power, provided with a metallic reflector, and placed in the open air, about 2 metres (nearly 7 feet) above the glass of a sunk melon-house, in which a number of quick-growing plants in pots, such as mustard, carrots, swedes, beans, cucumbers, and melons, were placed. It was thus possible to bring the plants at suitable intervals under the influence of day-light and electric-light without moving them, the light in both cases falling upon them at the same angle approximately. The pots were divided into four groups, of which one was kept entirely in the dark, one was exposed to the influence of electric light only, one was exposed to the influence of daylight only, and one was successively exposed to both daylight and electric light. The electric light was supplied for six hours each evening, from 5 p.m. to 11 p.m., all the plants being left in darkness for the remainder of the night. In all cases, the differences of effect were unmistakable. The plants kept in the dark were pale yellow, thin in the stalk, and soon died. Those exposed to electric light only showed a light-green leaf, and had sufficient vigour to survive. Those exposed to daylight only were of a darker green and greater vigour. Those exposed to both sources of light showed a decided superiority in vigour over all the others, and the green of the leaf was of a dark rich hue. The time of exposure was indeed in favour of solar light in the proportion of nearly two to one, but all allowance being made, daylight appeared to be about twice as effective as the electric light. The latter, however, was not well placed for giving out its power advantageously. The nights being cold, and the plants under experiment for the most part of a character to require a hot moist atmosphere, the glass was thickly covered with moisture, which greatly obstructed the action of the light; besides which, the electric light had to pass through the glass of its own lamp. Notwithstanding these drawbacks, electric light was found to be sufficiently powerful to form chlorophyll and its derivatives in the plants.

These preliminary trials seemed to prove that electric light can be utilised in aid of solar light by placing it over greenhouses, though the loss of effect must there be considerable. The effect of the light upon plants, when both were placed in the same apartment, was therefore made a subject of enquiry, and under these conditions it was found that the plants which had the double benefit of day and electric light, far surpassed the others in depth of green and in vigorous appearance generally. It was, moreover, ascertained that the carbonic and nitrogenous compounds produced within the electric arc did not exercise any deleterious action upon the plants; and it was further found that the electric light, when put into conservatories or greenhouses, does not injure the plants, but rather improves their appearance and growth, the leaves assuming a darker and more vigorous appearance, and the colouring of the flowers becoming more vivid.

These experiments are not only instructive as proving the sufficiency of electric light alone to promote vegetation, but they also indicate the important fact that diurnal repose is not necessary for the life of plants, although the duration of the experiments is too limited, perhaps, to furnish the proof in an absolute manner. It may, however, be argued from analogy that such repose is not necessary, seeing that (annual) crops grow and ripen in a wonderfully short space of time in the northern regions of Sweden and Norway and Finland.

where the summer does not exceed two months, during which period the sun scarcely sets.

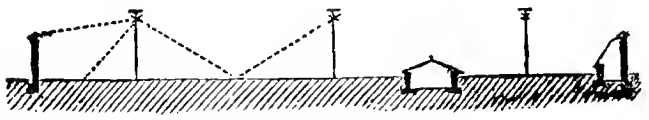
The effect of electric light upon flowering plants is very striking, being apparently more efficacious to bring them on than sun-light. Although the amount of heat given off from the electric arc is not great compared with a gas flame, yet the rays of intense heat of the arc counteract that loss of heat by radiation from the leaves into space which, during a clear night, causes hoar frost. For this reason it is inferred that electric light may be usefully employed in front of fruit walls, in orchards, and in kitchen gardens, to save the fruit buds at the time of setting; and in this application electric light will probably be found a useful agent not only to promote rapid growth, but to insure a better yield of fruit. Experience alone can determine absolutely the effect of electric light upon the ripening of delicate fruits, but considering its evident power to form chlorophyll, there seems no reason to suppose that its action would not also in this case resemble that of the sun, and that saccharine matter, and more especially the aromatic constituents, would be produced.

At the subsequent meeting of the Royal Society (March 18th), Dr. Siemens exhibited Strawberries which had been ripened under the influence of the electric light, and both colour and flavour proved to be well developed. Two pot-plants were shown which had been exactly alike a fortnight before. The one had been exposed to the electric light, and now bore many ripe fruit, while the other, which had been exposed to solar light only, though kept at the same temperature, had all the fruit as yet green and unripe.

The most effective height at which to place the naked electric light of 1,400-candle power, is, according to these experiments, about 2 metres. By using a metallic reflector, and thus throwing the major portion of the upward rays down upon the surface to be illuminated, that height may be taken at 3 metres. This power costs 67 cubic feet of gas per hour, say 4d. per hour, or, including attendance, 6d. per hour. Greater power would be relatively cheaper.

The cost of electro-illumination as applied to gardening purposes depends very much on the scale on which it is applied, and partly on the cost of fuel, or other source of energy. To work only one electric lamp by means of a small steam or gas-engine is expensive, both in fuel and in cost of attendance. Experience in electric illumination has established a form and size of machine, both convenient and suitable for the attainment of economical results, viz. the medium dynamo-electric machine, which if applied to a suitable regulator, produces fully 6,000 candle-power of diffused light, with an expenditure of four horse-power.

In operating upon an extended surface, several lamps should be placed at such distances apart as to make the effect over it tolerably uniform. Nine lights placed at distances equal to three times their elevation, or 18 metres, would cover an area 54 metres square, or just about three-quarters of an acre. If this space were enclosed with a high fruit wall (as shown with



the lamp-centres marked in the accompanying sketch), this will also get the full benefit of electric radiation, and would serve at the same time to protect the plants from winds.

The engine-power necessary to maintain this radiant action would be $9 \times 4 = 36$ horse-power, involving the consumption of $36 \times 2\frac{1}{2} = 90$ lb. of fuel per hour, or say for a night of twelve hours—with an allowance of 40 lb. for getting up steam—10 cwt., which, at 16s. per ton, would cost 8s.

FRAME POTATOS.

IT has long been a moot-point between various schools of potato cultivators, observes a writer in the *Gardeners' Chronicle*, as to whether deep or shallow planting is best adapted to the nature of the potato, and which is most calculated to produce a good crop of tubers. As far as regards the best method of planting frames for the obtaining of early forced crops, the practice long adopted in Lord Londesborough's garden seems to present very strong evidence of the value of shallow planting. Mr. Denning, we are told, plants all his potato tubers intended for frame work in small pots, with the top of the tuber just projecting from the soil. In this way, only those roots that are developed at the base of the shoots are enticed into the soil, whilst all the tuber rootlets remain exposed to the air. When the plants are about eight inches in height they are planted out in frames, ten inches apart each way, the tuber rootlets being just buried. The stems afterwards receive two earthings of added soil, each about one inch in thickness; and, as the result of this mode of culture, the young tubers are found to be produced finer and far earlier, and there is a better and more regular crop, than is found when the tubers are planted perhaps from four to five inches

deep at the first. This plan, it is evident, admits of the strongest being selected to plant out together, while the weaker ones remain until they are more advanced in growth, and thus make a successional planting. This routine of potting and planting begins early in the year, and continues as long as required. Most advanced cultivators of potatos now advocate, as being promotive of early cropping and the avoidance of disease, that the tubers should be well prepared, and planted shallow, late enough to avoid late spring frosts; and that the plants should have two or three earthings.—T. M.

MR. TURNBULL'S HYBBID HEATHS.

WT the presentation recently made to Mr. Andrew Turnbull, the veteran gardener at Bothwell Castle, as noticed at p. 47, that gentleman made some very interesting statements respecting the origin of many of the fine varieties of Cape Heaths he has been instrumental in raising and bringing before the public; and we take the opportunity to place the following historical facts, which are somewhat condensed, on record in our pages:—

Mr. Turnbull remarked, in reference to his efforts to improve various genera of plants by hybridisation, that he began with the *Calceolaria*, at an early period of its history, and raised varieties that were thought good in their day. Very few now know, he said, that the first hybridiser of the *Calceolaria* was my highly esteemed friend, the late Mr. William Morrison, gardener to Lord President Hope, at Granton. His first, and perhaps only, lot of hybrids went to Messrs. Young, of Epsom, in 1829.

"Heaths, however," said Mr. Turnbull, "have been my favourite tribe of plants, and on entering my present situation, my employer, Archibald, Lord Douglas, said that the Heaths were in an unsatisfactory state, and he wished them improved. Some ten years after I took charge of them, I had the satisfaction of being told by the late Mr. William MacNab, of Edinburgh, that they were the best house of Heaths he had ever seen. *Erica retorta* was 6 ft. in diameter, and *E. elegans* of the same size.

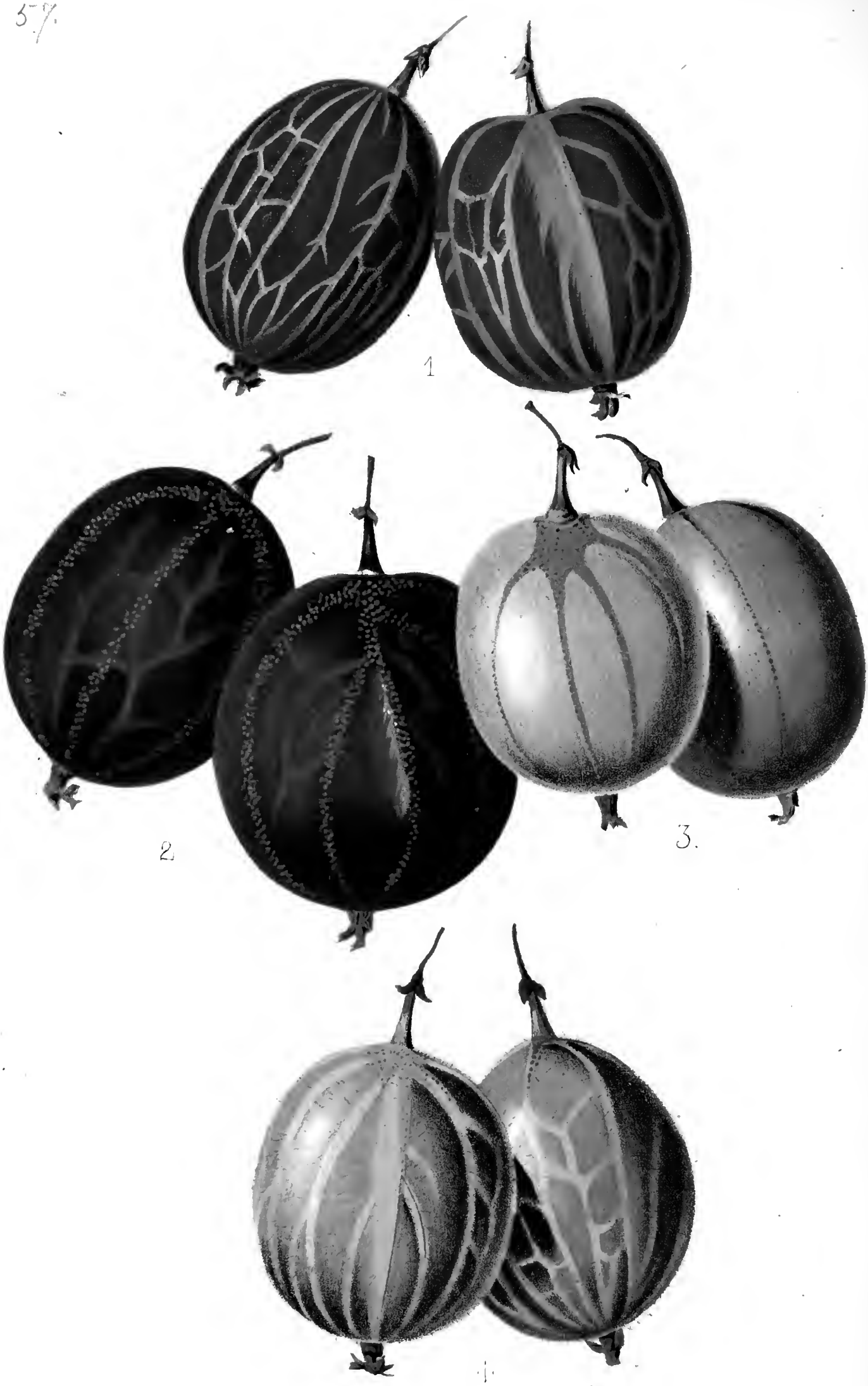
"I commenced the hybridisation of Heaths shortly after I came to Bothwell Castle. I was not then aware that Messrs. Rollisson, of Tooting, had practised it for twenty years before me; this I learned from the late Mr. Cunningham, of Comely Bank Nurseries; and a short time after I saw a list of Heaths, said to be hybrids, raised by them, and was surprised to see amongst them some we had always considered distinct species from the Cape, and recorded as such in Loudon's catalogue. To some of these I have been indebted for my best hybrids. From *E. Irbyana*, crossed with *E. retorta*, I raised *E. Jacksoni*. From the same female parent, crossed with *E. Hartnelli*, I raised *E. Marnockiana*. I also raised some very good varieties from *E. Aitoniana*, said to be a hybrid of Messrs. Rollisson's, and one so widely different from any Heath I know, that it would be interesting to ascertain its parentage. From it, crossed by *E. jasminiflora alba*, I raised *E. Aitoniana Turnbullii*, and *E. Lady Mary Scott*, the latter an extra fine distinct Heath. From *E. Aitoniana*, crossed with *E. Macnabiana*, I raised *E. Turnbullii*; and from the latter, crossed with *E. Marnockiana*, I have raised three excellent and very distinct Heaths, one of which I have named *E. Countess of Home*; the others I have not yet named. *E. Douglasiæ* is a good seedling, raised from *E. Aitoniana* crossed with *E. retorta major*. I have raised a very good seedling from *E. ferruginea*, crossed with *E. Massoni*, which I selected from a batch of fifty seedlings, and have named *E. ferruginea Bothwelliana*. *E. Lord Douglas* is an extra fine Heath, raised from an unnamed seedling crossed with *E. Macnabiana*. *E. Austiniana* was also raised from an unnamed seedling, crossed with *E. retorta*. I have a fine seedling raised from *E. Shannoni*, much superior to the original; also a very good seedling from *E. Shannoni* crossed with *E. retorta*. It would be an endless affair to refer to all the seedlings I have raised, hundreds of which have been thrown away, for every one I kept. At first I freely gave away such as I did not think worth keeping; but that is a bad system, for sometimes one gets back a rejected seedling under a grand name; so I gave no more away.

"I think much might still be done for the improvement of hard-wooded Heaths, though the process is tedious. I have sown seeds and had the best braird the second year after; and I have waited after that three or four years before I saw them flower, yet the interest excited in watching their opening flowers was an ample reward. After sowing at various seasons, I came to the conclusion that the end of September was the best time to sow the seeds of hard-wooded Heaths. I have no doubt that many Heaths introduced from the Cape as species are natural hybrids, as of these several varieties can be raised from the same pod of seed without impregnation. For example, *E. ventricosa Bothwelliana alba* is such a seedling obtained from *E. ventricosa superba*, a very dark-flowered sort, without artificial impregnation.

"I have been credited with raising *E. ventricosa Bothwelliana*, but I did not, nor was it raised at Bothwell Castle at all. Woodhall had then a collection of Heaths, as Bothwell Castle had, and the collection of plants in both cases came from Messrs. Lee, of Hammersmith; there was a distinct variety of *E. ventricosa* sent to each place—the one became known as the Bothwell Castle variety, and the other the Woodhall; the latter was the best, and I have ceased to grow the former. The Heath now known as *E. ventricosa Bothwelliana* was what I grew as *E. pregnans major*; I had a successful strike of it, and some plants got to London, where it was believed to be one of my seedlings, and was named *E. ventricosa Bothwelliana*—a better selling name, I suppose, than *E. pregnans major*. The only one of that section that I have raised is *E. ventricosa Bothwelliana alba*, and it is a very good Heath."

We had the pleasure of figuring so long since as 1850, in the *Gardener's Magazine of Botany*, three beautiful Heaths raised by Mr. Turnbull, namely, *E. Douglasiæ*, *E. Marnockiana*, both noticed above, and *E. simulata*, the latter being a seedling of *E. Aitoniana* crossed with *E. cerinthoides*. Subsequently, in 1852, we figured, in the *Garden Companion*, two others named respectively *E. Thomsoni* and *E. Mooreana*, the first raised from *E. aristata*

57.



J. L Macfarlane del.

Chromo. Stroobant, Ghent.

Gooseberries:

1. Telegraph. 2. London. 3, Snowdrop. 4. Fascination

crossed with *E. cerinthoides*, the second a free autumn and early winter bloomer, raised from *E. retorta major* crossed with *E. Linnæoides*. —T. M.

CHOICE GOOSEBERRIES.

[Plate 512.]

We have to thank Mr. C. Leicester, nurseryman, Crompton Road, Macclesfield, for samples of the varieties of prize Gooseberries represented in the accompanying plate. Mr. Leicester, who is the compiler of the *Gooseberry Growers' Register*, a little handbook published annually, and containing records of all the Gooseberry shows of the northern districts, is a well-known authority on the subject, and has selected the varieties figured as much for their merit on the score of quality, as for their distinctness. There is no greater mistake than to condemn the large prize fruits on the score of indifferent quality; some may, indeed, prove to be inferior, but others are well known and appreciated for their excellent flavour. The following notes and descriptions of the sorts represented have been kindly furnished by Mr. Leicester :—

Fig. 1. Telegraph (Poulson).—Raised by the late Mr. Edward Poulson, of Boothen, and let out by him at Longton, Staffordshire, in October, 1850. *Berry* smooth-skinned, of medium length, plump, and well formed; *colour* deep bright green; *flavour* fine. In 1852, weighed 29 dwts. 4 grs.; in 1864, 29 dwts.; and in 1875, 29 dwts. 7 grs. Very prolific, makes short-jointed stiff wood, and forms a compact bush.

Fig. 2. London (Banks).—This was let out by Mr. J. Banks, Jun., at Acton, near Northwich, Cheshire, in October, 1831. *Berry* smooth-skinned, long and well formed; *colour* dark red. The largest and most successful prize Gooseberry ever sent out, being the champion berry of the following twenty-six seasons, since 1839 :—

	Dwts.	Grs.		Dwts.	Grs.
1839	29	0	1853	31	4
1840	32	0	1856	31	16
1842	31	17	1857	29	11
1843	32	0	1858	31	7
1844	35	12	1860	33	0
1845	36	16	1861	29	22
1846	27	21	1864	36	4
1847	28	0	1865	33	12
1848	31	19	1866	26	10
1849	27	19	1868	29	13
1850	27	10	1869	27	19
1851	27	12	1871	31	20
1852	37	7	1879	27	18

Our old favourite has until recently been far in advance of all other varieties for weight. There are, however, several other claimants that will in all probability come in for a fair share of the honours; notably the following:—viz., *Bobby* (Orchard), a hairy-skinned berry, long and well formed; colour dark rough red: in 1875, the heaviest berry of the season of any colour, weighing 34 dwts. 20 grs. *Antagonist* (Oldfield), a hairy-skinned berry; long and well formed; colour creamy-white: in 1863, 34 dwts. 21 grs. *Garibaldi* (Walton), a heavy-skinned berry; colour light golden-yellow: in 1873 the heaviest gooseberry of the season of any colour, 32 dwts. 17 grs. *Macaroni*, a hairy-skinned berry, of medium length; colour dark, mottled red: in 1874, the heaviest berry of any colour shown, 35 dwts. 20 grs. In addition to the foregoing may be noticed, as likely to take a leading part, *Lord Derby*, previously noticed [figured in Florist, 1871, p. 1, t. 363]; also *British Oak*, a green variety, smooth-skinned, long, and well formed; colour, deep bright green. A late berry of first-class merit.

Fig. 3. Snowdrop (Bratherton). — Raised by the late Mr. Joseph Bratherton, and let out by him at Wistaston, in October, 1843. *Berry* hairy-skinned, of medium length and well formed; *colour* clear white, with conspicuous bright green veins; a most beautiful fruit, of the finest flavour: in 1852 it weighed 34 dwts. 5 grs.; the heaviest white gooseberry ever exhibited up to that date, and but once exceeded by any of its class, when, in 1863, Antagonist attained the extraordinary weight of 34 dwts. 21 grs. It is very prolific, a vigorous grower, makes long wood of medium strength, and forms a good bush.

Fig. 4. Fascination (Weston).—Raised by Mr. Joseph Weston, and let out by him at Sutton, Macclesfield, Cheshire, in October, 1877. *Berry* hairy-skinned, of medium length, and well formed; *colour* creamy-white: in 1875, shown as a seedling, 23 dwts. 4 grs.; in 1878, from a small newly-planted tree, 21 dwts. 12 grs., in an unripe state. It is very prolific, a vigorous grower, and forms a fine spreading bush; a most promising new variety, at present scarce.

The peculiarities of the several varieties have been well brought out by Mr. Macfarlane in the accompanying plate, which has been prepared from his drawings.—T. Moore.

THE CULTURE OF WALL FRUITS.

Chapter XX.—THE PLUM.

THE culture of this fruit on Pyramid and Bush trees has of late years been greatly on the increase, and to obtain a supply for general purposes, such as for preserving and for kitchen use, no better method could be recommended; but for dessert purposes, the finest varieties will always require to be grown on walls, or in orchard-houses. The latter mode of culture can, of course, only be carried out by the favoured few, and will not to any great extent influence the supply required in large establishments, so that the generality of gardeners will have to depend on wall-culture for their best table fruits.

The fundamental rules of practice as regards the thorough drainage and the formation and depth of the borders, which were explained in detail when treating of the Peach and Apricot, are equally applicable and necessary in the case of the Plum; the manipulation of the branches in like manner and training, on which all subsequent operations are based, assimilate also in some degree, being regulated by one common ground of action. As regards disbudding and stopping, more liberty, however, may be taken in the training of Plums than with either the Peach or Apricot. For example, the trees may with great advantage be subjected to a strictly horizontal method of training, by which excellent crops may be matured. In this method the fruit is produced almost entirely upon spurs, and to the attainment of a good supply of these along the horizontal branches the culture during the growing period must be directed. It is a slow process, as the management must be commenced from the very first season after planting; but on the whole, the advantage derived is very great, as the trees may be limited to a circumscribed area with very great facility, and thus within the same space a greater number of varieties may be included than by a more extended system of training. Moreover, when well furnished with spurs, and aided by the necessary feeding at the roots to keep up their strength, the trees will continue in a healthy bearing condition for many years. Root-pruning, in the case of trees so treated, is entirely misplaced, because the influence of the young shoots and the foliage on the formation of roots is so direct and so great, that when we prevent a too-liberal development of wood and foliage we place a very great check on the growth of the roots, and thus render it comparatively easy to maintain the balance between the two. But, as I shall presently remark in detail, there must be a constant supervision over the growth, and none must be allowed but what is absolutely necessary, for if left to run unchecked it is needless to expect results. Trees of this kind when planted under favourable conditions as to soil and climate, are always more ready to throw out an abundant growth than to perfect fruit, and it is only when we threaten their existence by constantly checking this tendency to growth, that fruitfulness of habit is induced, and this, when once induced, is a valuable help to the operator in keeping up the balance.

The method of training, which is called fan-shaped, that is, where the branches all radiate from one common centre, has much to recommend it, because by it quicker results may be obtained in the production of fruit, but the growth is apt to become exceedingly strong, owing to the necessity for training in young shoots at their full length, instead of pinching them back; and to do the trees justice, they require a much larger space for development than can usually be spared for them. It is at this point, bearing the above facts in mind, that we are enabled to appreciate the advantages which may be secured by a judicious course of what is called root-pruning, which is intended to check a too-liberal growth of wood, to induce a fruitful habit, and to keep the trees within such bounds as can be allotted to them.

In fact, the whole system of the culture of fruit-trees resolves itself into the attainment of an equality of action between the roots and branches. Naturally, when left unchecked in any way, it is generally some years before such trees become fruitful, but when once the balance is attained, the mutual operations proceed without interruption, and the trees regulate themselves. If in one year they carry large crops, they will recoup themselves the next by making more growth. Artificially, by pruning and training, we endeavour to attain

the same results in much less time, and in more limited spaces, in order to ensure more variety, but the ruling principles are the same in both cases. Fruit-bearing is the outcome of exhaustion in some way or other, and whether produced naturally or artificially, the same conditions of growth must be present to achieve success.

Now, since under a treatment opposed to natural conditions, we must perforce endeavour to influence the growth through the medium of the roots, it is worth our while to consider in what way this influence may be most beneficially exerted. First, as to the time: In my opinion (but I am liable to mistakes), the proper time should be towards the end of September or beginning of October, as soon as the summer foliage is matured. We are in no wise dependent upon a late autumn growth or foliage for the maturity of the wood from which we expect fruit; such growth is only the natural effect of an abundance of sap, and although in some cases useful for old trees and for filling vacancies, it is certainly not necessary for young and vigorous trees, so that by applying a check at that time, we greatly assist the ripening of the wood, and keep the trees within bounds. Secondly, as to the manner in which the operation should be performed: that the necessity is ignored by some I am well aware; that the operation is often improperly, or imperfectly, or untimely performed is almost certain; but then, careless manipulation should be credited with the failure, and not the practice itself, when carefully performed. Merely digging round the tree with a sharp spade or grafting tool, at a certain distance from the stem, is not enough, and I am led to the conclusion from practice that the best method of all is to lift the tree very carefully, at the time specified, with all the roots and fibres that can be retained, and after cutting out the grosser roots, to replant the tree at once, and add a little fresh compost about the roots, well mulching the surface after all is finished.—John Cox, *Redleaf*.

CARNATIONS AND PICOTEES:

STRAY THOUGHTS AND SEASONABLE HINTS.

NEVER in the history of the Carnation and Picotee has there been recorded, or, I believe, experienced, such wholesale destruction as has been suffered in the South in the season now past. From May to September, both inclusive, the rainfall averaged double the normal amount, with a constantly low temperature, and an almost sunless sky. Very naturally, in these abnormal conditions, the vitality of the plants was almost suspended. Gorged to repletion with moisture, and wanting the stimulus of bright sun, the plants could not assimilate the food provided in such excess; and lacking inspissation, the sap did not granulate in a degree sufficient to form roots, following the operation of layering. From every quarter in October I had complaint of this misfortune. Early in November, frost of a severity rarely paralleled, accompanied with dense fog, set in, and many stocks, caught thus before efficient protection could be given, suffered pitifully. In my own case, nearly one-half was destroyed. In the case of my friend and neighbour, Mr. Job Matthews, more than the half perished. Everywhere serious destruction was suffered, and the most favourable reports record a loss of quite one-third of the stock grown. In these circumstances, it must be expected that good, healthy stocks of Carnations and Picotees will be for some time at a premium, and years will elapse before anything like profusion can be known of such varieties as Admiral Curzon, Sportsman, &c.

Assuming the recurrence of similar unhappy conditions, it may be well to consider the treatment best fitted to redress or alleviate the evil. This will be found, I have not the slightest doubt, in the judicious use of a very *gentle bottom-heat*. When I lived at Derby, and could spend some time, though short, of every day in my garden, my practice always was at the close of September to put together a quantity of nearly dry and very slowly fermenting material, in preparation for the removal of the layers in early October; and on the bed so prepared every plant was plunged, due care being taken to give sufficiency of air, and guard against excess of heat, and there left for from three to six days. Within that space the plants were fully established, saving only a few, such as Warrior, of abnormally slow-rooting habit, and thenceforth nothing was required save shelter from drenching rains and violent winds.

Unfortunately, my vocation in these later

days compels my absence from home, at intervals, of from two to three weeks in succession, and not having aid to which I could trust my plants through such a process, I did not dare resort to it until my return home in November, after the setting-in of the severe frost I have already referred to.

Late, however, as was the time, and interrupting as was the frost, locking up the plants continuously for ten or twelve days successively, I promptly got some slowly fermenting material together, and utilised every hour of open weather, even into the new year, in lifting and potting, until I had filled my whole means of protection; and though for several weeks, during which the plants were frozen through and through, the stock had a very different look to that which in most winters had gladdened my eye, yet with the earliest return of better, brighter weather, its improvement was marked, almost marvellous; and at the period of my writing, March 20th, exacting as is my requirement, I could not desire a better plant.

In future, assuming any lack of root-action in the layers due to be removed in October, I shall, so long as I am spared, resort to my old practice, and, I doubt not, not only as the result of my own experience, but also of that of others, experienced growers, with happy results.

Finally, the whole stock, in the case of cultivators suffering from a vitiated atmosphere, and having to contend with the evils of smoke and dirt and dust, should be under glass at latest by the first week in November, or at an earlier date, should heavy rains be falling.

Grievous as have been the evils endured, florists are not weakly dwelling upon them. No men more practise the sound maxim, "Let the dead past bury it's dead," and from all sides I hear notes of high expectation, and have evidence of active preparations for a bustling season. From the bottom of my heart, I cordially hope that at its close we may have only happy reminiscences to dwell upon.—E. S. DODWELL, 11 *Chatham Terrace, Larkhall Rise.*

LIQUID MANURE FOR POT PLANTS.

WE have to thank Mr. Baines for the accompanying information respecting the manure-water used for pot plants by the growers for the London market, and to the use of which doubtless the wonderful vigour obtained in plants growing in small pots is mainly due.

As might naturally be supposed, liquid manure is largely employed by all market growers, for without its aid, it would not be possible to produce the comparatively large fully furnished plants that are produced by them in comparatively very small pots. In describing the practice of the Messrs. Beckwith, of Tottenham, he states that the stimulant most used by them is urine from the cowsheds. To obtain this, they arrange with some half-dozen dairymen in the neighbourhood to have the urine in an undiluted state, for which purpose a cesspool is made inside the sheds, the contents of which are removed once a week. For most things it is used at the strength of about a pint to two gallons of clean water; though gross feeders, like chrysanthemums, will bear it as strong as one part to six of water. This is the most effective of all liquid manures, not only for soft-wooded plants, but also for hard-wooded stove subjects, and such of the cooler or greenhouse section as grow moderately fast. Its effects are almost magical, and have been found to be so by the many who have been advised to try it. It should, however, be got in its pure state, not mixed with soakings from the manure-heap. The plants to which this manure is applied, either hard or soft-wooded, do not run to excess of leaf, as they do when most other liquid stimulants are given, but have a disposition to flower almost in excess of the growth they make, although the latter is of the stoutest possible description. Neither do the plants on which it has been used show any inclination to stop after a time, as is often noticed to be the case, when other things of a highly stimulating nature have been applied. Like all other manurial agents, it needs to be used with care and discrimination, so as not to give it disproportionately strong to any particular kind of plant; and what is of almost as much importance, its use must be regulated, by giving more or less according to the particular stage of growth the plant may be in. It is by attentive observation as to the treatment which particular varieties of plants require, or can be made to conform to, that the market grower obtains this larger measure of success than the general cultivator.—T. BAINES.

SUBURBAN GARDENING.

APRIL.—We are writing in the middle of March, and record with great pleasure that the weather is eminently favourable to gardeners and gardening operations. We have the traditional easterly winds of March, but they are not unkind, though seasonable; there is little of frost, and some pleasant gleams of sunshine; the soil is in good workable condition, and the newly-sown seeds are coming up through it in an encouraging manner,—

"Now verdure clothes the plain,
And earth assumes her transient youth again."

Kitchen Garden.—The suburban gardener has need to be constantly active here. He should now sow his second early and later *Broccolis,* such as *Adams' Early White*, *Dilcock's Bride*, *Protecting*, *Sprouting*, and *Late Mammoth;* should sow *Herbs* where necessary, with which to form beds of these useful accessories to the kitchen; should plant *French* and *Runner Beans* in warm situations; and where the soil is fairly dug, clean over his beds of *Radishes, Carrots, Onions*, *Parsnips*, and thin out the seedling plants where it is necessary to do so, stirring the soil about those which are left, and taking care that at no stage of their growth do the weeds overpower them. All this is best to be done when the soil is dry, and when the necessary surface-cleaning can be most effectually done. When the weather is moist and mild, increase of such useful herbs as *Sage*, *Rosemary*, *Savory*, &c., can be made by planting slips or cuttings, which soon take root if trodden firmly into the ground.

According to the space of ground at command as a kitchen garden, so must the suburban gardener crop it. If he has space at his disposal, and *Broad Beans* are a favourite dish, let him plant a few of *Taylor's Windsor* for a late crop. In like manner, such *Peas* as *Dr. Maclean*, *Veitch's Perfection*, *Omega*, and *Premier*, all dwarf varieties of excellent quality, and good croppers, can be sown for succession. If more *Celery* is needed, it should be sown at once, and the *Incomparable Dwarf White,* being a quick variety, is a good one for a late crop. *Salading* is always acceptable, and care should be taken that enough is provided; and as gardeners hope for the falling of the kindly rains known as "April showers," advantage should be taken of their occurrence to draw the soil up to the stems of *Cauliflowers, Cabbages,* &c., taking care the earth does not become drawn into the hearts of the plants. With warm rains are certain to come such garden pests as snails, slugs, and other ravaging insects, and these will need to be looked after.

Those who are attempting to grow *Cucumbers* or *Melons* in dung frames, should be careful to cover them up in the afternoon, so soon as the sun declines. The weather at night may prove treacherous, and the temperature may fall, and if the young fruit become chilled, the chances of a satisfactory crop are *nil.*

Fruit Garden.—Soon, especially if east winds prevail, blight may be expected to put in appearance, and in order to have *Peach* and *Nectarine* trees on walls healthy, and in good bearing condition, the shoots should be washed or syringed with tobacco-water or some other insecticide. If the leaves show sign of mildew, lime-water may be sprinkled over the trees, or better still, some sulphur dusted over them. Trees against open walls need attention in the matter of cutting away at the base any shoots, except leading ones and the latest upon a last year's shoot. The young shoots of *Cherry trees* are subject to attacks of a black fly, and these should be washed or syringed, as in the case of the *Peach* and *Nectarine* plants on walls. If dry weather sets in, and continues dry, all kinds of *Fruit-trees* will be benefited by occasional syringing, for want of such like attention in the case of imperfectly-rooted or newly-planted trees, or trees in a shallow, dry soil, the crop of fruit will drop in its infant state; but syringing should not be done till after the blossoms have dropped off.

Flower Garden.—Those who have a fondness for hardy spring flowers, such as *Daisies*, *Polyanthuses*, *Scillas, Primroses*, &c., will now be in full enjoyment of them. To these may be added *Hepaticas*, *Doronicum caucasicum*, *Anemones*, *Myosotis,* and *Wallflowers*, all subjects of great beauty and usefulness. Nothing can be pleasanter than some of these in mixed borders, and they deserve all the attention that can be given them. Many other things of a hardy character are pushing themselves through the soil, and for weeks to come, in a well-furnished garden, there will be much to interest and delight.

The pruning of *Roses* should be done early in this month, and very recently-planted Roses will need a good watering during drying weather. *Clematises* and *Climbing Roses* should also be pruned and got into shape for summer; for there is nothing like a neat appearance to the garden to start the season with. Any vacant flower-beds should be dug and dressed ready for the summer-planting.

Greenhouse.—A warm greenhouse, in which a little fire-heat can be applied at night, should now have a gay and cheerful appearance. In such a house, *Epacris*, *Azaleas*, *Camellias*, *Cinerarias*, *Pelargoniums*, *Primulas*, &c., should be the leading subjects. The *Epacris* is a charming plant, easily managed, and free blooming, and when the plants go out of flower, they should be well pruned-in, and kept at the warm end of the house for a time, to encourage

them to grow again. The great thing is to keep all the plants clean and healthy, and growing robustly. *Pelargoniums* are always a leading feature in such a house; and as the successful blooming of these plants depends on the strength and vigour of the shoots, nothing should be done to check their healthy progress. As the branches increase in size, they should be tied out, so that all may have room to grow. A good syringing with soft-water occasionally will keep the leaves nice and clean.

Such subjects as *Cockscomb*, *Maurandia*, *Lophospermum*, *Balsams*, *Celosias*, *Thunbergias*, &c., that still have an interest for many gardeners, should be sown; or, if the plants are above ground, they should be brought on kindly, with good, healthy growth. Anything in the greenhouse of a tolerably hardy character can be removed to some kind of shelter, to make room for other things requiring space in which to flower.

Cold Frames.—Boxes or pans of *Stocks*, *Asters*, *Phlox Drummondii*, *Marigolds*, &c., need to be watched, that the plants do not suffer from damp, or be dried by the sun. Some *Hardy Biennials* and *Perennials* can also be sown in pans, such as *Aquilegias*, *Canterbury Bells*, *Wallflowers*, *Sweet Williams*, *Delphiniums*, *Scabious*, &c., and they will come on nicely in the cold frame. It is a mistake to drive off the sowing of these till the summer is advanced. We cannot particularise all the subjects now finding a place in the cold frame. The leading ones should be *Auriculas*, *Polyanthuses*, *Scillas*, *Dielytras*, *Lily of the Valley*, and others of a like character. It is at this time of year that the cold frame should be a prime feeder of the greenhouse, and furnish it with many attractive flowering subjects.—SUBURBANUS.

GARDEN GOSSIP.

WE are glad to learn that some valuable PRIZES FOR PANSIES IN POTS will be offered at the exhibition of the Devon and Exeter Horticultural Society, at Exeter, on April 16th. Captain C. H. Thompson, of Colleton Crescent, Exeter, writes:—"The prizes are open to all amateurs, and I shall be happy to give particulars to any one requiring them. I last year endeavoured to organise a Pansy Society for the West of England, and the prizes referred to above are given from the funds then collected; but I fear that it will be useless to attempt to continue the Society, as the support received is not sufficient for a separate organisation. Pansies seem to become more popular in Scotland every year, for two new societies have been formed there recently. Some day, perhaps, Pansy-growing will be equally popular in England, for the idea that Pansies cannot be grown south of the Tweed is an entire delusion, and if English growers would only unite, I believe we could soon form a prosperous society."

— WE are requested by Mr. Dodwell to publish the following note, in reference to the coming show of the NATIONAL AURICULA SOCIETY (Southern Section):—"With reference to a proposition which has been made, that in place of the mid-day meeting, the members, friends, and exhibitors of the National Auricula Society (Southern Section) should dine together on the evening of the 20th, at the Horticultural Club, Arundel Street, Strand, as I am quite without the time or strength to engage in a long correspondence on the subject, will you kindly permit me to say there are insuperable obstacles in the way. In the first place, a mid-day season of refreshments is a necessity; after the arduous labours of their several parts, the mortal coil of judges, exhibitors, and executives alike requires some sustenance; and if that season be not utilised for a little social and floral communion, excepting for a very small proportion of those interested, the opportunity will be irretrievably lost. At the close of the show, six-sevenths of the exhibitors are engrossed with the care of their exhibits, and all concerned in the show are certain to be jaded more or less with the labours of the day, and unfitted and indisposed to prolong its hours, even for the gratifications of the table, or the greater pleasure of social and floral communion. To any friend or friends who may reach London on the evening of the 19th, as many will, I offer a hearty invitation to my house, for such a season of floral intercourse as time may allow; and it will be a sincere pleasure to me, if a large circle is formed. I am very happy to report, as my correspondence informs me, that we have the prospect of the largest and finest display in Auriculas yet attained. From several sides adjectives of very expressive character are used to indicate the state of the plants, and large expectation is based upon the anticipated appearance of new faces of a very high order of merit. In Polyanthus also emulation has been freely excited, and though it is not yet an open secret, there are confident predictions of many very beautiful new flowers being brought forward in this somewhat neglected class."

— THE Prospectus of THE GENERAL HORTICULTURAL COMPANY (John Wills), Limited, has just been issued. The Company is to be conducted on Co-operative principles; the capital, £100,000, in 20,000 shares of £5, £3 being payable on allotment, and the balance as required. Mr. Wills is to be General Manager; Mr. Richard Dean, Secretary, *pro tem.*; and the Central Office is at Warwick House, 142-144 Regent Street, London, W. The objects which the Company have in view are—(1), the development of horticulture in all its branches, and the furtherance of a more wide-spread demand for flowers for decorative and other purposes, and the cultivation and supply of fruits, vegetables, and seeds; (2), the introduction, propagation, and distribution of new plants; (3), the furnishing of plans, specifications, and estimates, together with the superintendence and erection of all kinds of horticultural buildings, and furnishing the same; (4), general landscape gardening, and all kinds of ground-work; (5), to purchase from its shareholders, at fair market prices, such plants, cut flowers, fruit, vegetables, &c., as they may wish to dispose of, as well as all plants which may have outgrown their establishments, and which are suitable for the purposes of the company, and to supply the shareholders with vegetables, fruit, flowers, plants, seeds, &c., implements, and other garden requisites, on the same principles as co-operative associations; (6), to establish and maintain a school of instruction for the training of young gardeners, for which pur-

pose the company's nurseries and gardens will be utilised; (7), a register of thoroughly practical competent gardeners will be kept, and facilities offered the shareholders of obtaining men of character and ability.

— Amongst the Prizes for Asparagus which have been announced, Sir Henry Thompson has offered to add five guineas to the prizes offered some time ago by Mr. Robinson for improved asparagus-culture. The object in view is the improvement of asparagus-culture in private gardens, by the adoption of a simpler and less expensive system than that now in use; also the home supply of our markets, which at the present time are so largely dependent on asparagus of foreign growth. The first competition is to take place next spring, at the Bath and West of England show at Tunbridge Wells, and the exhibitions will be continued annually during seven years, each in a different locality. Mr. Spalding has promised five guineas, to be given as an extra prize the year the exhibition is held in Kent. The Hon. and Rev. J. T. Boscawen has given an extra prize of five guineas, to be competed for at the first competition. M. Godefroy-Lebenf, of Argenteuil, near Paris, offers £10, to be distributed in prizes. Apart from these sums, over 100 guineas will be given in prizes for the improved culture of this vegetable. A schedule of the prizes will shortly be issued. The coming two months are those in which planting may be done with the greatest success.

— The Properties of the Cineraria require to be kept in view, now that fine strains of named flowers are again coming into notice. The florists' tribunals of thirty years ago, notably the National Floricultural Society, made the presence of the dark disc in the Cineraria an essential property, and there can be no doubt that its presence does very much to produce a harmonious contrast, especially in the case of white-ground flowers. Of late years, we appear to have become less exacting, and not a few varieties certificated in recent times have possessed grey or pale-coloured discs—a fault which was apparent in the massive and finely rounded Cineraria Master Harold, from Mr. James's collection, recently awarded a Certificate of Merit by the Floral Committee, for there was a want of artistic finish in the flower, consequent upon the disc being greyish-white, which made the thin ring of white round this disc appear confused and indefinite. A single bloom of similar character, in a box of cut flowers close by, had a well-defined band of pure white encircling a dark disc, with a brilliant magenta margin, and showed at a glance that the dark disc should be made a *sine quâ non*.

— At Blackadder, Berwickshire, Miller's Dwarf Broccoli, a fine old sort, which has of late years rather gone out of fashion, has proved to be the only one to withstand the cold, which was very intense there, being 23° below zero; notwithstanding this cold, a lot of Miller's Broccoli stood without injury. Mr. Knight truly observes that in severe seasons such as we have had of late, varieties of hardy vegetables such as this cannot be too well known. Mr. Thompson says of this sort, that it is considered by many to be the best late variety, and this opinion will now be strengthened, if, as he adds, it can be obtained true. It requires to be planted early, and should be sown by the middle of April. It is known as Miller's Late White, Miller's Dwarf, and White Russian; it is remarkable for its dwarf habit of growth, scarcely exceeding a foot and a half in height, and being remarkably compact.

— Mr. G. Lee, of Clevedon, sends us blossoms of his Violet argentiflora—the Silver-flowered Violet—which is one of the best single-flowered whites we have seen. The leaves are small and elegant, like those of the hedge violet, and have none of the coarseness of those of the large blue-flowered sorts. The flowers, though delicately feathered with pale purple on the outside, are practically white, with a purple spur, and have very long foot-stalks, which throw them well up above the foliage, and render them well suited for bouquets and for bunching. They are regularly and neatly formed, with blunt, broadly-oblong petals, and measure, when fully open, about three-quarters of an inch across, the petals being fully half an inch long. The scent is delicious, resembling that of the hedge violet. Mr. Lee suggests that it will be a good sort for growing under glass in winter, as it remains so long in season—seven or eight months—and is a most profuse bloomer.

— Amongst the new Lawn Mowers of the present season, one called the Globe, an Anglo-American, sent out by Messrs. Ransomes and Co., of Ipswich, is well spoken of. It is strongly recommended, as being first-class in every respect, possessing the principal features of this class of machines; while it is claimed for it that it surpasses most of its rivals in its greater accuracy of fitting, and in the nicer adjustment of its cutting parts. It has been introduced to meet the demand for machines adapted for cutting lawn grass, when it gets somewhat long. It has all the appearance of being a light but strong and efficient machine, and one which will accomplish good work in quick time and with little effort. The high standing of the manufacturers is a guarantee that in its construction every care will be taken to turn out a good article.

— Mr. Joseph Baumann writes respecting Tree Pæonies, "Some fifteen years ago I bought the two most renowned varieties of Tree Pæonies, viz., *Gloria Belgarum* and *Souvenir de Gand*, of the late Mr. Charles Gœthals. At that time I grafted about 1,500 of these on the roots of the common Tree Pæony, by far the best and most suitable stock for the purpose; but since then I have grafted Tree Pæonies on the roots of all the herbaceous species without exception, and with most satisfactory results. Nevertheless the P. sinensis of the herbaceous class is to be preferred, because it is not liable to produce so many suckers as P. officinalis, edulis, &c. The best time for grafting is July and August. In 1849 the late Dr. Siebold confided the whole collection of Tree Pæonies which he introduced to my care for propagating, which I did on all the species of the herbaceous class with the greatest success. As to the hardiness of such Tree Pæonies, I may state that while plants, as Roses, Rhododendrons, fruit-trees, Conifers, &c., in the open ground were killed by the frost, all my Tree Pæonies, which had no protection whatever, suffered not in any way; they are, in fact, at the present moment in bud. In my opinion, they do not suffer so much from a severe winter frost as they do from the late spring frosts in April and May."

— Referring to Choice Vegetables, "K. Tweedside" writes:—"Out of a number of excellent kinds of vegetables we grow here annually, there are a few which I look upon as special favourites—standard first-class varieties. *Vicks' Criterion*

Tomato is one which outstrips all other sorts hitherto grown here, both in quality and quantity of produce. *Dickson Brown and Tait's Eclipse Cauliflower* is another of superior merit, having all the superior characteristics of Veitch's, but dwarfer and hardier than that popular variety. *Stuart Mein and Allan's No. 1 Cabbage*, which in reality is a high selection of Enfield Market, is the earliest Cabbage, as in some seasons it has been cut in February, and is by far the best for general purposes; I grow no other. Of the old *Lemon Kidney Potato*, the few I grew last year determine me to grow it extensively; compared with the old Ashleaf and Gloucestershire Kidney, it was much less diseased; it is a heavy cropper, and superior in flavour. *Hammersmith Hardy Lettuce* cannot be too highly recommended for standing the winter, and coming in early in the season. *William the First Pea* is decidedly the best early Pea grown and is moreover a good cropper, and the right medium size for the cook. *Leicester Red Celery* maintains its superiority both for general excellence and its characteristic hardiness."

— AMONGST some NEW CHINESE PRIMROSES grown by Messrs. Stuart and Co, of Nice, is one with bluish-white flowers, freckled and occasionally striped with crimson, and having a bright yellow eye occupying half the diameter of the flower —very striking and distinct. Two others have the usual yellowish-green eye, exterior to which is a broad ring, occupying half the diameter of the flower, of a bright bronzy hue, the margin being in one case bright crimson, and in the other rosy-crimson. Neither of the three are very perfect as to outline and smoothness, but they are large and bold flowers, and the other desired qualities will, no doubt, in due time be forthcoming.

— THE deliciously odorous NEAPOLITAN VIOLET is admirably grown by Mr. Denning in the gardens at Londesborough Lodge, Norbiton, the plants being robust, healthy, and full of fine blooms. The frames in which they are grown are placed on the most elevated ground in the garden, and the place is also naturally high; but Mr. Denning, without doubt, rightly ascribes the good results he obtains to the adoption of a simple principle in ventilation that is by no means so commonly practised as is desirable. Giving air to frames in most gardens means tilting the lights behind to allow the damp air to escape; here it means, in the violet frames at least, tilting the lights both in front and behind, and keeping them so a little at all times, except during severe frosts or high winds, so that a free current of air is always passing through the frames and playing about the plants. We commend this simple plan to all who are unsuccessful in frame violet culture.

— A FINE new White INDIAN AZALEA, ROI LÉOPOLD ALBA, is now being sent out by Messrs. Veitch and Sons, of Chelsea. As its name implies, it is a white-flowered form of the well-known Roi Léopold. The plant has a free, sturdy, well-furnished habit of growth, and being a profuse bloomer, is in every way adapted for decoration. The individual blossoms are of average size and semi-double, occasionally slightly flaked, but in its ordinary and characteristic condition, of the purest white.

— MR. BERGMAN, gardener to Baron Rothschild at Ferrières, has raised a SPOTTED ANTHURIUM SCHERZERIANUM. In 1876, he fertilised some flowers of *A. Scherzerianum* with the pollen of *A. Williamsii*, and ultimately raised a batch of 25 seedlings, all of which, except four, proved to be only good forms of *A. Scherzerianum*; while the four in question produced white spathes nicely spotted with red, the habit of the plants resembling that of a vigorous type of *A. Scherzerianum*. The plant was shown in Paris at a meeting of the Central Horticultural Society of France, and the exhibitor obtained an award equivalent to a First-class Certificate.

In Memoriam.

— MR. WILLIAM DUNNETT, eldest son of Mr. W. H. Dunnett, of the firm of Messrs. Carter, Dunnett, and Beale, died on February 23rd, at Melbourne, whither he had gone under medical advice, at the early age of 32. He had been brought up to take an active interest in the seed-growing establishments at Dedham and St. Osyth, and about eight years ago came to London to take the post of manager of the wholesale department at the Holborn house, under Mr. Beale. He was a thorough man of business, and, in spite of physical weakness, was most active in the discharge of responsible duties, which were performed in a way that won for him the respect and esteem of all.

— MR. WILLIAM HALLIDAY, for many years assistant to Mr. Marnock, died at Sheffield, of acute bronchitis, aged 45. He commenced his career in the Royal Botanic Society's Garden, Regent's Park, and subsequently entered the service of Messrs. Veitch and Sons, with whom he stayed for several years, and then became assistant to Mr. Marnock, with whom he remained until that gentleman retired a year or two ago, when Mr. Halliday commenced business as a landscape gardener at Sheffield, with the prospect of a successful career before him.

— MR. THOMAS PARKER, of St. Michael's Hill and Stapleton Nurseries, Bristol, died on February 27th, at the age of 59. Not only in his own parish, where he was churchwarden, but throughout the city and neighbourhood, his genial temper and straightforward business habits combined to make him a most agreeable companion and to win for him the respect of all those who knew him intimately.

— PROFESSOR BELL died at Selborne, on March 13th, in his 88th year. Mr. Bell, who was formerly one of the foremost of London dentists, held the offices of Secretary to the Royal Society, Professor of Zoology at King's College, London, and President of the Linnean Society, in which latter position his suave courteous manner and dignified bearing will long be remembered by the older Fellows of that Society. As a naturalist he was best known for his researches on the Crustaceans and on the Mammalia and Reptilia. Some years since he took up his residence at Selborne, in the house occupied by Gilbert White. No fitter tenant could possibly have been found; and although, perhaps, the value of Prof. Bell's services to natural history cannot be overlooked, the greatest service he ever rendered to it was the publication of his edition of White's *Selborne*.

W H Fitch del

Chromo G Severeyns. Brussels.

1. Lilium Johnstrum 2. L. neilgherrense tubiflorum luteum

CHOICE LILIES.

[PLATE 513.]

IN the limited area of the accompanying plate, Mr. Fitch has very cleverly contrived to present unexceptionable portraits of two fine and very distinct species of *Lilium*, namely, *L. dalmaticum* and *L. neilgherrense tubiflorum luteum*, both of which are plants of a highly decorative character.

Fig. 1 represents LILIUM DALMATICUM. This is sometimes ranked as a mere variety of *L. Martagon*, but the plant is a very distinct one, and worthy of being cultivated for its own special merits. Like all the Lilies of the Martagon type, it has ovoid yellowish bulbs of moderate size, formed of numerous narrow scales. The stems grow three or four feet in height, and are furnished with from two to four whorls of leaves, each whorl consisting of from six to nine leaves, which are horizontal, oblanceolate-spathulate, sessile, of a soft herbaceous texture, and of a deep dull-green colour. The flowers grow many together in a loose elongated raceme, and are nodding, of moderate size, with the segments recurved and exposing the prominent anthers; these segments are stout in texture, and are of a dark purplish-claret, almost or quite without dots. The anthers bear reddish-purple pollen, and the stigma is also red. It was called *L. Cattaneæ* by Prof. Visiani in the *Flora Dalmatica*, the plant being a native of Dalmatia; while Mr. Baker, our most recent authority, if we except Mr. Elwes (whose splendid folio monograph of Lilies is now nearly completed), places it as a variety of *L. Martagon*. Whichever view be taken of its botanical status, there can be no two opinions as to the high position it must occupy as a decorative plant, amongst hardy garden bulbs.

Fig. 2 represents a variety of LILIUM NEILGHERRENSE, called TUBIFLORUM LUTEUM, on account of the long-tubed form of its flowers, and their yellowish colour, as compared with the whiter flowers of the type. The bulb in this is nearly globose, composed of a few thick scales. The stem grows from two to three feet high, and is furnished with from thirty to forty shining green, scattered linear pointed leaves, which are distinctly three-nerved, and the lower ones three to four inches long. The flowers are nearly a foot long, deliciously scented, deflexed, funnel-shaped, with a very long and narrow tube, the oblanceolate segments spreading so as to form a trumpet-shaped mouth; the colour is a soft, delicate sulphur-yellow. The stamens are slightly shorter than the floral segments, and have yellow anthers, containing orange-yellow pollen, and they are slightly exceeded by the greenish obtusely three-lobed stigma. This fine lily is found in the temperate regions of the Neilgherry mountains, and is one of a series of forms differing slightly in colour, and in the length of the tube and the breadth of the perianth segments, all of them, however, being fine ornamental plants, valuable on account of their late-flowering habit. Dr. Wallace states that he believes these Neilgherry Lilies to be quite hardy, but whether hardy or not, they prove admirable objects for pot-culture for the decoration of the conservatory.—T. MOORE.

VINES AND VINE-CULTURE.

CHAP. XVIII.—THE VARIETIES OF GRAPES.—*(Continued.)*

THE descriptions of the several varieties of Grapes included in our synoptical table, are here continued from page 40.

BLACK HAMBURGH (1).—An oval black Sweetwater Grape.—*Synonyms:* Black Tripoli, Braddick's Seedling Hamburgh, Chasselas de Jerusalem, Frankenthal, Garnston Black Hamburgh, Gros Bleu, Hampton Court Black Hamburgh, Knevett's Black Hamburgh, Muscatellier noir, Pope Hamburgh, Red Hamburgh, Tripoli, Victoria Hamburgh, Warner's Hamburgh.

Vine.—*Growth* free and vigorous, with a remarkably fine constitution; the wood moderately strong, always ripening well; very fruitful. The young shoots pale green, yet occasionally tinged with red. *Leaves* of medium size, nearly smooth, pale green in colour; the leaf stalks and venation sometimes reddish, and when so, the leaves in dying off become slightly coloured, and thus differ from the ordinary dull yellow colour which the leaves of the Black Hamburgh usually assume.

Fruit.—*Bunches* medium-sized, obovate in shape, with broad shoulders, generally very compact, but sometimes loose and straggling; average weight from 1 lb. to 2 lb., sets very freely at all times. *Berries* large, from 1 in. to 1½ in. in diameter, roundish-ovate in shape, but varying in this respect greatly,

sometimes being quite round, the smaller berries being generally ovate and quite smooth, the larger ones rounder, and with a distinctly hammered appearance. *Skin* deep bluish-black, covered with a fine bloom. *Flesh* firm, yet tender, juicy and melting, with a rich sugary and very pleasant flavour.

History, &c.—The Black Hamburgh Grape is stated to have been imported from Hamburgh, in the early part of the last century by Mr. John Warner, a London merchant, who established a vineyard. Hence it became known as Warner's Black Hambro'—*i.e.*, Mr. Warner's black grape, from Hamburgh, Hamburgh being the seaport town of northern Germany. It is essentially a German grape, being met with in every part of that country where grapes are cultivated, and under very numerous synonyms, the best known being that of Frankenthaler, which, of late years, has been much adopted in this country—by some as synonymous with Black Hamburgh, by others as representing a larger and stronger variety. The confusion that has arisen in this respect is entirely due to accidental circumstances. A very excellent illustration of this was afforded in the great conservatory of Chiswick. The varieties of vines planted therein were procured from all quarters, one-half being planted in an outside border, and the others in a shallow border inside. On fruiting, the varieties of Black Hamburgh which were planted in the outside border were all large, the berry round, and with a hammered appearance, &c.; while the others were small, smooth, ovate, &c., and apparently sweeter. The former were duly labelled "Frankenthal," the latter "Black Hamburgh," but cuttings of each being grown under reversed conditions, the appearance and the character of each were alike reversed. There is no permanent distinction amongst the many so-called varieties of Black Hamburgh, excepting the Mill Hill and Dutch, which are so decidedly distinct that no possible confusion need arise.

Amongst the other synonyms, Black Tripoli was for a long time considered a larger and superior variety, through its excellent and extensive cultivation at Welbeck, but that name is obsolete now; the same may be said of Braddick's, Garnston, and Knevett's Black Hamburghs. Pope Hamburgh was so called through one of the ancestors of Basil Fitzherbert, Esq., of Swynnerton Hall, Staffordshire, bringing cuttings from a friend who resided near Rome, upwards of ninety years ago, and naming it "The Pope." The original vine may still be seen at Swynnerton Hall. The late Mr. Fleming, of Trentham, on seeing this vine, considered it a distinct variety, and distributed it as Pope's Hamburghs. Hampton Court Black Hamburgh is so called from the large vine at Hampton Court Palace, and has the reputation of being the true variety, producing smaller berries. Victoria Hamburgh was for a long time popular as the largest and finest variety, but that name is not now referred to. Even the Red Hamburgh had its champions in regard to its distinctive features, but there are not many growers now who are proud of producing it. From France, we have received it under the names of Gros Bleu, Chasselas de Jerusalem, and Muscatellier noir; but these are merely modern nursery names, and mean little. In France proper, this Grape is scarcely known, excepting under the English name of Black Hamburgh, or the German one of Frankenthal.

Amongst the many remarkable Black Hamburgh vines in this country, the following may be noted:—

1. The great vine at Hampton Court, which if not the largest, is probably the best known. This is stated to be 112 years old, and fills a house 66 ft. long by 30 ft. wide, with a main stem 3½ ft. in circumference. This vine is in remarkably good health, and annually bears a large crop of small bunches, as many as 1,700 in one season.

2. The vine at Cumberland Lodge, Windsor Park, which completely fills a house 138 ft. 4 in. long and 20 ft. wide, and has a stem 3 ft. 8 in. in circumference. This noble vine is nearly twice the size of the Hampton Court plant, and is in perfect health and vigour, the produce being good. Last year's crop (1879) was 2,000 bunches, of an average weight of ¾ lb., or a total of 1,500 lb. of Grapes.

3. Another celebrated vine is that of Mr. P. Kay, at Finchley, which annually produces magnificent Grapes.

4. The vine at Shardeloes, Bucks, covering 80 ft. in length of house, and 90 years old.

5. The vine at Wrotham Park, 82 years old, but much smaller than the others.

6. The vine at Kinnell House, Breadalbane, Scotland, stated to have been planted in 1832, and now to cover a house 172 feet long by 25 feet broad, about 475 square yards, and to produce very fine crops of large bunches and berries.

Cultural Notes.—The Black Hamburgh is the standard and national grape of England, the most generally cultivated, and the best. It is, moreover, the easiest of all grapes to cultivate, the treatment required being of the ordinary character, as recommended in the previous chapters. It is the gardener's friend amongst grapes. Many examples of superior cultivation might be mentioned, the champion grower of the present day being undoubtedly Mr. Coleman, of Eastnor Castle. Amongst extraordinary results, Mr. Hunter, of Lambton Castle, has the honour of having grown the largest bunch of this variety, which was exhibited at Belfast in 1874, and weighed 21 lb. 12 oz. A second bunch, weighing 13 lb. 2 oz., also grown by Mr. Hunter, was shown in Manchester in 1875. Mr. Meredith, of Garston, comes next, with a bunch weighing 9½ lb., grown in 1865; Mr. Rayne, Chelmsford, with a bunch weighing 8 lb. 14 oz., in 1860; and Mr. Davis, at Oakhill, in 1858, with a bunch weighing 8½ lb., the single berries of which measured 4½ inches in circumference.

Season.—The Black Hamburgh is excellent for use as an early forcing grape, and is the best of all for a general crop, but requires considerable skill and careful treatment to keep it in good condition after Christmas.

Merits.—First-class in every sense; the best and most useful of all grapes.

—A. F. BARRON.

THE LATE DECEMBER FROST, AND OUR FRUIT PROSPECTS.

NOW that we can pretty clearly see the amount of mischief done by the severe frosts of December last, we may congratulate ourselves that things are really no worse. For a long time, I thought many of the shrubs would have been killed outright, seeing we had the thermometer six degrees below zero on the morning of the 6th of December, but with the exception of the young wood of the Aucubas and of the common Laurel, we have suffered very little on the west side of Ripon; and at Lawley Hall, a few miles

further west, and on more elevated ground, they have suffered still less, even the standard Roses being uninjured. At Studley, however, the standard Roses were nearly all killed, at least 85 per cent. of them, but these were nearly all in the kitchen garden, which lays some 40 feet lower than the shrubbery and flower garden, and I am glad to see some signs of life even in the Pampas Grass, which was tied up and well covered with litter at the time of the frost. In the kitchen garden, nearly the whole of the Broccoli were killed, some three or four dozen only escaping, and those appear to be mostly Gilbert's Champion Broccoli. Brussels Sprouts were never more abundant, and have given us good supplies up to the present time (April 13th).

The frost has, however, done far more mischief in our neighbourhood, as at Newby Hall, a few miles south of Ripon, I hear the pleasure-grounds are greatly devasted. The grounds lie near to the banks of the River Ure, hence the cause of their suffering so much, as I believe the same amount of frost was registered as at Studley. Again, on the Marquis of Ripon's estate at Nocton, in Lincolnshire, nearly all the common Laurels and many other shrubs were all but killed.

And now with respect to our prospects in respect to out-door fruit. Of Peaches, there will be none; the wood was imperfectly ripened, and is much injured by the frost, and there is no bloom. Apricots have set an abundant crop, and are still in full bloom. Plums are showing plenty of bloom, Pears a moderate quantity; Apples appear as though they would be very plentiful. Bush-fruits promise fairly well. Strawberries are throwing up fine trusses of flower, so that I think we may look forward hopefully and trustfully. We have had some cold east winds lately, but now the wind has changed to the north-west. We have had a splendid rain, and it is much warmer since. It is my impression that we shall have both an earlier and better summer. It is wonderful how soon things apparently dead spring into life. A bountiful Providence, we may hope, will soon put all things right, filling our garners with plenty, and our hearts with gratitude.—JOHN CLARK, *Studley Royal.*

HOOP-PETTICOAT DAFFODILS.

(NARCISSUS BULBOCODIUM.)

THE old yellow Hoop-Petticoat Daffodil is but seldom seen in modern gardens. We have had several batches blooming in our greenhouse this spring, and it was much admired. Out of doors in the border this species has a knack of disappearing, unless the bulbs are dropped in at the foot of a sunny wall, where they get thoroughly well ripened. In Spain, I think it is often found in wet swampy ground; and when grown in pots,

I find that it refuses to bloom well if allowed to become dry, notwithstanding all of which the summer ripening process seems very essential, as before suggested. Even if the bulbs have to be purchased every season, it is a plant one would not care to be without, but in sandy soils near the sea it succeeds well in a warm corner, near masonry or brickwork.

The white variety, *N. monophylla,* from Algiers, does best in a cold frame, with a western exposure. The old craze about a south aspect is going out of fashion. Gardeners are beginning to find the western far preferable. Tea Roses on a southern aspect here are killed to the ground; those exposed on a western one are fresh and healthy. The "why" of it does not appear far to seek. On the southern walls, the hot sun, coming close on the heels of the frost, bursts up the frozen tissues of the plants, and so they become blackened, lifeless wrecks. Those on the west, to which the sun approaches more gradually, escape. To return to the White Daffodil, it may be raised from seeds, but bulbs planted in sandy loam flower much sooner, of course.

My particular object, however, in now writing, is to draw attention to the Large Sulphur Hoop-Petticoat Daffodil, which was introduced from Biarritz a few years ago by J. D. Llewelyn, Esq., a well-known and worthy lover of fair flowers. I have seen it several years in Mr. Barr's collection, and last autumn obtained one bulb as a particular favour; and it has just now bloomed, bearing a bold, pure sulphur-tinted blossom, the size of my sketch; and two other scapes, on one of which are two flowers—a breach of etiquette I never remember to have seen before in these Daffodils, although Triteleia uniflora now and then plays the same trick. I believe this variety to be more robust, earlier, and so hardier than any other form; and if this should prove true, it deserves to become popular; and visitors to Biarritz would do well to look out for its thong-like green leaves, even if they are too late for its sulphur blossoms.

The forcing of the common yellow variety is very simple. Bulbs obtained in October or November should be at once potted, five together, in a 48-sized pot, using a compost of loam, leaf-mould, and sand. Give a good watering, and then place the pots under a wall or hedge, and cover with three or four inches of sifted coal-ashes. Here they may remain until January, when they will have rooted. Then bring them into a sunny greenhouse or frame, placing them near the glass, and give plenty of water so soon as top-growth commences. When the leaves are from nine inches to a foot long, the bloom-scapes appear. A cool, airy place in the full sunshine is desirable, as if placed far from the glass, or in heat, the leaves become drawn. All the Daffodils force well treated in this manner, but *N. Bulbocodium* is so distinct from all others, and so quaint and bright withal, that it is quite a treat to anticipate its out-door beauty by forcing a few bulbs in pots in the manner here described.—F. W. BURBIDGE.

[Mr. Baker has been good enough to examine the specimens of this hitherto undescribed Narcissus, and to communicate the following descriptive character:—

NARCISSUS BULBOCODIUM, VAR. CITRINUS.

Bulb ovoid, $\frac{1}{2}$ in. to $\frac{3}{4}$ in. diameter. Leaves 3 in. to 4 in., sub-erect, $\frac{1}{8}$ in. to $\frac{1}{6}$ in. diameter, as long as, or rather longer than the scape. Scape 1-flowered, terete, 4 in. to 6 in. long. Spathe lanceolate membranous, 15 to 18 lines long, cylindrical and united up to the ovary, slit open above it. Pedicel $\frac{1}{2}$ in. to $\frac{3}{4}$ in. long. Ovary oblong, trigonous, $\frac{1}{4}$ in. long at the time of flowering. Flower measuring in the cultivated plant 2 in. or more, from top of the ovary to the tip of the corona, a uniform pale lemon-yellow; tube funnel-shaped a little longer than the corona, $\frac{1}{2}$ in. diameter at the throat, striped green outside in the lower two-thirds; segments lanceolate, pale lemon-yellow, $\frac{3}{4}$ in. long, ascending, finally reflexing; corona 1 in. long, not at all lobed, only obscurely crenulate at the throat, widening gradually, from half an inch in diameter at the base to an inch at the throat; stigma reaching to the throat of the corona; stamens unequal, declinate, reaching about half-way up the corona.

Damp, heathy hollows of the French Landes about Dax, Biarritz, and Bayonne. Introduced into English gardens, several years ago, by J. D. Llewelyn, Esq. Flowers with us early in April.—J. G. B.]

PEACHES ON OPEN WALLS.

IN no department of Gardening are the effects of cheap glass more apparent than in the extent to which Peach cultivation in glazed structures has been carried during recent years. Even in what may be called

small garden establishments, both an early and a succession peach-house are now usually looked upon as indispensable as are the grape-houses. The cause for this is not far to seek. Many people prefer a well-grown fully-ripened Peach or Nectarine fresh from the tree, to any other fruit, grapes included; and there is no question that to have these fruits up to the highest point of flavour of which they are capable, the ripening process must be completed on the tree. Peaches or Nectarines gathered several days before being perfectly ripe, as they require to be when they have to pass through the fruiterer's hands, ultimately arrive at a mellow eatable condition; but when this is brought about after they are removed from the tree, they are far from being equal to such as are allowed to hang their wonted time.

In fact, it may with truth be said that those who do not have these and other stone fruits fully matured on the tree, never know what it is to eat them as they should be eaten. Neither is there any doubt that under glass the trees escape many of the maladies and mishaps to which they are liable when on open walls, especially in their being protected from the vicissitudes of weather. That the Peach is particularly adapted for cultivation under glass is evident, from the fact that we so often see trees on open walls not in good condition, but which, when a house is built over them, quickly assume a vigorous healthy state. The length of time the trees last and continue fruitful, where well managed, even when forced for a long succession of years, is further proof of the adaptability of the Peach for in-door cultivation.

Yet, granting all this, I cannot subscribe to the verdict that some who treat on this subject appear to have come to, as evidenced by the despairing tone in which they write regarding the cultivation of these fruits on open walls. There is doubtless a considerable portion of England climatically unsuited to the growth of peaches, in which their cultivation in the open air is so precarious, or impossible, that it is no use planting them. Where this is proved to be the case, it is simply folly to fight against natural difficulties that we cannot cope with, and it is much better to occupy the walls with other fruits that are found to succeed; but even where climate and other conditions requisite for the well-being of Peaches and Nectarines on open walls exist, it is no uncommon occurrence to meet with them in anything but a satisfactory state, simply through want of attention. Where the expense of a glass house is incurred, with the additional cost of heating it, there the trees almost invariably have the attention bestowed upon them that would be given to any other description of fruit grown under like conditions—an unstinted supply of water to the roots, with such solid and liquid stimulants as are deemed necessary. Care is taken that nothing is planted on the borders that can in any way impoverish the soil; the leaves from their first opening are kept free from insects by a daily use of the syringe or garden engine, and if a few curled leaves mark the presence of aphides, means are at once taken to get rid of them. Strict attention is paid to air-giving in the mornings, and closing the house in the afternoons, a very different course to that frequently pursued with the same fruits on open walls, where too often it appears as if they were left very much to chance: aphides being allowed to cripple or destroy much of the first foliage, followed by red-spider and thrips later on; the trees being permitted to carry a far heavier crop than they are able to mature; or the thinning not being attended to until the fruit has grown to a considerable size, and has thus so far taxed the trees to no purpose. In addition to all this, the young shoots are frequently not sufficiently thinned, or not removed till they also have drawn severely and uselessly upon the strength of the roots, besides injuring the current crop of fruit, if there happens to be any.

I do not mean to say that this is a picture of Peach cultivation as it exists in the many gardens throughout the country where these, and other out-door fruits, meet with their due share of attention, equal to those that are grown under glass; but it is no exaggeration of what is to be seen in very many places, where the fruits that have more or less expensive glass erections to shelter them are fairly treated. When Peach-trees on open walls receive generally the attention they both require and deserve, there will be less said about the precarious nature of the crop, which oftener fails through the indifferent treatment they have been subjected to, than through spring frosts, or badly-matured wood.—T. Baines, *Southgate.*

SHARPLESS' SEEDLING STRAWBERRY.

THIS variety bears a very high character in America, and indeed, has been there called the Prince of Strawberries. Mr. W. C. Barry, of Rochester, U.S., states, that of the large number of kinds which he has personally examined and tested, the Sharpless claims the first place. This opinion of its value was first formed in 1877, Mr. Sharpless having sent to Mr. Barry's private garden a few plants for trial; and at the annual meeting of the Western New York Horticultural Society, the president referred to it as a very promising

sort. "In June, 1878," writes Mr. Barry, "we had ample opportunity to give it a thorough trial, and it pleased us exceedingly. Its vigorous habit of growth is one of its characteristics. No other variety that we are acquainted with produces such strong, thrifty plants, or has such large and handsome foliage. It is very productive, and yields immense crops even under ordinary treatment. The trusses are remarkably strong and well-proportioned for the burden they are intended to support, although in many cases the fruit is so large as to bend them to the ground. The berries average large to very large, are generally oblong in shape, narrowing to the apex, but sometimes irregular and flattened. The colour is a clear light red, with smooth, shining surface. The flesh is moderately firm, with a fine aroma, and may be rated as first in quality.

"A bed of this variety, when the plants are loaded with fruit, is well worth visiting. The rich dark green foliage at once arrests attention, even from a distance, and if we will take the trouble to approach and examine the fruit, it will not be possible to repress our surprise and admiration. If it proves as great a success generally as at Rochester, Catawissa, and Cinnamison, we predict for it great popularity."

This Strawberry was, as we learn, raised by Mr. J. K. Sharpless, of Catawissa, in 1872, and we are indebted to Messrs. Ellwanger and Barry, of the Mount Hope Nurseries, Rochester, for the annexed illustration and description :—

"*Size* large, an average specimen measuring 1 to $1\frac{1}{2}$ in. in diameter either way; a specimen exhibited at the Nurserymen's Convention, held at Rochester, June 20th, 1878, weighed $1\frac{1}{2}$ oz., and measured 7 in. in circumference, and a berry of 1879 measured $7\frac{3}{4}$ in. in circumference. *Colour* clear light red, smooth, shining. *Flesh* firm, sweet, with a delicate aroma; of excellent quality. *Plant* remarkably vigorous and luxuriant, hardy and prolific. This variety having fruited with us several seasons, we have no hesitation in recommending it."

With such a high character as this, which, as far as appearance goes, is fully borne out by the illustration, the Sharpless Strawberry would appear to be worth the attention of our own Strawberry growers.—T. Moore.

RUMINATING.

TURNING the pages of our Floricultural literature, in that process of "chewing the cud" which comes naturally with the long evenings of winter, I came upon two numbers of the *Country*, kindly sent me by the Editor, but which had escaped my notice at the time, the one containing a report of the National Carnation and Picotee Society's show, the other a notice of my flowers at Larkhall Rise.

This latter, which admirably sets out the conditions of successful culture, and the especial suitability of the Carnation and Picotee as town flowers, excepting that it too much lauds my humble efforts, I should desire to be very widely known; but there is one paragraph, occasioned, probably, by some involved expressions of my own during the visit of the writer, which, as containing a cardinal error on a point of great practical importance, I wish to correct. The writer says, "When in bloom, certain flowers are occasionally selected for crossing, but this Mr. Dodwell largely leaves to natural agencies." My practice and my teaching are the converse of this. For seed-taking likely to result in improved developments, I have for many years practically known the necessity of the most careful selection of the parents, and though I have not refused to take seed from a good stock when only the mother-plant was known to me, yet all my experience has led me to the conclusion that the higher development is only approached after careful study of the habit and character, both of plant and flower, of the pollen-producing and seed-bearing plants respectively.

With respect to the notice of the show, speaking of the awards, the writer says:— "The last grower would have taken higher rank with all his flowers, had he resorted to the practice, now universally adopted, of 'dressing' the blooms. With no wish to reopen this often discussed question, we would suggest that when a grower shows undressed flowers in a class in which dressing is permitted, he should at least be allowed to affix to his stand a statement that the blooms are shown in their natural condition; and, moreover, there might well be an open class for undressed flowers, *which always present greater attraction to the general public.*"

I italicise the words on which I desire to offer a brief comment; but first, I should like to say the practice of dressing is permitted and practised in every class; and secondly, the grower referred to did in a fashion dress his flowers, though in a manner and with an effect far inferior to, let us say, a Turner. Now, as to the evidence on which this assumption of the greater attraction of "undressed" flowers for the general public rests. I have lived through a long floricultural life, and have had a considerable experience of Carnation and Picotee shows, and, as was the case at the exhibition in question, I have rarely known shows at which, from lack of opportunity, numbers of flowers have not been shown without the aid the final touch of a skilful dresser confers. Seventy-two flowers of my own were in this state in two large boxes, and some others from other cultivators. Thus the opportunity was afforded of determining, by indisputable evidence, this assumed attraction. And I am bound to record it is based on no foundation whatever. At no time throughout the day were the prize-stands, more especially the very fine collection of twenty-four selfs and fancies shown by Mr. Turner, without a crowd of eager admirers and equally eager inquirers; but at no time throughout the day did even two or three assemble in the neighbourhood of the undressed and therefore only partially developed flowers.

I think it is to be regretted that writers in a position potentially to bias the general public should put forth assumptions formed without even an attempt to ascertain their base, and which a few hours of patient attention would show to be unfounded in fact.

No one can have graduated in floriculture without being aware that its every process is, from time to time, excepted to by some who, instead of studying those processes, and thereby learning how truly they are developments of Nature, are for ever harking back upon something they are pleased to imagine could be, of course without effort, attained by "all and singular," a state of affairs they apparently think so satisfactory, that they clearly do not know that the attainments of "all and singular" would bring mankind to the level of the new-born baby, or to push the subject yet further into the realms of the ridiculous, to the status of the savage.

Lovers of flowers, like lovers of other forms of beauty, bring their productions together for the purpose of determining the development of Nature possible to Art; and those acquainted with the rules within which the florist works, and will continue to work, know well there is no possibility of Nature being degraded, or the lustre of Art tarnished in the process.

I should have desired these remarks to appear in the paper which has been the occasion of them, but as I learn the *Country* ceased to be issued with the death of the late Mr. Serjeant Cox, I shall greatly esteem your giving them publicity.—E. S. DODWELL.

TREE CARNATIONS FOR BORDERS.

THE Tree or Perpetual Carnation, in addition to its great value as a pot-plant for winter flowering, is one of the most useful plants for the border. The old plants are generally consigned to the rubbish-heap, after their winter bloom is over; but if planted out, I know nothing more valuable than the tree Carnation for cutting from during the late summer and autumn months.

The cultivation is a very simple matter, and can be made a source of great interest to the amateur, if carried out as I recommend.

Sow the seed in spring, in a slight heat, in a light soil. When large enough to handle, prick the young plants out in pots or pans. When established, harden off, and plant out in prepared beds in the open ground from six to nine inches apart; keep them clean, and well watered if necessary, and by the end of September they will be nice plants to be potted up for winter and spring flowering in the greenhouse.

I do not pretend to say the varieties will be equal to the named kinds, but many will be worth saving, and all will be useful. Those of the plants which do not yield blossoms can be turned out with the rest for summer flowering. It is surprising what a number of nice things are produced from a packet or two of seed such as is now sold by the principal seedsmen, as compared with the large proportion of singles that were produced in former days.

To save the best kinds, I layer them at the usual time, potting up the layers in small pots, and wintering them in a cold frame or pit.—J. W. LAURENCE, *Newstead Abbey, Nottingham.*

W.H. Fitch del

1, Primula spectabilis. 2, P. villosa. 3, P. rosea.

HARDY PRIMULAS.

[PLATE 514.]

THE revival of the exhibitions of the Auricula (*Primula Auricula* of the botanists), and the introduction within the past few years of several extremely handsome Indian species of the same genus, together with the impulse which the spread of spring gardening has given to the improvement of the race typified by *Primula vulgaris*, have conspired to render the various forms of Hardy Primulas extremely popular. This result is by no means to be wondered at, when we consider the variety of character, the chaste beauty of form, and the soft and delicate hues of colour which are to be found, often associated in one species, in the extensive and wide-varying family of the Primroses, amongst which representatives from the Alps and the Himalayas occur in the three species which are associated in the accompanying plate.

The PRIMULA SPECTABILIS of Trattinick (Fig. 1) is a rare Alpine species, sent us a year or two since by Messrs. Backhouse, of York, by whom it was extensively imported. It is from the Eastern Alps, where it grows in gravelly soil, and flowers in July and August. It is a stoutish-growing plant, almost as large as an Auricula, with a rosette of thick fleshy elliptic-lanceolate leaves, having an entire cartilaginous border, and from amongst which spring up the heads of some half-dozen large rich deep rosy-purple flowers. The *P. Polliniana*, of Reichenbach, is one of its synonyms. There is no doubt that this is one of the finest of the Alpine Primroses, and one in every way adapted for pot cultivation.

The PRIMULA VILLOSA of Jacquin (Fig. 2) is an old and well-known plant, but not the less beautiful or desirable on that account. It has hairy often viscous leaves, which are obovate in form, dentate-serrate from the middle upwards, and ciliate with glanduliferous hairs. The flowers are of a bright rosy-purple, sometimes with, sometimes without, a white eye, and are of an exceedingly bright and cheerful character. *P. viscosa* and *P. hirsuta* are some of its forms. The plant is a native of high granite rocks in the Southern Alps and the Pyrenees, where it is found blooming in May and June. It is the white-flowered variety of this plant, called *nivea*, which one often sees cultivated under the erroneous name of *P. nivalis*, a name which belongs to quite another plant. Both forms are of compact dwarf habit, very free-blooming; and one scarcely knows which most to admire—the bright looking magenta hue of the type, or the pure white fragrant flower-masses of the variety, the latter being extremely fascinating. With us these plants flower during the month of April.

The PRIMULA ROSEA of Royle (Fig. 3) has been introduced within the last year or two. We first saw it at Chiswick, where it flowered beautifully last year under the care of Mr. Barron, and soon became popular amongst the growers of these plants. Indeed, Dr. Hooker says of it that "it would be difficult to single out any early-flowering hardy plant, except perhaps the blue Gentian of the Alps, which forms a more striking object of its kind." It is a native of the Western Himalayas, Kashmir being its head-quarters, and is a most charming acquisition, whether by reason of its distinct colour or its neat habit. Like most of the other species, it forms a small tuft of leaves, which are obovate-lanceolate and crenulate, and a robust scape, bearing several showy rose-coloured flowers, which have cuneate-obcordate segments and a naked throat. The appressed erect involucral bracts are thick, lanceolate-acuminate, produced downwards into an oblong obtuse auricle. The flowers are half an inch or more in diameter, sometimes as many as ten in a cluster, bright rose-carmine when they first open, and gradually becoming paler.

There is probably no genus of hardy plants which presents so many gems to the choice of the lover of flowers—many of them, moreover, blossoming in spring, when flowers are doubly welcome—than that which finds a popular representative in our simple native Primrose. —T. MOORE.

NATIONAL AURICULA SHOW.

SOUTHERN SECTION.

THE annual show of the Southern Branch of the National Auricula Society took place at South Kensington on April 20th, and was eminently successful. This branch of the Society has now been established for four years, and its existence has been one of steady progress, since it has witnessed a gain of more members and more exhibitors each

succeeding year—thanks, no doubt, in some measure to the efforts of Mr. E. S. Dodwell and his lieutenant, Mr. Douglas, the honorary secretaries, but also in a larger degree, as we hope and believe, to the spread of a love for these old-fashioned but fascinating flowers. The northern growers were strongly represented, but in most instances the southern flowers were somewhat past their best, the season having proved to be rather an early one, as, indeed, it appears is the usual experience after a severe winter, the plants appearing to start with extra vigour and almost with impatience, after the enforced rest which severe and continued frost and restricted moisture entails upon them. Mr. Turner, as usual, made quite an extensive display, and his principal group was especially noticeable as a masterpiece of staging. The show was well attended by visitors, and we trust may have a powerful influence in extending the taste for the cultivation of these attractive spring flowers. The following is a list of the prize-winners and the prize flowers :—

AURICULAS.

Class A. 12 *dissimilar*.—There were 3 exhibitors: 1st, Rev. F. D. Horner, Kirkby Malzeard, Ripon, with Erebus (Horner), a seedling black self, Cecil Dalton (Horner), a grey-edged seedling, Charles J. Perry (Turner), John Simonite (Walker), Freedom (Booth), Anna (Trail), Frank Simonite (Simonite), Heroine (Horner), a fine seedling chocolate-maroon self, Excelsior (Horner), a seedling grey-edged, Czar (Read), grey-edged, Lady Blucher (Clegg), and Ajax (Horner), a seedling grey-edged—the plants even and good. 2nd, Mr. James Douglas, gardener to F. Whitbourn, Esq., Loxford Hall, Ilford, with John Waterston (Cunningham), C. J. Perry (Turner), Admiral Napier (Campbell), Lancashire Hero (Lancashire), Smiling Beauty (Heap), Alexander Meiklejohn (Kay), Green-edge (Campbell), True Briton (Hepworth), Conservative (Douglas), a fine white-edged seedling; and three other seedlings—a fine lot. 3rd, Mr. B. Simonite, Rough Bank, Sheffield, with Richard Gorton (Simonite), green-edged; Frank Simonite (Simonite), Talisman Alex. Meiklejohn (Kay), Mrs. Douglas (Simonite), a lovely pale plum-coloured self seedling; Mrs. Dodwell (Simonite), a distinct white-edged seedling; Lancashire Hero (Lancashire), Col. Taylor (Leigh), C. J. Perry (Turner), and three other seedlings.

Class B. 6 *dissimilar*.—8 exhibitors: 1st, Rev. F. D. Horner, with Complete (Sykes), Lancashire Hero (Lancashire), Frank Simonite (Simonite), Ringdove (Horner), Ajax (Horner), and Colonel Taylor (Leigh). 2nd, Mr. R. Dean, Ranelagh Road, Ealing, with Richard Headly (Lightbody), Earl Grosvenor (Lee), Lord of Lorne (Campbell), Sophia (Chapman), Mrs. Smith (Smith), and Lancashire Hero (Lancashire). 3rd, Samuel Barlow, Esq., Stakehill House, Castleton, Manchester, with C. J. Perry (Turner), Lovely Ann (Oliver), Glory (Taylor), George Lightbody (Headly), Colonel Taylor (Leigh), and Beauty (Trail). 4th, Mr. E. Pohlman, Halifax, with New Green (Headly), Mazzini, a seedling black self, Acme (Read), John Waterston (Cunningham), John Crossley, a seedling green-edged; and Brilliant, a dark plum-coloured seedling self. 5th, Mr. T. Mollor, Ashton-under-Lyne. 6th, J. T. D. Llewolyn, Esq., Penllegare, Swansea. Mr. James Douglas and Mr. Simonite also competed.

Class C. 4 *dissimilar*.—8 exhibitors: 1st, Mr. E. Pohlman, with Mazzini, dark seedling self, George Lightbody (Headly), Bright Venus (Lee), and New Green (Headly). 2nd, the Rev. F. D. Horner, with Sapphire (Horner), a seedling violet-purple self; John Simonite (Walker), Phantom (Horner), a seedling grey-edged; and Lancashire Hero. 3rd, J. T. D. Llowelyn, Esq., with Apollo (Hudson), Richard Headly (Lightbody), George Lightbody (Headly), and Ne Plus Ultra (Fletcher). 4th, Mr. T. Mellor, with Complete (Sykes); a seedling grey-edged; a seedling green-edged; and Lord Salisbury, a seedling, dark maroon solf. 5th, Mr. J. Douglas, with Smiling Beauty (Heap), Alexander Meiklejohn (Kay), Metropolitan (Spalding), and a seedling green-edged. 6th, Samuel Barlow, Esq., with Lancashire Hero, Anna (Trail), Beauty (Trail), and King Coffee (Horner), a self, well named.

Class D. 2 *dissimilar*.—9 exhibitors: 1st, Mr. E. Pohlman, with Imperator (Litton), and Lancashire Hero; 2nd, Rev. F. D. Horner, with Lancashire Hero and Thetis (Horner), a seedling grey-edged; 3rd, Mr. Ben Simonite, with Frank Simonite, and a seedling green-edged; 4th, Mr. T. Mellor, with Richard Headly (Lightbody) and C. J. Perry (Turner); 5th, S. Barlow, Esq., with C. J. Perry and Robert Trail (Lightbody); 6th, Mr. R. Dean, with Sophia (Chapman) and Royal Purple (Headly).

Class D *a*. 2 *dissimilar* (open to exhibitors not competing in the four previous classes).—The only exhibitor in this class was the Rev. E. L. Fellowes, Wimpole Rectory, Royston, who was deservedly awarded the 1st prize for Robert Trail (Lightbody), and Topsy (Kay).

Class E. *Specimen Green-edged*.—30 exhibits: Rev. F. D. Horner, with Page's Champion; 2nd, Rev. F. D. Horner, with Cyclops, a seedling; 3rd, Mr. R. Dean, with Rob Roy (Smith); 4th, Rev. F. D. Horner, with Orion, a seedling; 5th, Mr. B. Simonite, with Richard Gorton (Simonite); 6th, Rev. F. D. Horner, with Col. Taylor (Leigh); 7th, S. Barlow, Esq., with Col. Taylor; and 8th, Mr. T. Mellor, with Lord Palmerston (Campbell).

Class F. *Specimen Grey-edged*.—47 exhibits: 1st, Rev. F. D. Horner, with George Lightbody (Headly); 2nd, Mr. Pohlman, with Alderman C. E. Brown (Headly); 3rd, Mr. R. Dean, with the Rev. F. Tymons (Dean), a seedling; 4th, Mr. Douglas, with George Lightbody; 5th, H. Kyrke Penson, Esq., with George Lightbody; 6th, Mr. Douglas, with Richard Headly (Lightbody); 7th and 8th, Rev. F. D. Horner, with Lancashire Hero.

Class G. *Specimen White-edged*.—28 exhibits: 1st, J. T. D. Llewelyn, Esq., with Catherina (Summerscales); 2nd, Rev. F. D. Horner, with John Simonite (Walker); 3rd, Mr. Douglas, with Silvia (Douglas); 4th, Mr. B. Simonite, with Frank Simonite; 5th, Mr. R. Dean, with Mrs. Campbell (Cunningham); 6th, Mr. B. Simonite, with True Briton (Hepworth); 7th, Mr. E. Pohlman, with Sophia Dumaresque (Lightbody); and 8th, Rev. F. D. Horner, with Smiling Beauty (Heap).

Class H. *Specimen Self*.—46 exhibits: 1st and 3rd, Mr. Pohlman, with Blackbird (Spalding); 2nd, S. Barlow, Esq., with the same variety; 4th and 5th, Rev. F. D. Horner, with seedlings raised by Mr. B. Simonite; 6th, Mr. Pohlman, with Mazzini; 7th, Rev. E. L. Fellowes, with Master Hole (Turner); and 8th, Mr. Pohlman, with Topsy (Kay).

Class I.—50, *not fewer than* 20 *varieties*.—3 exhibitors: 1st, Mr. J. Douglas, Loxford Hall, with a

capital group, which contained no alpines, but in which many of the previously-named varieties were to be found, as well as such sorts as Confidence (Campbell), George Lightbody (Headly), Smiling Beauty (Heap), Lancashire Hero (Lancashire), Beauty (Trail), Ellen Lancaster (Pohlman), Colonel Champneys (Turner), Alma (Lightbody), Lady Salo (Smith), Lord Clyde (Lightbody), Silvia (Douglas), Alex. Meiklejohn (Kay), Admiral Napier (Campbell), Maria (Chapman), Ann Smith (Smith), John Waterston (Cunningham), Metropolitan (Spalding), and several seedlings. 2nd, J. T. D. Llewelyn, Esq., with rather small plants, but good flowers, including, amongst others already named, Ringleader (Kenyon), grey-edged; Earl of Errol (Dickson), Lord of Lorne (Campbell), George Lightbody (Headly), True Briton (Hepworth), Smiling Beauty (Heap), Meteor Flag (Lightbody), Green Hero (Yates Morris), Queen of Greens (Headly), Lycurgus (Smith), Mrs. Sturrock (Martin), and Prince of Greens (Trail). 3rd, Mr. Charles Turner, Slough, with a very attractive lot, tastefully set up, of fresh, vigorous plants, but containing too many duplicates, including C. J. Perry and Colonel Champneys (about 10 of each), James Douglas, Clipper, Rupert, John Fowle, and Sarah; also Pizarro (Campbell), Eliza (Sims), and Vulcan (Sims).

Seedlings.—Fourteen prizes were awarded for seedling Auriculas in the following order, those to which the letters F.C.C. are added being also awarded First-class Certificates:—

Green-edged.—1st, Rev. F. D. Horner, with Cyclops (F.C.C.); 2nd, Mr. R. Dean, with Smith's Rob Roy (F.C.C.); 3rd, Rev. F. D. Horner, with Orion (F.C.C.).

Grey-edged.—1st, Mr. R. Dean, with the Rev. F. Tymons (F.C.C.); 2nd, J. T. D. Llewelyn, with an unnamed flower of very high promise, which, if fulfilled, is to be called E. S. Dodwell; 3rd, the Rev. F. D. Horner, with Thetis (F.C.C.).

White-edged.—1st, Mr. J. Douglas, with Conservative (F.C.C.); 2nd, Mr. B. Simonite, with Mrs. Dodwell (F.C.C.).

Selfs.—1st, Rev. F. D. Horner, with Heroine (F.C.C.); 2nd, Mr. B. Simonite, with Mrs. Douglas (F.C.C.); 3rd, Mr. T. Mellor, with Lord Salisbury (F.C.C.).

Alpine Auriculas.

Class K. 12 *dissimilar.*—4 exhibitors: 1st, Mr. Turner, with a well-flowered lot, all of his own raising, and consisting of Colonel Scott, Mrs. Dodwell, Napoleon III., Miss Frowd, Unique, Evening Star, Dr. Denny, Mrs. Llewelyn, James Fowle, Queen Victoria, King of the Belgians, and W. R. Bragg. 2nd, J. T. D. Llewelyn, Esq., with Mrs. Llewelyn, Godfrey, Mrs. Dodwell, Lustre, Tenniel, Napoleon III., King of the Belgians, Evening Star, and Queen Victoria (Turner), Diadem (Gorton), and Mrs. Meiklejohn (Meiklejohn). 3rd, Mr. J. Douglas, with Mrs. Llewelyn, Queen Victoria, and Slough Rival (Turner), Bismarck and Florence (Douglas), Diadem (Gorton), and six seedlings. 4th, Mr. R. Dean, with a selection from his new strain of laced varieties.

Class L. 6 *dissimilar.*—6 exhibitors: 1st, Mr. Turner, with King of the Belgians, Sambo, Mrs. Dodwell, Mrs. Thompson, Mrs. Ball, and Shirley Hibberd. 2nd, Mr. R. Dean, with Colonel Scott, Diadem, King of the Belgians, Satisfaction (Dean), Dazzle (Dean), and Mercury (Turner). 3rd, J. T. D. Llewelyn, Esq., with Diadem, Lustre, John Leech, Percival, Elcho, and an unnamed seedling. 4th, S. Barlow, Esq., with Ovid (Gorton), Etna (Turner), Elcho (Turner), Diadem, Beatrice (Turner), and Dazzle. 5th, Mr. Douglas.

Class M. *Single specimen.*—23 exhibits: 1st, Mr. Turner with Titian, 2nd with Mrs. Ball, 3rd with King of the Belgians, 5th with Unique, and 6th with Duchess of Connaught. 4th, Mr. Douglas, with Meiklejohn's Mrs. Meiklejohn.

Seedlings.—1st, Mr. Turner, with Unique, (F.C.C.) 2nd, Mr. Turner, with Titian, (F.C.C.) 3rd, Mr. Douglas, with Flora Douglas. All these belong to the gold-centred section.

Fancy Auriculas.

Class Q. 12 *dissimilar.*—S. Barlow, Esq., took the 1st prize, with the only group shown.

Polyanthuses.

Class N. 6 *dissimilar Gold-laced.*—3 exhibitors: 1st, S. Barlow, Esq., with Cheshire Favourite (Saunders), George IV. (Buck), Exile (Crownshaw), Earl of Lincoln (Hufton), Lancer (Bullock), and Sunrise (Barlow), a very pretty and exceedingly "correct" seedling, of a rich bright chestnut-red body-colour, and very pure and perfect laeing. 2nd, Mr. James Douglas, with George IV., Cheshire Favourite, Lancer, Exile, President (Hilton), and Queen of Tyne (Craggie). 3rd, J. T. D. Llewelyn, Esq., with Duke of Wellington (Smith), Cheshire Favourite, Mrs. Welby, Kingfisher (Addis), Exile, and George IV.

Class O. 3 *Gold-laced.*—3 exhibitors: 1st, S. Barlow, Esq., with President, George IV., and Exile. 2nd, Mr. R. Dean, with Cheshire Favourite, President, and Exile. 3rd, Mr. Douglas, with George IV., Cheshire Favourite, and Lancer. 4th, J. T. D. Llewelyn, Esq., with Formosa (Barnard), Exile, and F. D. Horner (Jackson).

Class P. 1 *Gold-laced.*—1st, 2nd, and 3rd, S. Barlow, Esq., with Exile; 4th, 5th, and 6th, Mr. J. Douglas, with George IV.

Classes R *and* S.—The 1st prizes for 12 each of dissimilar fancy Polyanthuses and double and single Primroses were awarded to Mr. R. Dean. In the class for the best plant of Smith's Duke of Wellington Polyanthus, only one prize was awarded, viz., the 1st, to Mr. Douglas.

Seedling: red ground.—1st, S. Barlow, Esq., with Sunrise (F.C.C.); 2nd, S. Barlow, Esq.; and 3rd, Mr. George Smith, Edmonton—the two latter for unnamed seedlings.

Hardy Primulas.

1st, Mr. Douglas, with P. cashmiriana, P. sikkimensis, P. denticulata, P. farinosa alba, and the varieties cœrulea alba, lilacina, laciniata alba, and Pink Beauty of P. Sieboldii. 2nd, J. T. D. Llewelyn, Esq., with three varieties of P. Sieboldii (cortusoides amœna), P. denticulata erosa, P. japonica, P. cashmiriana, P. Monroi, P. cortusoides, and P. villosa.

The Premier Auricula in the show was Page's Champion, exhibited by Mr. Horner.—W.

SPATHIPHYLLUM FLORIBUNDUM.

THERE are several interesting and ornamental plants amongst the white-spotted Anthuriums, as they are usually called, that of which we now give an illustration being one of them. For the use of the woodcut we have to thank Mr. B. S. Williams, of the Victoria Nursery, Upper Holloway, who in his *Catalogue* describes the plant as a handsome compact-growing subject, which, on account of its wonderfully profuse-blooming

SPATHIPHYLLUM FLORIBUNDUM.

qualities, cannot fail to recommend itself to all lovers of plants. The leaves are alternate, and somewhat lanceolate in shape, supported upon short winged petioles; they are dark-green in colour, ornamented with a central rib of white. The flowers rise to about the same height as the leaves, the spadix being ornamented with a beautiful pure white spathe, which remains long in beauty, and affords a splendid contrast to the rich green of the foliage. It was introduced by Mr. C. Patin, from New Grenada.

Under the name of *Anthurium floribundum*, a coloured figure of the plant (of which the above woodcut is a reduced copy) is given in the *Illustration Horticole*, t. 159. The plants grow about a foot in height. The petioles are sheathing from the base upwards through the greater part of their length, the upper free portion being also obscurely winged. The leaf-blades are oblong-elliptic, acuminate, unequal-sided, the base abruptly contracted into the short geniculus or joint at the top of the stalk. The peduncles are numerous, eight to ten inches long, each supporting a cylindrical spadix, two to three inches long, bearing small white flowers and spirally marked with black lines. The spathe is oblong-lanceolate, cuspidately-acuminate, of a clear ivory-white, and about two and a half inches long. The plant is one of considerable merit amongst the smaller ornamental subjects cultivated in our stoves, as the flower-scapes are freely produced, and the spathes are large enough to produce a very good effect in contrast with the dark green foliage. It is also easily cultivated, not requiring a high stove-temperature. It has also borne the name of *Amomophyllum floribundum*.—T. MOORE.

SUBURBAN GARDENING.

MAY is the season for flowers. Poets have sung of its wonderful fulness of blossom of varying tints; when spring-time is at its full flood, these come forth in great abundance, gladdening the heart of man, and begetting within him high anticipations and aspirations. If there is any part of the year when the villa gardener truly enjoys his garden, it is during the merry month of May.

Kitchen Garden.—In marked contrast with March and April, 1879, these months of the present year brought in their train excellent weather for getting in garden seeds. The weather has been drying, and generally warm and genial, and favourable to out-door garden operations. Early-planted *Potatos* will be making a fine growth, and the hoe should be used among them, loosening the soil between the plants, and drawing some up to the stems; an earthing-up of soil makes a good protection against frost. *Cauliflowers, Cabbages*, and *Lettuces* can be planted out when the weather is mild and showery, pressing them firmly into the soil. It is not too late to plant out *Rhubarb*, *Seakale*, *Asparagus*, *Horseradish*, and *Artichokes*, when space admits of its being done; these are all such useful subjects in a garden that in cases of small plots a portion, if possible, should be set apart from them. If not already done, some *Tomato* seed should be sown, to have a few plants to put out against a piece of warm wall at the end of them onth. It is always best to sow about the middle of April in heat, so as to have strong plants by the end of May. Trenches should be prepared for *Celery*, so that the first crop can be put out quickly; a great deal of Celery is spoiled by planting it so late as to leave too little time for it to become properly matured. A few more *Dwarf Kidney Beans* should be sown for succession, also *Radishes*, *Mustard* and *Cress*, and other quick-growing *Salads*. *Spinach* and *Turnip* sowings need to be repeated, and some more *Parsley* if required. The young crops need protection from birds and slugs, the latter especially, for they are very active in moist, warm weather. The hoe should be frequently used, to keep the soil open and destroy weeds.

Fruit Garden.—There is a better fruit prospect than was hoped for some weeks ago. Some *Pears* and a goodly number of *Apples* are putting forth good heads of bloom, while *Plums* and *Cherries* are flowering well. *Peaches, Nectarines*, and *Apricots* on walls are flowering very sparingly, but so far the weather is fine and open, and favourable to the setting of the blossom. The trees should be kept free from insects, and everything be done to assist the maturation of the small crop of fruit likely to be borne. Last summer and autumn many suburban gardeners complained of the large amount of American blight on their apple trees, and we have seen cases this spring where it is found on the old wood. It should be attacked now, and one of the best remedies is paraffine diluted with water, and carefully applied to the affected places. We have found this to be a decisive remedy.

Flower Garden.—Spring flowers are now in all their glory, and what with *Daffodils*, *Crown Imperials*, *Scillas*, *Grape Hyacinths*, *Forget-me-nots*, *Polyanthuses*, *Primroses*, &c., the effect is most pleasing. *Alpine Auriculas* make very pretty border-flowers, and some lines of the new laced varieties are yielding a large number of flowers, many of which are delightfully marked. If the weather be warm, such semi-hardy things as *Verbenas*, *Calceolarias*, *Gazanias*, &c.. may be got into the flower-beds, but tenderer things that the frost can harm had better be kept in the cold frames till later. Fruit cultivators often find, to their cost, that the frosts which happen during the middle of May do great harm to the fruit crops, and they will not spare bedding-plants that are not thoroughly hardy. Such things as *Stocks*, *Asters*, *Phlox Drummondii*, and *Dianthuses* can be prickeg out into good soil; not one of the foregoind will give satisfaction unless there is some good soil for the plants to grow in. *Box-edging* can be clipped, and gravel-walks well rolled, while the grass-plot should be kept in the best order. Now is a good time to divide *Double Daisies*, large clumps of *Primroses* and *Polyanthuses*, *Aubrietias*, *Arabis*, &c., and so secure a good stock by the autumn. Press or tread the plants firmly into the ground, so that they do not suffer from drought.

Cold Frames.—These will now be very useful for hardening off bedding stuff, previous to planting out. Any very tender things, such as *Alternantheras*, *Iresines*, &c., must be kept in the greenhouse for a time longer; for it is not safe to expose them to danger from frosts, as they are quickly destroyed. The bedding plants in frames should have plenty of air, and not be allowed to suffer from drought. A batch of seedling gold-laced and fancy *Polyanthuses* form now an attractive feature in our cold frame, and they are much admired by all who see them. These and the *Primroses* are truly amateur and villa gardeners' flowers, for they can be managed with comparative ease, and they always well repay a little extra trouble. But it is a mistake to sow the seeds of these so late in the season as is done by many. Villa gardeners should sow in March at the latest, or even earlier, the great advantage being that the plants grow into good size by the autumn, and will generally flower the following spring. *Anemone fulgens* and the pretty mauve-coloured *A.*

apennina are now beautiful subjects in pots in our cold frame.

Greenhouse.—Day by day the floral interest in the greenhouse mounts up to a higher level. The cool weather tends to prolong the flowering season, and obviates the necessity for using shading. *Deutzia gracilis* is an excellent plant for the villa gardener's greenhouse. We have some specimens in pots that are growing in the same soil as a year ago; but by giving them occasional dressings of Clay's Fertilizer (which we have no hesitation in saying is one of the most useful and safest of garden manures), they are producing fine heads of bloom. There is a grand class of plants for villa gardeners that are too little known, the beautiful, hybrid, sweet-scented *Rhododendrons*, raised by Messrs. Isaac Davies and Son, of Ormskirk. We have quite a tiny plant of one of these, viz., *Countess of Derby*, in a three-inch pot, that is bearing two large trusses of bloom; they are of such a hardy character: so free and easily managed as to deserve a place in any amateur's greenhouse.

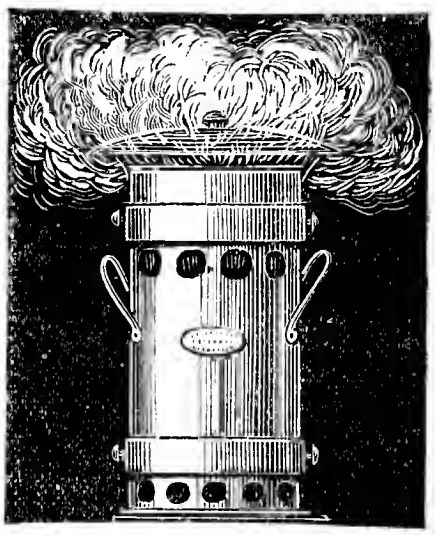
As warm and drying weather is happening, watering, shading, and ventilation will need careful looking after. Well-established plants coming into bloom will be benefited by the application of some liquid manure, or occasional dressings of the manure already mentioned.—SUBURBANUS.

GARDEN GOSSIP.

ONE of the finest new plants which has of late years been introduced to our hothouses is the ANTHURIUM ANDRÆANUM, an Aroid of tufted habit, with oblong, cordate, glabrous, dark green, leathery leaves, which are deflexed from the top of the slender erect leaf-stalk, and marked by comparatively few but prominent nerves. The erect flower-stalk is double the length of the leaf-stalk, slender, and bears at the summit a spreading, heart-shaped, leathery, firm-textured spathe of a brilliant shining scarlet colour, having the surface irregularly corrugated. The spadix, which is about 3 inches long and of the thickness of a swan-quill, is ivory-white at the base, greenish-yellow at the tip. The plant is a native of New Grenada (province of Choco), where it was discovered by M. André, and by him introduced into M. Linden's establishment. Those who remember what *A. Scherzerianum* was on its first introduction, and what it is now, are justified in looking forward to the career of the present plant as likely to be of quite exceptional importance. M. André saw it for the first time growing on the forks of an immense India-rubber tree *(Ficus elliptica)* when he mistook it for the Cardinal-bird *(Loxia)*, but subsequently found other specimens growing on the ground. It will no doubt be as amenable to cultivation as its ally just named, since young plants, eight months old, are producing flower-buds.

— THE NEW HELLEBORES mentioned below, belong to the group of which *H. orientalis* is the type. One named *H. Peter Rudolph Barr* has large imbricated bell-shaped flowers of a deep reddish plum-purple, with darker lines on the exterior, and with a thick glaucous bloom, the inner surface being closely marked with small darker purple dots, which are more or less distinctly arranged in lines after the style of the markings of some varieties of Tydæa. It is an improvement on one called F. C. Heinemann, and is the finest Hellebore we have yet seen. *H. punctatissimus*, the freest-blooming variety we have met with, belongs also to the broadly imbricated vigorous-habited, large-flowered, orientalis type, but is much lighter in colour being of a pale pinkish-purple, or lilac-purple, with the usual greenish patches seen on some of the sepals in most of the forms, having, moreover, the whole of the inner surface thickly dotted with purple. *H. Arthur Collins* is of a dark reddish-purple outside, the three inner sepals being of a deep blush inside, and marked near the base with a few dark red lines, and near the centre with sundry spots of the same colour, while the two outer sepals are greenish on the inner face, and not spotted; it is a distinct and showy form. These three are from Mr. Barr's collection—the finest series anywhere to be seen. To the same group belongs specimens received from the Hale Farm Nursery, Tottenham, and named *H. Thomas S. Ware*, a large and showy form, producing large and much-imbricated flowers of good form, the sepals being deeply stained of a rosy-purplish tint, but without any conspicuous spotting. The variety named *H. Dr. Moore*, raised in the Glasnevin Botanic Garden, has fine whitish flowers finely flushed with rose-colour, and is the best of the forms approaching the typical *H. orientalis*. These are all very important advances on the Hellebores previously known.

— ONE of the handiest FUMIGATORS we have met with, and one which is thoroughly efficient, is called Syers' Eureka. It is both cheap and self-acting, and in case of sickness, as useful in the house as in the garden. It is made in various

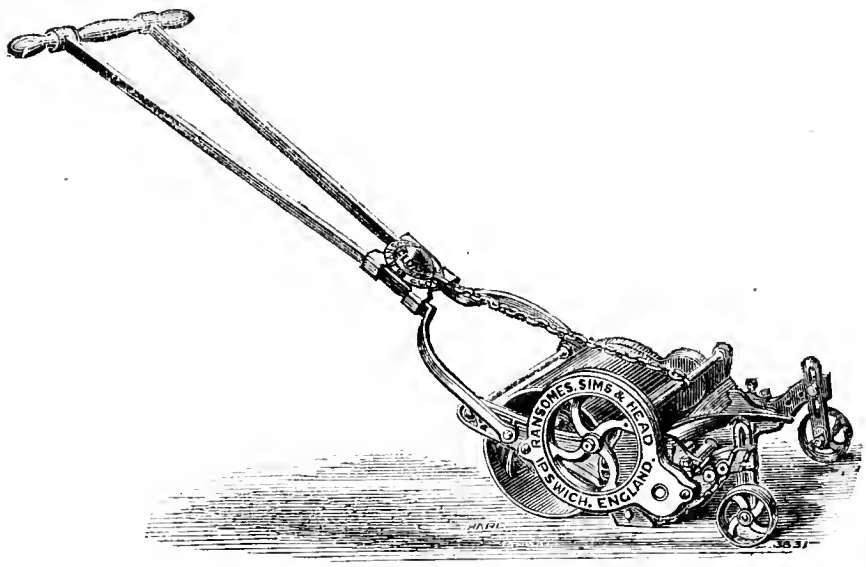


sizes, is easily worked, requiring only that a piece of the tobacco-paper should be lighted, and when well smouldering, dropped into the fumigator, and other material laid on the top. The draught is regulated by the holes shown near the bottom. The smaller sizes are made with a spout for inserting into plant cases.

— AT a meeting of the NATIONAL ROSE SOCIETY, held on April 13th, G. Baker, Esq., in the chair, various arrangements were made connected with the forthcoming exhibitions of the Society. Amongst other things, it was decided:—

(1), That on the day of the Crystal Palace Exhibition, July 3rd, a *déjeûner* should take place at 1 o'clock, open to any members of the Society who might wish to join, and that certain members of foreign Rose societies would be invited as guests; (2), that silver-gilt and silver medals of the Society should be presented to the Society of Rosarians at Antwerp, and to the Society of Brie-Comte-Robert, to be allocated according to the wishes of their respective committees. Some errors which have crept into the schedule were corrected; thus Class 21 should read—"8 distinct," instead of 6; and Class 22, "24 distinct," instead of 8. Members of the Society are reminded that, by the arrangements made with the Crystal Palace Company, they will have the privilege of admission to the exhibition for half-an-hour before the general public.

— THE GLOBE LAWN MOWER of Messrs. Ransomes and Co., noticed at p. 63, is represented by the annexed figure. They are introduced, we are told, to meet the demand for machines specially adapted for cutting long grass; and, whilst similar to the lawn-mowers imported from America, have the special advantages of the



more accurate fitting and general durability of English manufacture, and perfect adjustment. The frames are strongly braced together by the ledger block being bolted to the sides of the machine, and they have a cutting barrel which is large and open, is simply adjusted by top and bottom screws, and has three knives made of rolled steel and iron.

— MR. CANNELL has recently called attention to the value of SEA-SAND for striking cuttings, illustrating his remarks by cuttings of Coleus which had been struck in this material. The sand had been in no way prepared prior to using. Mr. W. B. Miller, of Ramsgate, commenting on this, observes that for many years he has used sea-sand largely, and thoroughly recommends it not only for striking cuttings, but, mixed freely with soil, for almost all kinds of plants; also as a dressing over the flower-beds and borders after they have been dug up in the autumn, as it causes the earth to work easily in the spring, and has a good effect in giving vigour to seeds sown or plants put out, and further, keeps the ground moist in dry weather. "I have often wondered," he adds, "that farmers and horticulturists do not use it more than they do." Mr. H. Little, of Rusland Hall, also states that he has found that all soft-wooded plants strike freely in sea-sand, and when mixed with soil for potting, the plants do well in it. "We used to get it from the sand-hills close by the sea-water, so that all the salt would be washed from the sand before it is used; it is very fine, and must be used freely; it is good for gardens where the soil is stiff and bad to work, and seeds germinate freely in it."

— M. DECAISNE, in the last number of the *Flore des Serres*, has established the genus GALTONIA in honour of Mr. Francis Galton, author of *The Narrative of an Explorer in South Africa*, for the two noble plants known generally as *Hyacinthus candicans* and *H. princeps*, now *Galtonia candicans* and *G. princeps*. The species of *Galtonia* differ from those of *Hyacinthus* in habit, in the form of the flower, and of the ovary, and in the seeds, the cylindrical embryo occupying the whole length of the perisperm.

— A correspondent of the *Gardeners' Chronicle* states that SPENT HOPS are rich in fertilizing qualities and most valuable for applying to light lands, where, stirred in beneath the surface, they assist greatly in keeping it moist and bringing about a healthy root-action. Soaked with liquid manure, or mixed with soot by turning them over, no better dressing need be desired; and any one, therefore, living near a brewery, where they can be obtained for the carting away, should not lose an opportunity of securing as many as he may want or have use for. The thing is to let them rot by undergoing very gentle fermentation, during which their decomposition may be much hastened by frequently stirring them over, and bringing the outside, each time the process is carried on, into the middle, where the chemical action soon breaks up the fibre by causing decay of the parts.

— MR. BENNETT, of Stapleford, has sent us fresh blooms of his new ROSE HER MAJESTY, one of the "pedigree" flowers which have made such a sensation amongst rosarians. It is a most beautiful novelty, perfectly double, of full size, and of a soft clear pink colour, the plant being, moreover, as we learn, of a vigorous habit of growth. It will undoubtedly take a place in the first rank amongst light-coloured Roses. We hope shortly to publish a figure of it from the pencil of Mr. Fitch.

— THE DOUBLE CINERARIAS are not of such modern origin as some have supposed, for as far back as 1851 Mr. Miller, of Mayfield, Perth, sent to one of the meetings of the National Flori-

cultural Society a double Cineraria, which was regarded as "quite a novelty, being so thoroughly double as to resemble the double purple Groundsel (Senecio elegans)." The late Mr. Kendall, of Stoke Newington, also showed a double variety many years since, and in recent times Messrs. Dickson and Co., and Messrs. Haage and Schmidt, have produced meritorious varieties. The splendid *Mrs. Thomas Lloyd*, shown on March 9th by Mr. R. Greenfield, has very large and bright magenta flowers, and was deservedly awarded a First-class Certificate of Merit; and its companion, *Mr. Thomas Lloyd*, has flowers of a deep purple. These new varieties surpass in size, symmetry, and fullness all we have hitherto seen, and will impart a quickened interest in these flowers, since it appears difficult to over-estimate their usefulness for cutting purposes.

— We are pleased to learn that Mr. Walter H. Fitch, F.L.S., whose pencil has had so large a share in illustrating our own pages, has been awarded a pension of £100 per annum, from the Civil List, in recognition of his services to botanical science.

— The handsome variety of Chrysanthemum frutescens named Étoile d'Or was raised in or about the year 1874, by M. Desgeorges, deceased, the then gardener to M. Adam, also deceased, of Villa des Bruyères, Golf Juan, near Cannes; it was obtained from seed of *Chrysanthemum frutescens*, var. *Comtesse de Chambord*, known in the locality as *Anthemis à grande fleur*. It appears to have been disposed of by the widow of the raiser to M. Nabonnand, horticulteur, Golf Juan, and by him named, but not until it had found its way into one or two private gardens of the neighbourhood.

— The Double-flowered Wistaria has been blossoming in the propagating-house of Mr. A. Waterer, of Knap Hill, Woking. "It fully bears out, says the *Garden*, all that has been said of it, for the flowers are perfectly double, resembling double-flowered violets, and, singularly enough, they also resemble violets in scent. As regards this, Mr. Waterer says:—'I was agreeably surprised, on going into one of our propagating-houses the other day, to discover that, like double violets, it quite perfumed the house; and I also made another discovery—I had an idea that it was a shy bloomer, but every graft of it has bloomed.' Such valuable properties in a new hardy shrub or wall plant are seldom met with, and we hope that it may soon become less rare than it is now."

In Memoriam.

— Superintendent J. G. C. Oberdieck, the Nestor of German pomology, died on February 24th, at Jeinsen, in his 86th year, What Oberdieck has done for pomology will be for him an imperishable monument, since he had been constantly labouring for the improvement of fruit-tree culture, with a view to its attaining a higher status, and acquiring greater national importance.

— M. Adolf Biermann, the curator of the Royal Botanic Garden, at Calcutta, died recently from cholera.

— Professor Schimper, whose researches in vegetable morphology, and in the history and classification of mosses and of fossil plants, gave him a high place among contemporary botanists, died recently at Strasburg.

— Dr. Schæffer, the able and courteous Director of the beautiful Botanic Garden at Buitenzorg, Java, died a few weeks since, at the early age of 35. His death will be felt as a very serious loss to botany and horticulture.

— Mr. Thomas Perkins, formerly the head of the nursery and seed firm of Messrs. Thomas Perkins and Sons, of Northampton, died on April 3rd, after a long and painful illness, in his 58th year.

— Mr. Thomas Felton, principal of the firm of T. Felton and Son, 4 North King Street, Dublin, who held the position of manager to the late firm of Fergus Farrell and Sons for 33 years, and about seven years ago commenced business on his own account, died on April 6th, at the age of 66.

— Mr. John Powell, of the Royal Gardens, Frogmore, died on April 9th, in his 62nd year, after an attack of paralysis. Mr. Powell had been connected with the Royal Gardens for thirty-seven years, during which he had charge of the department of hardy fruits. Mr. Powell was an excellent and intelligent practical cultivator, and a discriminating judge of fruits; and had been for many years a valued contributor to our pages. His loss will be sincerely regretted by a large circle of professional friends, amongst whom he was very highly respected.

— M. Souchet, the eminent raiser of French Gladioli, died in the early part of April, at the advanced age of 68 years. He was for many years the head gardener at the Palace of Fontainebleau, but retired from that position some ten or twelve years ago. M. Souchet has of late suffered severely, so that his death was not unexpected.

— Mr. Robert Fortune died at West Brompton, on April 13th, in his 68th year. He was a native of Berwickshire, and served his apprenticeship in the gardens of Kelloe, whence he went to Moredun, near Edinburgh, and after some time entered the Botanic Gardens there, under the elder MacNab. Here he remained between two and three years, and then came to London, having been appointed Superintendent of the Hothouse department of the Horticultural Society at Chiswick, an appointment he vacated on being commissioned in February, 1843, by the Society, to proceed to China to collect plants. In July of that year he arrived in China, and at once began that career of collecting which afterwards proved so fruitful. In 1846 he returned, and was shortly thereafter appointed to the Curatorship of the Botanic Garden of the Society of Apothecaries at Chelsea, which, however, he did not long fill, being commissioned in May, 1848, by the East India Company to proceed again to China, to collect Tea seeds and Tea plants for India. Between that time and 1862, when he finally returned, he made three journeys to China and Japan, in the course of which he introduced to this country a vast number of valuable and ornamental plants, which are now familiar in our gardens.

Threm... ...chant Ghent

Fitch. del.

Rose (pedigree) Her Majesty. Bennett.

ROSE HER MAJESTY.

[PLATE 515.]

THIS splendid hybrid Rose, which was raised by Mr. H. Bennett, of the Manor Farm, Stapleford, near Salisbury, is the result of an artificial cross between H. P. Mabel Morrison and Tea Canary, the former being the seed-bearing plant. It is of a most robust habit, producing wood which is probably stouter than that of any known rose; even on the very poor Stapleford soil, it has sent up shoots 7 ft. high of a uniform thickness, and about three-fourths of an inch in diameter, sufficiently stiff to form standards on its own stem. It is certainly a complete break in the races, having all the characteristics of the Hybrid Perpetuals as to the form of foliage, thorns, &c., with a glossy surface to the leaves like the Teas. The blooms are exceedingly large, very full, the petals most symmetrically arranged, and the colour particularly clear and bright. Mr. Bennett states that he effected this cross in the endeavour to produce a yellow Hybrid Perpetual of the Madame Rothschild type, and although he has not succeeded in this, he may be congratulated in having procured what is probably the finest light-coloured rose yet raised. The bloom from which the plate is taken was the first and only flower it has produced out-of-doors, and at the time of flowering it was only a year and six months old from the seed. It has flowered remarkably finely under glass this spring, and is likely to be constant, as all the blossoms have as yet come exactly alike. It seems unaccountable that a very double rose like this should have been produced from two such thin flowers as its parents are, but Mr. Bennett is sure of his cross, having this season proved it by the like cross, which has come almost identical.

Perhaps it will be somewhat disappointing to Rosarians to learn that it is not Mr. Bennett's intention to distribute this gem at present; and we have his authority for stating that no more of his novelties will be placed in commerce till 1881, as he is leaving his farm, in consequence of the unsuitability of the soil for the culture of roses, which will cause a break in his business; but possibly at no distant date another surprise may be caused by these Pedigree Roses, for we hear on reliable authority that the Stapleford seedlings are numerous, and of very high lineage.

Some of the blooms of this Rose produced under glass this spring were obligingly sent to us by Mr. Bennett, as noted at p. 79, and they fully bore out Mr. Fitch's admirable portrait, drawn from the open-air flowers of last season, the blooms being large in size and perfectly double, and the soft, but clear, bright blush-pink colour being exceedingly chaste and lovely. It is, in our opinion, quite in the first rank of light-coloured flowers, and indispensable in every rosetum.—T. MOORE.

AURICULA GOSSIP: WAYSIDE NOTES.

THE best and happiest signs of progress in the culture and improvement of the Auricula have abundantly appeared in that important test, the National Society's shows. Those proofs consist in the greater number of exhibitors and interested visitors, and the good new seedlings gained in several collections.

That exhibitors seem to increase but slowly is only natural with a flower that is itself of slow increase in its particular varieties. Not yet may any one begin with Auriculas one year and expect to exhibit throughout a great show the next. Hence the exhibition force of the Auricula Society does not, in either North or South, measure its full strength.

That the bloom of one season, or even several in succession, should be on the whole below the capabilities of the flower, needs must distress the florist, but we cannot be very old growers without having had experiences like this; while, if the season has been too early for the South and too tardy for the North, we have at least been not frustrated in our hope of showing a united bloom.

The leading feature of the shows to come will evidently be the seedlings—not such flowers as shall need the protection of a limited class to secure them prizes, but such as will compare favourably out in the open field of a great struggle. It was, however, very interesting to see the young seedlings compete among themselves for the suggestive honours of the yearlings, after that, by a wise provision,

they had faced all comers in high places, and thus attested their quality.

And now this much is assured to us, that against all unbelief—against all dismal propheeies that the Auricula was to be found obstinate and set against improvement—against the telling history of the years bygone, with here and there a grand flower gained in here and there one long experience—against the bold verdict of a veteran grower and critic of the day, that he would yet face the newer flowers with the old, and go through a show with such as Hey's Apollo and Taylor's "white-edges" (though in "greys" he could do well)—against all this, the Auricula has given the bravest protest, and with the chances thus far afforded, has lived it down. So that now, instead of wondering when another leading variety will appear, our amazement is that there have been so few, and what shall be the Auriculas of the future if there arise the lovers of them to lead them on, and if the hands that tend them now be spared to ripe limits of their time, ere "the mowing of the old scythe" lay them with the flower that cometh up and is cut down.

For it is simply contrary to the nature of a plant of such derivation as the florists' Auricula that there should not continue active, through all future generations of carefully-crossed seed, the old powers of development, trained and strengthened by habit.

Seedling-raising should be an instinct in the florists' mind; and, indeed, so rich in encouragement is this pursuit, that I think the best way to commence a collection at the present day is for the beginner to seek possession of a few young plants of the few best sorts attainable, and devote himself to raising seedlings from them. He is sure to get something very good sooner or later, and then he will be able to command, by some brilliant exchange, those famous flowers which, intelligibly enough, have not a value in gold and silver to their owner, inasmuch as money would not again replace them; but which, weighed in the balance with something of kindred value, might be negotiable with due fairness and mutual advantage.

To the seedling raiser, the long unwritten history of this fascinating flower repeats itself with ever fresh and varying illustrations of the story. The sportive seedlings reveal to him what former florists have met with on many a past, unmarked, forgotten way. He learns, by a minuteness of detail thus laid before him, but which would be tedious under any but the living exposition of Nature herself, through what unbounded choice of forms and colourings the Auricula has been led. He will oftentimes have wondered how the edged varieties have been obtained. So, here and there, some self-coloured seedling, with merest tip of green or white on the roughest points of an uneven petal, will tell him that this was the first deviation into edged forms, and must have been once a great thing in a new way. As such, had some florist ancestor selected it as a source from which to derive a new combination of beauty, and from such slight suggestion, dreamed of the flowers that were to come long afterwards.

The usual repotting of these plants after the bloom, has revealed one—perhaps the—cause why the flowers of 1880 have not, on the whole, been equal to an average of correctness, beauty, and vigour. Many of the plants did not root well from the neck during March and April, and in some cases had bloomed entirely upon last year's roots. Where this was so, the winter foliage did not stand well, and I think, with Benj. Simonite, that the cause has lain in imperfect maturity of the autumnal growth. The lamentable autumn of 1879 has had many floral failures laid to its cold and rainy memory, and there is the Carnation bloom yet to witness against it. The Auricula, indeed, does not need the direct brightness of the harvest-tide sun, but still an untimely sunlessness is felt, even into the very depths of shade, and there is an unripeness in the gloomy light that strikes everywhere. Up to the time of the Auricula bloom the spring had not been genial in the North. Through the cloud and sunshine of it there had been chiefly a bitter north-east wind—not much rain, and that so cold that it would have been much more honest of it to have come down in hail or snow.

The question of heat in the treatment of Auriculas coming into bloom, seems one that is not easily set at rest, notwithstanding all that those who have gently used this auxiliary at a most critical time, may say in explanation of it. Mr. Dombrain upholds that it is more

the expedient of the Auricula exhibitor than of the Auricula grower. I agree with him that he will in a genial season—but who can trust to this for a certainty?—be able, without heat, to have flat flowers on kinds slow and difficult to flatten; and also that late blooms of such sorts will come down kindly in the warmer and longer days towards the close of the season: but whether I exhibited or not, I should always, most certainly—*i.e.*, as a grower—to say nothing of showing, keep it in my power to use heat enough in hard spring frosts to keep the expanding bloom in a genial spring temperature.

The man who rides a hobby-horse is generally a brave rider, and at last a skilful one over the rough going that lies in the line of his pursuit. He goes boldly at the biggest obstacles, and picks himself up smilingly from a rough tumble, or if he is a bad loser, with a wry face of which he is presently ashamed. But there appeared somewhere a "Suburban amateur" who reported himself unable to "go crazed" over Auriculas. He tried, but failed in even getting so far as to like them; wherefrom we are to infer that he gives in, and will not mount the horse he calls "Auriculæmania" any more.

It is not fair that a name of such import should be left to attach itself to the efforts of the National Auricula Society, for its province is not to create a craze—which is always a shortlived and unhealthy thing, but to provide that a beautiful and rare spring flower shall not be lost sight of, but be brought out for more than the few growers themselves to enjoy the sight of it in bloom.

But this amateur's greatest mistake lies in his pitying the florist for his "fifty weeks of nursing" to two of bloom. He considers that to be the ratio of labour to reward. He does not comprehend the pleasure there is in watching every stage of the plant's existence. He looks upon an exhibition as the one ephemeral recompense for a heavy round of minute attentions. He knows not that exhibiting is no such unalloyed triumph as it may seem to a visitor's butterfly inspection. It entails the sacrifice of much private enjoyment. The flowers are injured seriously by the effects of travel and the atmosphere of a crowded show. Flowers naturally early for a fixed date have to be kept back, if possible, and those that would be late must be brought up to time; so that to have the whole bloom at its best, at once, shortens the naturally more extended blooming season.

This is, therefore, not the florist's most enduring pleasure; and hence, no wonder that "Auriculæmania," or any other such metaphorical steed, should look shy at being mounted, when the would-be rider seems to say, "I only want to ride you round the show."
—F. D. Horner. *Kirkby Malzeard, Ripon.*

GESNERA DONCKELAARI.

CERTAINLY one of the most beautiful and distinct of the many hybrids raised in our gardens, and richly deserving more extensive cultivation. On referring to the accompanying woodcut, it will be seen that the bearing of the plant is compact. The flowers are borne on an erect, branching stem, and are funnel-shaped, of a bright glossy carmine-rose colour. The leaves are ovately heart-shaped, robust in character, and richly coloured with crimson on the under-surface. The cultivation of the plant is easy, and when in flower it may be placed in a warm greenhouse, when it will remain in beauty for a considerable time.

In the spring of the year, the exact time being determined by the period at which it is required to be in flower, the bulbs, which we will suppose have been left in the pots, after being dried off in the preceding autumn, should be placed in the stove and watered.

They will not be long before they commence growing, when they may be turned out of the pots, and nearly all the old soil removed; and they should then be repotted into smaller pots, in a mixture of rich turfy loam and peat, with a liberal quantity of good rotten manure and silver-sand, taking care the new pots are clean and the drainage good. One shift after this, into the blooming pots, will be all they will require.

When the blooming season is over, and the plants have matured their growth, the pots may be laid on their sides, and be allowed to remain dry until required in the following season, when they may be again treated according to the instructions given above.—G. EYLES.

EARLY AMERICAN PEACHES.

THE following notes on early American Peaches are abstracted from a paper read a few months since before the Western New York Horticultural Society, by Mr. W. C. Barry, of the firm of Ellwanger and Barry, to whom we are indebted for a copy of the paper:—

Beckwith's Early.—Raised by Mr. Beckwith, Olathe, Kansas, in 1877. It is a cling-stone, large, showy, firm, and, it is thought, will make a fine market variety. Ripened at Olathe, June 20th, 1878.

Bledsoe's Early Cling.—Ira L. Wood, of Pleasant Hill, Mo., is the originator of this seedling. It is claimed to be five days earlier than Amsden, in the same locality, and of better quality.

Storm's Seedling No. 1.—Raised by James A. Storm, Mo. A very handsome freestone, measuring eight inches in circumference. The originator says it possesses more fine qualities than any peach he has seen, and that it is at least ten or fifteen days earlier than the Amsden, and superior in size, flavour, colour, and durability.

Brice's Early June.—Dr. S. M. Brice, of Kansas, is the originator of this variety, which fruited for the first time in 1874, and ripened on the 20th of June of that year. Frost and grasshoppers prevented any further fruitage until 1877, when it ripened again from the 20th to the 25th of June. In 1878 it ripened June 18th. Dr. Brice says that in a test in 1877 with the Amsden, Alexander, Early Louise, Early Rivers, and several others of the earliest and best varieties known, Brice's Early June proved its superiority in size, flavour, beauty, and early maturity.

Hynes's Surprise.—Originated by E. F. Hynes, West Plains, Mo., 1877; said to be large, highly-coloured, very fragrant, a prolific bearer, and a good keeper. Ripened in 1877 June 28th, in 1878 June 14th.

Hape's Early.—A Georgia seedling, raised by Dr. Samuel Hape, of Atlanta. It is said to equal, if not surpass, any early peach now known, in flavour, size, hardiness, capacity for shipping and beauty.

Ashby.—Discovered in Texas among a lot of seedlings in 1877. It is said to be a large, handsome peach, with firm flesh, of excellent quality, and ripens about ten days before the Amsden.

Baker's Early May.—A seedling which made its first appearance in 1872 in Texas; resembles Hale's Early. It is a free-stone, and its originator claims that it ripens six to ten days before Amsden.

Bower's Early.—Raised in Frederick, Md., in 1876. It is a freestone, of good size, measuring nine inches in circumference, and considered earlier than the Amsden.

Gov. Garland.—Raised in Arkansas, and said to be the largest and best very early peach.

Harper's Early.—Originated in Missouri. The originators claim that it is the earliest of all peaches.

Waterloo.—The first very early peach ever raised in Western New York. It was originated in Waterloo, by Mr. Henry Lisk, and fruited for the first time in 1877, when it ripened several days earlier than the Alexander or Amsden. In 1878 the first specimen ripened July 14th, and all the fruit was gathered July 19th, about a week in advance of the Alexander and Amsden. The fruit is medium to large-size, good specimens measuring nine inches in circumference, and weighing five ounces. The skin is whitish-green in the shade, marbled red, deepening into dark purple-crimson in the sun. Flesh greenish-white, with an abundance of sweet vinous juice, adheres considerably to the stone like Hale's, Amsden, &c. It is a remarkable keeper, and will undoubtedly be of great value for distant as well as home markets.

Conkling.—Among fifty varieties which I had the pleasure of seeing in the past season, this was the most attractive. The fruit is large, good specimens measuring 9¼ and 9½ inches in circumference, and weighing 6½ and 6¾ ounces. Skin beautiful golden-yellow; very juicy, vinous, and of very good quality. It succeeds Crawford's Early. This is another Western New York peach, having been raised in the town of Parma, N.Y., and fruited for the first time in 1873.

Kinnaman's Seedling.—Originated with Samuel Kinnaman, of Delaware, ripened 20th of June, 1878. Fruit of medium size, roundish; skin pale brownish-red on a pale-greenish ground; flesh greenish-white to the stone, juicy, sweet, and of a very good flavour. Adheres partially. Said to be some days earlier than the Alexander or Amsden.

Burns's.—Raised by Thomas F. Burns, Mount Pulaski, Ill., who claims that it is the earliest peach known, being a month earlier than the Alexander.

Callie Scaff.—A seedling of Early York raised in Water Valley, Ky., said to be earlier and better than Amsden.

Sallie Worrell.—Was found on the ground of Mrs. Worrell, near Wilson, N.C. It is regarded by good judges as the finest flavoured peach in the Carolinas.

Thompson's Orange.—Raised at Wilson, N.C., and said to be one of the earliest yellow peaches. It has a beautiful colour, somewhat like a yellow apricot; is a freestone, and has a good sub-acid flavour.

Alexander's Early and *Amsden's June*, in which a great deal of interest has been manifested, have proved so nearly identical, as to make it impossible to distinguish one from the other. They are the largest and earliest of the very early sorts, not taking into consideration the introductions of 1878, of which the "Waterloo" is thought to be nearly a week earlier. The time of ripening of the newer sorts has also been satisfactorily determined. *Alexander*, *Amsden*, *Honeywell*, and *High's Early Canada* bear such a striking resemblance to each other as to be considered almost identical, and all ripen at about the same time. Then follow in the order

named *Brigg's Red May, Early Beatrice, Early Louise, Early Rivers, Rivers' Early York, Early Silver, Magdala, Dr. Hogg, &c.*

We learn from the *Garden* that Mr. Bond, Walcot Gardens, Shropshire, has produced excellent ripe fruit of two of these very early American Peaches, the Amsden and Alexander, by April 24th, the trees having been started in gentle heat about December 21st last.—M.

FAMILIAR WILD FLOWERS.*

THIS is the title of a very elegant volume, in which a selection of some forty-four of our wild flowers are prettily illustrated with pen and pencil. The plants thus pictured, as the author intimates, will present themselves to many readers as old familiar friends, linked in their minds with sunny memories, the very suggestion of which may serve to induce those who are unfamiliar with the gratification derived from a knowledge of friends like these, to set about making their acquaintance, in order that even the vulgar wayside may not be without its pleasant attractions, and by the aid of which, the fairy scenes of Nature will have acquired new and unthought-of charms.

The work consists of forty plates, printed in colours, with four pages of interesting popular descriptive matter to each. It forms a handy-sized volume, which, being nicely got up, and elegantly bound, will form a pretty ornament for the parlour-table. The plates represent small portions of the plants—sometimes rather too small, but, for the most part, the subjects are faithfully pourtrayed, and really ornament the pages of the book, which are further adorned with a very ornamental initial letter and a pretty vignette, both serving as further illustrations of the plants. The Field Convolvulus and the Field Rose, the two first subjects figured, are very nicely rendered, as are the Corn Poppy and the Borage. The Primrose and Violet are less satisfactory; but passing on, we come to the Wild Hyacinth or Blue-bell, the Yellow Flag, the Hair-bell, the Germander Speedwell or Angel's Eyes, the Ox-eye Daisy, the Cowslip, the Hawthorn, the Comfrey, the Ladies' Smock, the Toadflax, and many others, all life-like and unmistakable representations of the respective plants, and together forming a most interesting posy of wild flowers. The descriptions, as we have said, are drawn upon a popular model, sketching the habitats in which the plants are found, and explaining their habits of growth and inflorescence, occasionally dipping into the mysteries of derivations, and explaining to the unlearned the why and the wherefore of the application of some awkward-looking combination of Latin or Greek. The following passage from the notes on *Cardamine pratensis* well illustrates the character of the text:—

"The lady's-smock is also less commonly known as the bitter cress or cuckoo flower. Its commoner name is sometimes written ladies'-smock, at first sight a not very marked difference, but a difference sufficient to build up a second theory of the origin of the name upon. The plant, we are told by some of the older writers, is called lady's-smock, because, like many other graceful and delicate plants, it was dedicated in mediæval times to the Virgin Mary, to whom the title of 'Our Lady' was largely given. This prefix is by no means uncommon; thus, the parasitic dodder is known as lady's-lace; the harebell as lady's-thimble, in obvious allusion to the form of the flower; lady's-finger, lady's-mantle, and lady's-slipper are other instances. . . . . Ladies'-smock, on the contrary, we are told by other authorities, has no religious significance involved in it, but is only given to the plant because the meadows whitened over with its blossoms, recall their appearance when at another time they are covered with the bleaching linen of the household, made by the busy fingers of the fair members of the family, not spinsters in name only, but in very deed and most actual fact. Cuckoo-flower would not be at all a bad name for the plant, if confined to it; but unfortunately, in popular parlance, two or three other plants that also flower about the time the cuckoo arrives, have had the same name bestowed on them, and a considerable amount of difficulty in identifying the actual species intended has, therefore, from time to time arisen. The name given in many botanical works, bitter-cress, points at once to its relationship with the watercress and other members of the same family, and to the pungent flavour of the plant when employed, as it sometimes is, in salads, the plant having formerly had a great reputation as an antiscorbutic. The plant is still, in many parts of the Continent, largely employed, and big bundles of it may be seen amongst the other vegetables in the public markets. In olden times it was considered a potent remedy in hysteria, epilepsy, and many other diseases; hence the name bestowed on it. *Cardamine*, a name derived from two Greek words signifying 'the heart' and 'to overpower.' Its near ally, the watercress, is, we need scarcely say, largely employed as an article of diet, and authorities assure us that the chloride of potassium and iodine it contains render it distinctly valuable as a food substance."

It will thus be seen that FAMILIAR WILD FLOWERS is an elegant table-book, decorated with choice coloured figures of some of the more interesting of our native flowers, and

* *Familiar Wild Flowers.* Figured and Described by F. Edward Hulme, F.L.S., F.S.A. First Series. With Coloured Plates. (Cassell, Petter, and Galpin, London, Paris, and New York.)

supplying the kind of information concerning them which the general reader is likely to appreciate. It does, in fact, more than this, for in the introductory portion is a summary giving a condensed technical description of the subjects figured, and in connection with which the English and Latin or scientific names, and those of the natural orders are set forth.—M.

THE CHERRY-PIE PLANT.

THIS dwarf and well-known exotic, the *Heliotropium peruvianum*, belongs to the natural order Boraginaceæ, and is highly prized wherever summer bedding is in vogue. It may not be so generally known that when planted out in a conservatory, it will grow on from year to year, and form a climber of no mean pretensions. I have grown it to the height of 10 ft. or 12 ft., and it hung out its lateral shoots graeefully.

This modest, somewhat plain-looking plant, like the Violet and the Mignonette, is prized for its odour rather than for its beauty, for it is an inconspicuous subject, with a gyrate bunch of small lilac flowers. It is often called the Cherry-pie Plant, but its name Turnsole, scarcely disguised from the vernacular Turn-to-the-Sun, is its most honoured title, although less used than the scientific name *Heliotropium peruvianum*. It produces the best effect when seen above the eye, just as we see Fuchsias to the best advantage when they are beyond our reach. Few persons find out the reasons why they admire flowers so much when they are elevated, as Roses are on long-legged Briars, and the various weeping plants, which get all their character from being mounted aloft, instead of trailing on the ground. The same may be said of all well-ordered rock-work, where the dwarf gems get a stone shelf to hold them up to admiration. It is so with the unassuming Cherry-pie Plant. You may gather sprigs of it in flower when you have little else to cull, and though plain, it is always acceptable. Even when the frost has destroyed all exotic plants out-of-doors, flowers may be seen dangling from the head-gear of this homely favourite. Several improvements have been made in the family of Heliotropes, as may be seen in our gardens, and advertised in our garden periodicals, but these do not alter the fact of having standard plants or climbers of the olden type.

Gardeners well acquainted with ornamental plants have stared at Heliotropes high up, and asked what they were called. It is always good economy in planting, whether in-doors or out, to have dwarfs and riders. Beginning with Lycopodiums (now Selaginellas) close to the stone edgings of the walks of the conservatories, and rising gradually with good foliage plants, one may finish up with those whose long legs, natural or artificial, make points of admiration. Dracænas make exeellent starers, and if a few die from ill-usage by doing duty in odd corners, they are easily made good; but it is not so with more delicate plants. They have to be kept in bounds, for when a rambling climber has got possession overhead, and the insect pests get hold of it, nothing less than savage slaughter will check them. I need hardly say that insects, in-doors and out, give gardeners and amateurs trouble which the outer world knows little of. The Heliotrope, however, is less infested with vermin than most plants, for its looks are not inviting, and so I reckon it is not to them a dainty dish.—ALEX. FORSYTH, *Salford*.

LILIUM GIGANTEUM.

THE hardiness of the Giant Indian Lily, and its free-flowering habit, have been the subjects of some of my former communications to the pages of the FLORIST AND POMOLOGIST; but I venture to hope that a note of the results of some few more years' experience, which have now been added to the knowledge formerly possessed, and which have been in every way successful, may not be considered superfluous, seeing that it is a plant of a very highly attractive character, and worthy of more general cultivation.

For the last ten years, at least, we have not been without several flowering plants in the open air every summer. These for some time were grown only in the warmest situations, such as at the end of or in front of the glass-houses, and at the bottom of a south wall. But we now find that they do not require such careful treatment to get them into flower. We have them now growing in various situations. One planted out in the centre of a sub-tropical bed, where it was shaded by plants four or five feet in height, last year, produced a good strong flowering stem which told well in contrast to the class of flowers amongst which it grew. This season the same plant is throwing up another stem, equally strong, being one of

eight that we have produeing flower-stems this year, some of the strongest of whieh are already (April 30th) upwards of two feet in height. The only assistanee they have received is that of simply covering the roots over in winter with rank stable litter.

It is principally on account of their free-flowering propensity, that I am induced to send this eommunication, because after such a cold and sunless summer I did not expect to see any of the plants producing flower stems. The result, as above set forth, is, I consider, the strongest argument that ean be needed to induee any one who has not yet got *Lilium giganteum* to become a possessor of it. There need be no hesitation in regard to its succeeding, seeing that we are as far north as 57° 38′ in latitude, and that the plants are flowering so freely after such a wretched summer as the last, when neither Apricots nor Peaches ripened on a south wall.

I may also remark that a large supply of moisture seems beneficial to this Lily during the growing season. The strongest and finest heads of blossoms were produced in 1878, the previous summer having been the wettest registered here for upwards of fifty years.—J. Webster, *Gordon Castle Gardens.*

NEW YELLOW PICOTEES.

NOTWITHSTANDING the great improvements that have been made in the quality of the white-ground Picotees, but very little progress has, until reeently, been made in the use of yellow-ground varieties. Some years ago, Mr. Perkins, of Leamington, was sueeessful in raising that fine variety *Prince of Orange*, whieh was a great aequisition in its elass, and at last it has done mueh for us. Although it has been in eultivation for many years, no one appears to have been sueeessful in saving seed from it until 1876, when seed was obtained, and a most remarkably fine lot of seedlings were raised by Mr. Charles Turner, of Slough. As most of your readers will be interested in the raising of seedlings, I propose to offer a few remarks on the means by whieh this success was achieved.

The *Prince of Orange* is generally very large and full of small petals in the centre, a most unlikely flower, as one would think, to produce seed; but having some plants in large 60-sized pots, they were placed on a front platform in a south house, where they came into bloom early in June; these were not disbudded, and consequently the flowers eame much smaller than usual, and produeed seed. They were only crossed with the same variety, no other being in bloom at the time. The seed was sown early the following February, and the plants, as soon as they were large enough, were planted out in a bed. The parent is of a very fine robust habit, and the seedlings all partook of it, and made fine large plants during the summer months. Early in October, they were all lifted with a ball of earth, and potted, the smallest plants into 32-sized pots, but most of them into 24s. (8-in.) They were then placed in the open air until November, when they were taken in and placed on a platform in a cold-house, and remained there during the winter months. In March, the plants were all stood out in the open air again, receiving every attention that was necessary. Early in July, they were put into the house to flower, and I venture to say that never was a finer lot of plants placed on a stage.

There is, however, something more remarkable to relate than the having fine plants, for among them were some of the greatest acquisitions in this class ever raised. 233 plants were grown in pots, and 232 were staged, only one plant being worthless, and this was quite a single flower. 104 plants were seleeted to be named; of these, about fifty were fae-similes of the Prince of Orange, the remaining number all consisted of good, large, full flowers, well worthy of eultivation.

Although this eollection has been raised from one variety, there is a great diversity of eolour among them, and they are all of fine robust habit, and possess such a superiority over the older varieties that they will eventually supersede them, and take a high place in public favour. Several of the plants were exhibited at the National Carnation and Piectee Show in 1878, and obtained the first prize for the best plants in pots, the varieties at the same time receiving several first-class certificates. The plants were, unfortunately, so late to bloom in 1879, that they could not be exhibited at the National show.

As Mr. Turner intends sending out some of the varieties during the present spring, where

the stock is sufficiently large, I have enumerated below a few of the best varieties, at the same time distinguishing by an asterisk those that have reeeived certificates:—

**Ne Plus Ultra*: bright yellow, with crimson edge; fine.

**Eleanor*: bright yellow, slightly tinged with rose, a very chaste flower, large and fine.

**Lady Aitchison*: pale yellow, heavily edged with bright rose, a large full flower.

**William Greenaway*, bright buff ground, heavily edged with crimson, large and very distinct.

**Flavius*: bright yellow, with narrow crimson edge; fine.

**Lady Rosebery*: bright yellow self, large and smooth and moderately full, extra fine.

Lightning: bright yellow ground, heavily edged with crimson, large and fine.

**Sultana*: salmon-coloured self, striped with red, large, full, thick flower, quite distinct.

**Alice*: bright yellow ground, tinged with scarlet, a fine, large, full flower, and very attractive.

Dove: bright yellow ground, edged with crimson, large, full, and good.

**Ophir*: bright yellow self, large, and very fine.

Lady Biddulph: yellow edged with bright rose, large full, fine flowers.

**Princess Beatrice*: bright yellow ground, fine smooth, broad petals, beautifully edged with bright crimson, extra fine.

Cyprus: pale yellow ground, heavily edged with bright rose, quite distinct, very fine.

Princess Margaret: very bright yellow ground, with a narrow scarlet edge, good large petal, smooth and very fine.

**Henry Tait*: yellow ground, heavily edged, and flaked with bright scarlet, very smooth, fine large flower.

Mrs. Colman: bright yellow ground, fine-shaped petals, very smooth, edged and slightly striped with crimson, extra fine.

Edith: pale yellow ground, heavily edged with bright scarlet, quite distinct, extra fine.

Sir John Lambert: bright yellow, with wire edge of bright crimson, very fine.

Miss Abercrombie: pale yellow, with rose edge, very smooth, fine large full flower.

—JOHN BALL, *Slough*.

ALPINE PLANTS IN POTS.*

MOST Alpine plants can be grown very well in pots, if care is taken to choose those kinds which have not a creeping habit, and are not too large. The more tender and delicate kinds are indeed better grown in pots, since they can thus be better protected than in the open ground at any time of the year, from any hurtful temperature, by changing their place, or by covering or shading them.

In the spring the pots should be placed in a suitable spot in the open ground,—where possible, in a bed facing east and west. They should be set in sand or gravel, and sunk in the ground up to the rim when the summer temperature becomes high. In the middle of the day they should be shaded; in the morning and evening watered if they require it, or sprinkled with the rose more often during the day. The pots should be left out through the summer, but from time to time they should be taken up, cleaned, and filled up with soil. During continuous rain they should be covered with laths or boards, since an excess of moisture is very injurious to the plants.

In districts where the winter is very severe, only the more hardy species can be left in the same spot through the winter, and these must be protected with brushwood on the commencement of the cold weather, and after the snow has fallen, covered with boards. It is much better, especially for the more delicate kinds, to place them for the winter in a glass frame or walled-in bed, where they can be protected from the severe cold, and allowed air when the weather is mild. They should in winter only be watered sufficiently to keep the soil always moderately moist.

When growth commences in spring, the plants should be taken out of the frames, any dead parts cleared away, and again placed in the open. The best time for transplanting Alpine plants is the beginning of April, when the growth has just commenced. The most suitable soil for most kinds is a sandy heath soil. The large vigorous species, and those which grow rapidly, should be placed in unsifted heath soil, with some mixture of loam and sand; the weaker and more delicate kinds in sifted heath soil, mixed with pure quartz sand and charcoal; in the case of calcareous plants some lime rubbish or mortar must be added. Pots of too large a size should not be used; they should be chosen in reference to the size of the plant, and especially of its roots. When transplanting, clean pots only should be taken, and furnished with a drainage of potsherds or small stones. A portion of the old soil should be taken away without injuring the roots, and the plants not set too deep. They must then be well watered with a rose, so as thoroughly to saturate the soil. The best water to employ is rain-water, or, when there is none of this, river or standing-pond water.

When treated in this way the plants will

* From J. *Sdoth's Alpine Plants*.

Chromo Strobant. Gl[illegible] J L Macfarlane de[illegible]

[illegible] le Hardy Azaleas

1 Narcissiflora. 2. Graaf von Meran. 3, Sappho

grow freely, retain their dwarf habit, and blossom regularly. If the specimens have been brought fresh from the mountains, Alpine plants, like all others, require special treatment. They must be placed in suitable pots, and planted in a soil mixed with lime, sand, or leaves, according to their species, watered moderately, placed in a shady spot, and sprinkled several times a day in fine, warm weather. When they have once taken root, they can be transplanted into the open ground, or still grown in pots.

HARDY DOUBLE AZALEAS.

[Plate 516.]

We believe these beautiful flowers originated in Belgium; and as the history of the origin of any of the choicer races of our garden flowers is of interest to lovers of flowers, we shall be glad if any of our Belgian readers can furnish us with the particulars. One of the varieties best known in this country is that called Van Houttei, which produces bright red and very showy flowers; but these double-flowered sorts have not with us received any very marked attention until a year or two since, when Messrs. Veitch and Sons obtained from the Knap Hill Nursery, where they had been grown in some quantity for several seasons, plants of Narcissiflora and one or two others, which, being slightly forced and shown at some of the early summer shows, were highly attractive, and proved at least that they were capable of taking a very high position amongst the hardy ornamental shrubs adapted for forcing, since the doubleness of the flowers renders them much more persistent than the single ones, without in the least degree detracting from their chaste and pleasing form.

The materials which were the foundation of our illustration are from the same source—Knap Hill, where sundry others will be found blooming at this season of the year. Those we have figured are called Narcissiflora, Graaf von Meran, and Sappho, the latter a fine seedling of Mr. Waterer's, not yet sent out. The group serves to show in a small degree the variety which is to be found amongst these highly attractive and useful plants.

Fig. 1 represents Narcissiflora, a variety in which the flowers are of a bright primrose-yellow, produced in large showy heads, which, when grown under normal conditions, are very showy, but when brought out under glass not only delicately beautiful, but highly fascinating. The habit of the plant is quite that of the other hardy Azaleas of mixed parentage to which the race known as Ghent hybrids belongs; consequently, they are of free growth, and abundantly floriferous under genial conditions of weather during the late spring-time, when they come into blossom. This is of Belgian origin.

Fig. 2, Graaf von Meran, is also a Belgian variety, remarkable for the bright but delicate rosy-pink hue of its well-formed and sprightly-looking flowers. It is a variety well adapted for early work, and has a charmingly soft appearance, when grown under the gentle *régime* of a mild forcing house.

Fig. 3 represents Sappho, a Knap Hill variety of great beauty, and one whose colour contrasts well with the primrose and pinkish hues of the companion flowers. The colour is a kind of buff-orange, deeper towards the centre, and dashed with red on the outer surface. The flowers are remarkably telling, as seen on the plant, and are amongst the largest and best formed which have yet been obtained; the variety will, consequently, take a high place amongst its compeers. Whether it will be adapted for forcing or not we are unable to say, as it has not been tried, but as these double varieties generally prove amenable to this mode of treatment, there is no reason to expect that Sappho will be more obstinate than her fellows.

We may soon look for some other meritorious novelties from the Knap Hill collection, where the Hardy Azaleas, double and single, have always been held in high estimation. The results of years of careful crossing are now becoming evident in a marked degree amongst the singles, and flowers far in advance of any of the named sorts, and showing a rich variety of colours, have been obtained; while amongst the doubles considerable additions to the range of colour formerly known have been made, so that double Hardy Azaleas will henceforth be a highly varied as well as a highly ornamental race of garden ornaments.—T. Moore.

NATIONAL AURICULA SOCIETY.

NORTHERN SECTION.

The Northern Section of the National Auricula Society held its annual show on the 27th ult. in the Town Hall, Manchester, in conjunction with one of the spring exhibitions of the Botanical and Horticultural Society. The season has not been remarkable for yielding blooms of high quality, and owing to the fact that it has proved also to be an early one, some of the flowers were already past their best, but as a whole, the quality of the bloom

was superior to that of the Southern show held the week previous; and though the display was less extensive, owing to the absence of the larger classes of twelves and fifties which were invited in the South, and which at the least excited increased interest in the exhibition in the eyes of the public, by serving to make a more comprehensive display, the show may be fairly considered as a satisfactory one. Thus the season of 1880 has not witnessed any falling back in the spread of Auricula culture. Some differences of taste between North and South are, no doubt, entertained, but they are not of a nature to check the confluence of the currents of popular favour which have lately been setting in towards these flowers, or to raise difficulties between the growers, North and South, the friendly communion of whom at these floral gatherings is amongst the most gratifying of the results already realised. As an instance of these differences, it may be mentioned that in the North the Alpine Auriculas are divided into two classes according as the colour of the centre is white or yellow, and shaded flowers only are admitted. The display in this section was thus not so effective as in the South, the rule which excludes other than shaded flowers keeping away the brilliant Selfs that here are so much admired; but at Northern shows of course northern rules prevail, and the results, if different, are practically unimportant. Polyanthuses were vastly superior at the Northern show, and formed a distinct and attractive feature, as was indeed to be expected, since not only the growers but the flowers had till quite recently all but died out in the South.

The following report records the results of the exhibition, which we are glad to hear was well attended by the residents in Manchester, and proved a source of much interest to those who honoured the show with a visit, a result which must have been highly gratifying to the assiduous and energetic Honorary Secretary, the Rev. F. D. Horner, and to the members of the committee:—

AURICULAS.

Class A. 6 *dissimilar* (Alpines excluded).—1st, Mr. H. Wilson, Halifax, with Colonel Taylor (Leigh), Geo. Lightbody (Headly), John Simonite (Walker), one of the finest of the white-edged class, a splendid truss of eight pips, Alexander Meiklejohn (Kay), C. J. Perry (Turner), and Prince of Greens (Trail)—a superb lot, bold without coarseness, the pips perfect in finish; 2nd, Mr. T. Mellor, Ashton-under-Lyne, with Alexander Meiklejohn (Kay), an exceptionally fine truss of eight pips, Lovely Ann (Oliver), and four seedlings, a green-edge, grey-edge, white-edge, and a maroon self, the latter a promising flower; 3rd, Mr. E. Pohlman, Halifax, with Earl Grosvenor (Lee), Acme (Read), Colonel Taylor (Leigh), George Lightbody (Headly), Mazzini (Pohlman), and New Green (Headly)—a highly finished collection; 4th, Mr. W. F. Bateman, Low Moor, Bradford, with Confidence (Campbell), Lord Palmerston (Campbell), Lovely Ann (Oliver), Catherina, (Summerscales), Conqueror of Europe (Waterhouse), Onwards (Campbell), a lovely violet self in the way of C. J. Perry, but a few shades lighter; 5th, W. Brockbank, Esq., Didsbury, with Ellen Lancaster (Pohlman), Maggie Lauder (Lowe), Lancashire Hero (Lancashire), Alexander Meiklejohn (Kay), Metropolitan (Spalding), and Richard Headly (Lightbody); 6th, Miss Steward, York, with Alderman Wisbey (Headly), Meteor Flag (Lightbody), Beauty (Trail), George Lightbody (Headly), Colonel Champneys (Turner), and a white-edged seedling; 7th, Mr. J. Goodier, Stakehill, with Lancashire Hero (Lancashire), Pizarro (Campbell), George Lightbody (Headly), Privateer (Grimes), C. J. Perry (Turner), and Catherina (Summerscales).

Class B. 4 *dissimilar* (Alpines excluded).—1st, Mr. E. Pohlman, with Confidence (Campbell), Mazzini (Pohlman), Earl Grosvenor (Lee), and Imperator (Litton); 2nd, Mr. Wilson, Halifax, with Acme (Read), Lancashire Hero (Lancashire), Garibaldi (Pohlman), and Prince of Greens (Trail); 3rd, Mr. T. Mellor, with Lovely Ann (Oliver), Lancashire Hero, Metropolitan (Spalding), and a white-edged seedling; 4th, Mr. W. F. Bateman, with Prince of Wales (Ashworth), Confidence (Campbell), Conqueror of Europe (Waterhouse), and Lord of Lorne (Campbell); 5th, Mr. James Bentley, Stakehill, with Lancashire Hero, Ne Plus Ultra (Smith), Pizarro (Campbell), and Lovely Ann (Oliver); 6th, Miss Steward, with Ne Plus Ultra (Smith), Lord Clyde (Campbell), Lovely Ann (Oliver), and a white-edged seedling; 7th, R. Gorton, Esq., Eccles, with Lancashire Hero, Glory (Taylor), Lovely Ann (Oliver), and C. J. Perry (Turner).

Class C. 2 *dissimilar in variety and class.*—1st, Mr. A. Shaw, Bury, Lancashire, with Alexander Meiklejohn (Kay) and Lovely Ann (Oliver); 2nd, Mr. W. Beswick, Middleton, with Lovely Ann (Oliver) and a dark seedling self in the way of Vulcan (Sims); 3rd, Mr. H. Wilson, with George Lightbody (Headly) and Prince of Greens (Trail); 4th, Mr. J. Goodier, with George Lightbody (Headly) and Blackbird (Spalding); 5th, Mr. T. Mellor, with Lovely Ann (Oliver) and a grey-edged seedling; 6th, Mr. Ben. Simonite, with George Lightbody (Headly) and Mrs. Douglas (Simonite); 7th, Mr. James Bentley, with George Lightbody and Leigh's Colonel Taylor.

Class D. 2 *dissimilar in variety and class* (open only to maiden growers).—1st, Mr. A. Shaw, Bury, with C. J. Perry (Turner) and Alderman C. E. Brown (Headly); 2nd, Mr. J. Goodier, with George Lightbody and Blackbird; 3rd, Mr. William Bolton, Warrington, with Beauty (Trail) and Lovely Ann (Oliver); 4th, Mr. James Bentley, with George Lightbody and Colonel Taylor (Leigh).

Class F. *Specimen Green-edged.*—Premium, Mr. E. Pohlman, with Lancashire Hero, a very neat truss of six pips. 1st, Mr. H. Wilson, with Colonel Taylor (Leigh); 2nd, Mr. Ben. Simonite, with a seedling, a good bright green; 3rd, Miss Steward, with Lovely Ann (Oliver); 4th, Mr. E. Pohlman, with Imperator (Litton) and, 5th, New Green (Headly); 6th, Mr. Ben. Simonite, with Talisman (Simonite); and 7th, Mr. T. Mellor, with Lord Palmerston (Campbell).

Class G. *Specimen Grey-edged.*—Premium, Mr. T. Mellor, with Richard Headly (Lightbody). 1st,

Miss Steward, with Alma (Lightbody); 2nd, W. Brockbank, Esq., with Alexander Meiklejohn (Kay); 3rd, Mr. A. Shaw, with Richard Headly (Lightbody) and, 4th, Lancashire Hero (Lancashire); 5th, Mr. E. Pohlman, with General Bolivar (Smith) and, 6th, Beauty (Trail); 7th, Mr. H. Wilson, with George Leviek (Walker).

Class H. *Specimen White-edged.*—Premium, Mr. J. Booth, Failsworth, with Acme (Read). 1st, Mr. Pohlman, with Catherina (Summerscales) and, 2nd, with Earl Grosvenor (Lee); 3rd, W. Brockbank, Esq., with Acme (Read); 4th, Mr. T. Mellor, with Richard Headly (Lightbody); 5th, with Beauty (Trail), and 6th, Smiling Beauty (Heap); 7th, W. Brockbank, Esq., with Bright Venus (Lee); 8th, Mr. Pohlman, with John Waterston (Cunningham).

Class I. *Specimen Self.*—Premium, Mr. A. Shaw, with W. E. Gladstone, a dark maroon seedling, effective, and of good quality. 1st, Mr. T. Mellor, with a very dark seedling; 2nd, Mr. H. Wilson, with Sapphire (Horner), a lovely violet; 3rd, Mr. A. Shaw, with Ellen Lancaster (Pohlman); 4th, Mr. Pohlman, with Blackbird (Spalding); 5th, Mr. T. Mellor, with a dark maroon seedling; 6th, Mr. T. L. Cater, with C. J. Perry (Turner); 7th, Mr. J. Beswick, with a very dark seedling; 8th, Mr. Ben. Simonite, with Mrs. Douglas (Simonite).

ALPINE AURICULAS.

Class E. 4 *dissimilar.*—1st, Mr. A. Shaw, Bury, with Fair Rosamond, Elcho, Diadem, and John Leech; 2nd, Mr. John Beswick, with Dolly Varden, James Douglas, Diadem, and Goliath; 3rd, R. Gorton, Esq., with Stirling Castle, Marion, Evening Star, George Lightbody; 4th, Miss Steward, with four seedlings; 5th, W. Brockbank, Esq., with John Leech, Ovid, Diadem, and Diana.

Class K. *Specimen Yellow-centred.*—Premium, Mr. A. Shaw, with John Leech (Turner). 1st, Mr. Pohlman, with Pioneer (Pohlman), a very distinct flower, shaded orange-buff; 2nd, Mr. J. Beswick, with Diadem (Gorton), and 3rd, with Queen of England; 4th, R. Gorton, Esq., with Queen Victoria; and 5th, with Evening Star.

Class L. *Specimen White-centred.*—Premium, Miss Steward, with a lilac-mauve shaded seedling. 1st, Mr. A. Shaw, with Elcho (Turner); 2nd, Mr. T. Mellor, with Conspicua; 3rd, Miss Steward, with a dark violet-purple shaded seedling; 4th, Mr. J. Beswick, with Goliath; 5th, S. Barlow, Esq., with Miss Read.

Class P. 12 *Fancy Auriculas, dissimilar.*—1st, S. Barlow, Esq.; 2nd, Mr. W. Bolton; 3rd, Mr. Bateman.

POLYANTHUSES.

Class M. 3 *dissimilar, black ground.*—1st, Mr. J. Beswick, with Earl of Lincoln (Hufton), Cheshire Favourite (Saunders), and Exile (Crownshaw); 2nd, William Brockbank, Esq., with Exile, Cheshire Favourite, and Beauty of England (Maud); 3rd, S. Barlow, Esq., with President, Exile, and Cheshire Favourite.

Class N. 3 *dissimilar, red ground.*—1st, Mr. J. Beswick, with President (Hilton), George IV. (Buck), and Lancer; 2nd, W. Brockbank, Esq., with George IV., President, and Prince Regent (Cox); 3rd, S. Barlow, Esq., with Sunrise (Barlow), Lancer, and George IV.; 4th, Mr. W. Bolton, with three unnamed varieties.

Class O. *Single Specimen.*—Premium, Mr. J. Beswick, with Buck's George IV. 1st, Mr. J. Beswick, with George IV., and 2nd, with Exile; 3rd, Mr. W. Whittaker, Salford, with a black ground seedling. 4th, Mr. J. Beswick, with Earl of Lincoln; 5th, Mr. T. Mellor, with a red ground seedling; 6th, Mr. J. Beswick, with Cheshire Favourite.

Seedling.—Mr. W. Bolton's special prize for the best red ground seedling was won by Mr. Mellor, with a flower of fair quality. That for the best black ground was taken by Mr. Whittaker, of Salford, with a grand flower of very high quality.

Class Q. 12 *Fancy Polyanthuses, dissimilar.*—1st, W. Brockbank, Esq.

Class R. 12 *Primroses, dissimilar.*—1st, W. Brockbank, Esq.; 2nd, S. Barlow, Esq.

The single specimens were numerous, and mostly of high quality. The best Auricula in the show was Walker's John Simonite, a grand truss of eight pips, shown by Mr. H. Wilson, of Halifax, in his 1st prize group of six. The best grey-edged Auricula was Kay's Alexander Meiklejohn, with eight very fine pips, shown by Mr. T. Mellor, in his 2nd prize group of six. The best green-edged flower, a very neat truss of six pips of Lancashire Hero,* was shown by Mr. E. Pohlman.—W.

SUBURBAN GARDENING.

JUNE.—Though there are clear skies overhead, and the sun shines gaily and warmly, May flowers have an unhappy look, for drying east winds abound, and the parched earth sadly needs the rain so long delayed.

Kitchen Garden.—There should have been little difficulty in keeping the garden clean during May. Thinning-out, hoeing, and hand-weeding are all of great importance to growing crops. Some more dwarf *French Beans* should be sown for a late crop, but only on early ground, and in a favourable position. If the dry weather has delayed the planting-out of *Brussels Sprouts*, it should be done directly rain comes; and *Broccoli*, *Savoys*, and *Borecoles* should also be planted for late crops. *Carrots* need thinning-out, and as far as it can be done the soil should be kept loose on the surface. Those who have water at command should apply it freely to all young crops needing it. *Cauliflowers* should be planted out, and an old gardener recommends watering them, as soon as planted, with weak, clarified soot-water, to keep off attacks of what is known as the white maggot. The trenches for *Celery* should be dug, and some plants put out as soon as they are strong enough. If this dry weather lasts, plenty of water must be given, and occasional doses of weak liquid manure. *Parsley* beds or drills should be thinned-out, leaving only the best curled plants; and if the bed be thinned, some of the best quality of plants pulled out should be transplanted into good ground. A little *Lettuce* can still be sown for succession, and growing *Peas* should be stuck, and where space allows, a few more be sown for succession. *Parsnips* and *Onions*

* This is a grey-edge by class, but sometimes blooming a green edge, is of course entitled to show in the class it blooms in, the flower being judged by its blooming rather than by its catalogue form.—F. D. H.

require thinning-out, the former to nine inches apart, to give them room to swell into size. The hoe must be freely used among *Potatos*, loosening the soil in the rows, and earthing-up the growing lines. A little *Turnip* can be sown; the American White Strapleaf is one of the best.

Fruit Garden.—Wall Trees, such as *Peaches*, *Nectarines*, and *Apricots*, *Plums*, and *Pears*, will require frequently looking over, as the effect of the dry weather is to induce curl and blister, or at least to aggravate the latter, if it does not produce it. In addition, all ill-placed and very strong shoots need to be removed, at the same time nailing or tying-in those that are sufficiently advanced in growth, but carefully avoiding over-crowding, or the wood is likely to be insufficiently matured. We fear that generally the crops of fruit are so thin that thinning-out will not be necessary, but if it needs to be done, now is the time. The trees should also be plentifully syringed in the afternoon of the day, when the sun has ceased to shine on them.

All newly-planted *Fruit trees* and *Strawberry* plants must be mulched and watered while the dry weather lasts. Late-planted trees are having a rather bad time of it, and require attention owing to the drought. *Vines* upon walls need attention now; some gardeners recommend that the tendrils be picked off; the fruit-bearing shoots should be stopped at one joint beyond the bunch, excepting the leading shoots, some of which, for future service, can be kept at full length. The shoots need to be thinned out carefully, not injuring or checking the foliage in doing so.

Flower Garden.—It is time "bedding out" should be got on with and completed. It is unsafe to put out tender plants while the wind is in the east, for there is no knowing when frosts may come, but such things as *Calceolarias*, *Verbenas*, *Pelargoniums*, *Centaureas*, &c., may be bedded out without fear of risk. If the weather continues dry, the plants must be watered. *Pelargoniums* for training against pillars, also *Lophospermums*, *Maurandyas*, and other creepers can be placed in position also. Vases, if nicely filled, form pleasing objects; the graceful *Humea elegans* is suitable for a centre plant, and *Fuchsias*, *Abutilons*, *Ivy-leaved Pelargoniums*, &c., can go round it. The vases look best when filled as full as possible, with some trailing plants hanging over the sides. *Annuals* need to be carefully thinned out, and some transplanted in showery weather; fresh sowings of a few of the quicker-growing ones can be made, to bloom in autumn. All tall-growing *Perennials* should have stakes to support them, the shoots being neatly tied thereto. Such useful things as *Aubrietias*, *Iberis*, *Cheiranthus*, *Alyssum saxatile*, and *Arabis* can be propagated by dividing the plants, and placing the pieces in good ground, treading them firmly into the soil. *Dahlias* should be planted out so soon as convenient, in order that the plants may get established as quickly as possible.

Cold Frames.—Those who grow hardy *Primulas* of all kinds will find their cold frames very acceptable for stowing them away, now that the bedding plants are being placed in the beds. It is found by experience that the earlier these can be repotted the better, as they make new roots freely at this time of the year, and the fresher and sweeter the soil, the better for the plants. All *Polyanthuses* and *Primroses*, and indeed such things as *Primula denticulata*, *rosea*, *intermedia*, *villosa*, *nivea*, and others, may be planted out in the open ground with great advantage; it is a change that does the plants much good. When they are thus planted out, the soil should be pressed firmly about the roots, and the plants put a little deep in the soil. *Saxifraga granulata flore-pleno* is a capital plant for growing in pots in a cold frame; the pure white double flowers are very useful in a cut state, and highly valuable for bouquets. Many spring-flowering things in pots can be placed out-of-doors on a coal-ash bed, in a shady, cool place; and if they can be plunged in cocoa-nut fibre or ashes, so much the better.

Greenhouse.—All plants in flower need to have frequent supplies of water during the bright drying weather, and shading is also necessary to prolong the bloom. It is a good plan to whitewash over the outside of a greenhouse, where no shading can be given. Air must be given freely, and in the case of plants that dry quickly, it is a saving of labour to stand the pots into others a size or two larger, placing moss or cocoa-fibre between the inner and outer one. Such useful things as *Cytisus*, *Deutzia*, &c., that have gone out of bloom, should be removed to a shady place out-of-doors, but not allowed to perish from drought. It is best to stand the plants on slates, boards, &c., so as to prevent as far as possible the ingress of worms. The ordinary greenhouse plants for summer decoration, such as *Fuchsias*, *Balsams*, *Petunias*, and the like, should be kept growing on freely, so that they may be in good condition for blooming presently. *Harrison's Musk*, *Kalosanthes coccinea*, climbing *Tropæolums*, and things of this character are good plants for summer work in the conservatory, and do much towards securing a pleasing display.—SUBURBANUS.

PANAX PLUMATUM.

THERE are in our gardens two or three species referred to *Panax*, in which the evergreen leaves are very much divided, and not over large in size. The plant now

under notice is one of these, and we think the best and most elegant of them, its nearest ally being *P. laciniatum*, which, however, is less compound in regard to the division of its leaves. It was imported from the South Sea Islands by Mr. Bull, of Chelsea, to whom we owe the use of the accompanying woodcut. Mr. Bull describes it as a very elegant small-growing stove plant of erect habit, the leaves of which form a crispy head of foliage, and are very elegantly divided, the primary pinnæ being long-stalked and ovate in form, the divisions of the pinnæ cut into numerous distinct, oval-shaped lobes, and the lobes notched at the edge, with more or less up-curved teeth. It is a plant of pleasing character, being many degrees more finely cut than the allied P. laciniatum. While young and when grown with a single stem, it is exceedingly well adapted for all decorative purposes.—T. Moore.

GARDEN GOSSIP.

THE ravages of the Vine Louse (*Phylloxera vastatrix*) seem to have turned the heads of sage politicians, and led them to devise regulations for preventing its distribution which are not only worthless and ineffective in themselves, but can only operate to the serious detriment of important national industries. The convention agreed to by the sovereign powers of Germany, Austria, Spain, France, Italy, and Switzerland, which forbids the importation into those countries of any plants having their roots surrounded by earth, while destructive to the trade in hothouse and greenhouse plants and all evergreen trees, will be powerless to prevent the introduction of the vine louse, since it can be brought in in other ways. The Ghent nurserymen have formed a Committee to defend their menaced interests, and have addressed a memorial to the Belgian Foreign Minister, calling attention to the gravity of the situation, and seeking his aid in procuring the revision of the obnoxious convention, especially that part of it which requires the removal of the whole of the earth from the roots of plants allowed to pass the frontiers of the respective countries. The subject has been brought under the notice of the Royal Horticultural Society, with the view to some action being taken; and not too soon, for some of our own colonies have adopted similar useless restrictions as

to importations—the Cape, for instance, where it is known that the pest exists in certain vineyards, and where it is even stated that it is indigenous. In the case of the countries affected, the question is, no doubt, a serious one; but this does not justify the infliction of a second injury, powerless for good, but yet of a nature to subvert an important branch of trade.

— THE popular GOLDEN FEATHER PYRETHRUM, a dwarf golden-leaved variety of *Pyrethrum Parthenium*, the common Feverfew, and which was brought into notice, in 1867, by Messrs. E. G. Henderson and Son, originated as an accidental seedling in the cottage garden of Mr. E. Seward, of Godmanchester, from whom Messrs. Henderson obtained it. It was not much valued at first, as it was feared it might revert to the ordinary green form; but when a first-class certificate was awarded to it by the Royal Horticultural Society in August, 1867, it received more attention, though even then few thought it would come true from seeds, and prove one of the most useful bedding plants in cultivation.

— A WRITER in the *Country Gentleman*—"H. G. C.," of Cornwall-on-Hudson, N.Y.—speaks highly of the following NEW AMERICAN STRAWBERRIES. He says:—"The most promising new variety that I have seen in fruit is PRESIDENT LINCOLN, originated in 1875, by Mr. Smith, of New York. The plant is a strong, vigorous grower, hardy, and I think will prove very productive in heavy soil. The fruit is handsome, bright crimson, with a glossy surface, large to very large, the first few berries irregular in form and cockscomb-shaped, those produced later uniformly obtuse-conical; flesh very firm, solid, sweet, of a delicious rich flavour, with a slight musky aroma. SHARPLESS' SEEDLING [*see* p. 70] is the most vigorous and robust grower I have seen. It has immense dark-green leaves, and a heavy strong fruit-stalk, moderately productive, as I saw it. The fruit is irregular in shape, flattened and cockscombed, large to very large (such irregular-shaped, large berries should be weighed, in order to gain a correct idea of their size); colour, glossy bright-red, flesh firm, and of excellent flavour. Seasons medium to late. The PIONEER is a fine early variety, the best early berry for the home garden, and a good bearer. The plant is a luxuriant and rapid grower, with light-green, tall and strong foliage. The fruit is large, conical, with neck, sometimes cockscomb-shaped, light scarlet, ripening very evenly; flesh solid, moderately firm, and of a very fine, delicate flavour—certainly the best of Mr. Durand's seedlings yet sent out."

— MM. CHANTRIER *frères*, nurserymen, of Mortefontaine, exhibited CROTON BERGMANNI and C. CARRIERII, two fine new varieties, at a recent meeting of the Central Horticultural Society of France, and received an award equivalent to our First-class Certificate. *Croton Bergmanni* is the result of a cross between *C. maxima* and *C. Veitchii*, and gives promise of proving a valuable decorative plant; it much resembles the variety Baronne James de Rothschild, raised by the same firm, but the colour is pure ivory-white and green, instead of the red and green of the last-named plant. The leaves are very large and round at the tips, and the plant is a free grower. *Croton Carrierii* comes from a cross between *C. Hookeri* and *C. Veitchii*, and has long green leaves, with middle and side lines of yellow.

— AMONGST APPLES FOR MARKET CULTIVATION, there are three varieties in particular that are strongly recommended by experienced growers. They are,—1. *Stirling Castle*, a valuable early variety for culinary purposes, coming into use by the beginning of August, and bearing immense crops of fruit. 2. *Ecklinville Seedling*, an Irish Apple, raised more than half a century ago, near Belfast; an excellent culinary apple, bearing large and handsome fruit, and a free and reliable bearer, in use during the last three months of the year. 3. *Warner's King*, a very favourite culinary apple, of the finest quality, bearing large and weighty fruit, in use from November till March. Stirling Castle is a variety well adapted for culture in the bush form, and therefore suited for small gardens. In a villa garden, where there is but limited space, and a good and useful selection is necessary, the three foregoing varieties would suffice to keep up a supply, the value of which for market purposes consists in this, that the trees bear in a young state, that they crop heavily in all favourable seasons, and that the fruit is of fine quality.

— THE annexed figure represents the LUTON SYRINGE, for which the advantage is claimed that it has no loose parts, thus avoiding the loss of roses, and also the inconvenience of changing them. The peculiarity of this syringe is that it is fitted with a revolving head composed of different roses and jets, either of which can be used by simply turning the one required opposite to the word "ON," which is stamped upon the tube. This improvement in the indispensable syringe obviates the leakage which frequently occurs in the ordinary instruments, and gives a completeness and convenience to the instrument to which it has not hitherto attained. The manufacturers are Messrs. Brown and Green, of Luton. The revolving head is also made to be fitted to hose-pipes.

— WE note that the *Gardener* strongly recommends the NORWEGIAN CURRANT, as a splendid red currant. It has been exhibited at the Falkirk, Polmont, and other local shows; and having been introduced from Norway by Mr. Salveson, of Polmont House, is locally named the "Norwegian" Currant. The writer describes it as far superior to any other red currant with which he is acquainted, being a free grower, producing splendid bunches, with extra large berries, while the bush is an enormous bearer.

— AS a white-flowered, spring-blooming plant, the pretty PRIMULA VILLOSA *var.* NIVEA (often erroneously called *P. nivalis*), cultivated in pots, is very useful, as if strong and well established, it will furnish a large supply of flowers in a cold frame or greenhouse, and may be cultivated by those who have no convenience for forcing into bloom other plants which supply white flowers at that season of the year. Indeed, in a free soil and a somewhat dry position, it will live through an ordinary winter

out-doors, but to have it in all its snowy purity, it should be cultivated in pots in a cold frame.

— The White Scale is a terrible foe, and one which it is difficult to vanquish. It is especially troublesome when it gets lodgment on plants of the pine-apple, as it is there so difficult of access. "Nemo," writing in the *Gardeners' Chronicle*, states that he got rid of it by the following means :—Dissolve 16 oz. of Gishurst Compound in a gallon of soft water; immerse the plants, and let them remain in the liquid for three minutes; then take them out, turn them bottom upwards to drain, but do not wash or syringe after dipping; when the plants are dry, plant them in a bottom-heat of 90°, and keep up a good moist heat in the house; shade them from the sun until they begin to make growth, after which treat them in the ordinary way. The houses or pits in which the plants have been growing will of course require a thorough cleansing before waking use of them again, scrubbing the walls and woodwork thoroughly, for which purpose Gishurst compound may be used of the same strength as that in which the pines have been dipped, or seeing there is nothing to injure or kill but the scale, the stronger perhaps the better. He states that he had practical proof of the efficacy of this recipe.

— The Mackaya bella, a plant which has been considered difficult to bloom, has been flowering abundantly in Mr. F. E. Wilson's garden at Edgbaston. The plant was raised from a cutting in May, 1877, and was potted in peat chiefly, but made no progress. It was then shaken out and repotted into loam, with a mixture of charcoal and sand, and grown freely in a moist stove-heat. Last summer it was fully exposed to what sunshine we had, being kept in a cool house near to the glass, when it formed its flower-spikes, and in November it was removed to a warmer temperature. The plant is in a 12-inch pot, and is about 5 feet high and proportionately bushy, and has had fully four dozen sprays of flower upon it, which began opening early in March.

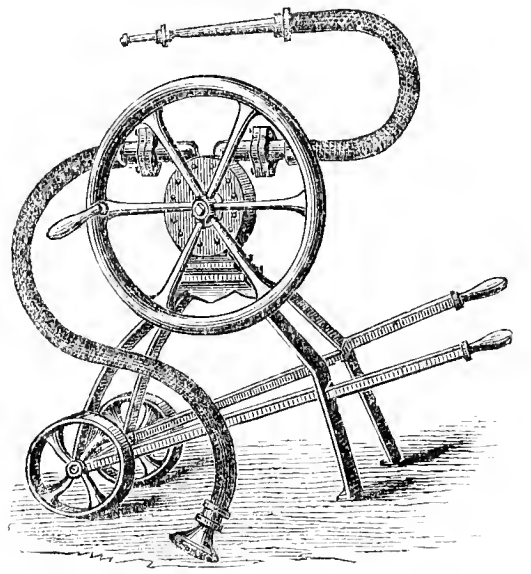
— The curious, old-fashioned Xerophyllum asphodeloides was shown last summer (June) by Mr. G. F. Wilson. The plant is one of the Melanthaceæ, a native of the south-eastern States of North America, whence it was introduced as long ago as 1765, and is of tufted habit, with very numerous crowded leaves, from the centre of which rises the tall flower-stem, with small linear lance-shaped bracts below, and a dense many-flowered raceme above. The flowers are whitish or yellowish-white, and altogether it is a stately plant for the herbaceous border. Mr. Wilson writes that one of his two plants occupies a shady part of his rock-work, on a soil of about half loam and half sand, and then peat added, where it grows and flowers fairly well; but his best plant is in a shaded, cool, damp rock border, the soil being about two parts peat and one of sandy loam. Here, along with Trilliums, Cypripedium spectabile, Lygodium palmatum, Andromeda tetragona, and A. fastigiata, it seems thoroughly at home.

— The beautiful Hippeastrum (or Amaryllis) Ackermanni pulcherrimum has stood the late severe winter in the open border without the slightest injury. The Rev. H. Harpur-Crewe notes in the *Gardeners' Chronicle* that he saw a long conservatory border in Derbyshire some weeks since completely filled with it. The bulbs were simply covered with a little dry fern, and they were coming up as strong as Daffodils.

— We have lately seen a sample of the New Crimson East Lothian Stock, from which we conclude it is a really fine variety. The colour is exceedingly bright and deep—an intense crimson-magenta, and the very fragrant blossoms form a dense spike of unusual attractiveness. It will be a valuable acquisition, on account of the richness of its colour.

— We note, concerning Fruit Prizes, that at the last Court of the Worshipful Company of Fruiterers a prize of £10 10s., to be awarded for fruit, was placed at the disposal of the Royal Botanic Society. This prize will be competed for at the exhibition in the Society's Garden, Regent's Park, on June 16th.

— In the improved Rotary Pump of Messrs. Meynell and Inman, of which a figure is annexed, the motive-power, instead of being obtained by means of a lever handle, is set in action by the aid of a rotary wheel, which affords a continuous in place of an intermittent suction-power, and at the same time increases that power, so that a copious and regular flow of liquid is secured. The



hose and fittings appended to the machine are so made that if irrigation in a conservatory, park, or garden is to be the main purpose of the pump, a rose is fixed for the distribution of the water; while in place thereof a brass nozzle with a tap is supplied, where a more powerful current is desired, as, for instance, in the case of fire, court-yard cleansing, flushing, &c. These pumps are guaranteed to lift from 23 feet vertical depth, and throw to an altitude of from 50ft. to 70ft., in proportion to the size of the machine employed. They do not require nearly the same expenditure of manual force in working as do the ordinary lever-handle pumps, and the force that is actually requisite is largely self-supplied by the weight of the fly-wheel. The entire pump is wrought in iron and bronze, without leather or indiarubber fittings to get out of repair. These points will commend themselves to practical men.

— The Whitsun Show of the Royal Horticultural and Botanical Society of Manchester, which was open from May 14th to May 21st, has proved one of the most successful the

Society has ever held. The show was also of good quality and well filled. The specimen stove and greenhouse plants from J. F. G. Williams, Esq., Henwick Grange, (Mr. Tudgey, gardener,) and from Mr. Cypher, Cheltenham, were of very high quality; as were the Orchids of G. Hardy, Esq., Timperley (Mr. Hill, gardener); R. B. Dodgson, Esq., Blackburn (Mr. Osman, gardener), F. Yates, Esq., Blackburn (Mr. Thompson, gardener); Dr. Ainsworth, Broughton (Mr. Mitchell, gardener); J. Broome, Esq., Didsbury (Mr. Williams, gardener); and also those of Mr. B. S. Williams, Holloway, and Mr. James, Norwood. The Orchids are always a strong feature at this show. The most novel feature, however, was the grand display of Clematises from Messrs. G. Jackman and Son, Woking, who sent 100 specimens in a highly cultivated form; and from Mr. G. Smith, Worcester, who had a fine group of 30. These Clematises made up for the want of large pot Roses. Another feature of much interest and beauty was to be seen in the fancy Pansies and Violas shown in 8-in. pots, of which there were numerous collections, which made a most pleasing and attractive display. There was a nice show of Fruit, the best collection of which came from the garden of J. W. Pease, Esq., Hutton Hall, Guisborough. The attendance on Whit-Monday was 17,000, and on the two first days 5,000 and 6,000 respectively.

— THE advances which have been made amongst the varieties of COLEUS since the advent of the Chiswick hybrids is marvellous, and the last year or two have witnessed great progress, through the introduction of fresh blood. We noted at the Royal Botanic Society's Show, on May 19th, an interesting group of novelties of this genus shown by Messrs. Carter and Co., who have, we believe, made a large collection; and some of these novelties were of a very pleasing character. Amongst them we specially noted Canary Bird, a deep canary-yellow, with pale-green edge; Allen Chandler, vermilion, shading off to purplish-crimson; Mrs. Sharman, robust, with splendidly marked leaves of crimson-purple, brightened up with yellow and green; Trissy Appleford, also robust, brilliant crimson, with purple centre, and yellow and green edge; Miss Florence, rich crimson, shaded with purple, and marked with yellow and green; and Mrs. Edwin Beer, a very handsome notched-leaved sort, with yellow ground, tinted with green at the edge, and richly blotched and splashed with magenta-crimson. These and many others were exceedingly attractive, and may be strongly recommended, wherever these very useful and highly decorative plants are grown.

— BESIDES the SHOW POLYANTHUS SUNRISE, described in our notice of the Southern Auricula Show, we understand that S. Barlow, Esq., Stakehill House, Castleton, has subsequently flowered one of equal, if not of superior merit, which has been named CRITERION. It has an intensely black ground-colour, and very correct and perfect facing, the other properties being all that can be desired, and placing it, as we are told, without exception in the very forefront of the dark-ground varieties. Mr. Barlow's systematic crossing has thus been rewarded by the addition of at least two first-class novelties to our list of varieties, and we have no doubt we shall have the pleasure to welcome other equally fine acquisitions.

— IT is gratifying to learn that the two fine plants of CHAMÆROPS FORTUNEI which are growing in the pleasure-grounds at Heckfield have again passed through the winter without any material injury, and more, that new leaves are pushing through the mass of natural protection—hairy fibre on the trunks—which the plants seem to develope in greater profusion than do the same kinds of plants growing in-doors. The soil in which they are growing is a sandy loam, on a gravelly bottom, and the position is well sheltered from the north and east. The only artificial protection they have had was a few hay-bands twisted round the stems, and these were not put on till the last severe frost set in, on January 15th. The lowest temperature registered at Heckfield, 8°, or 24° of frost, occurred on December 11th, and at that time the plants were not protected.

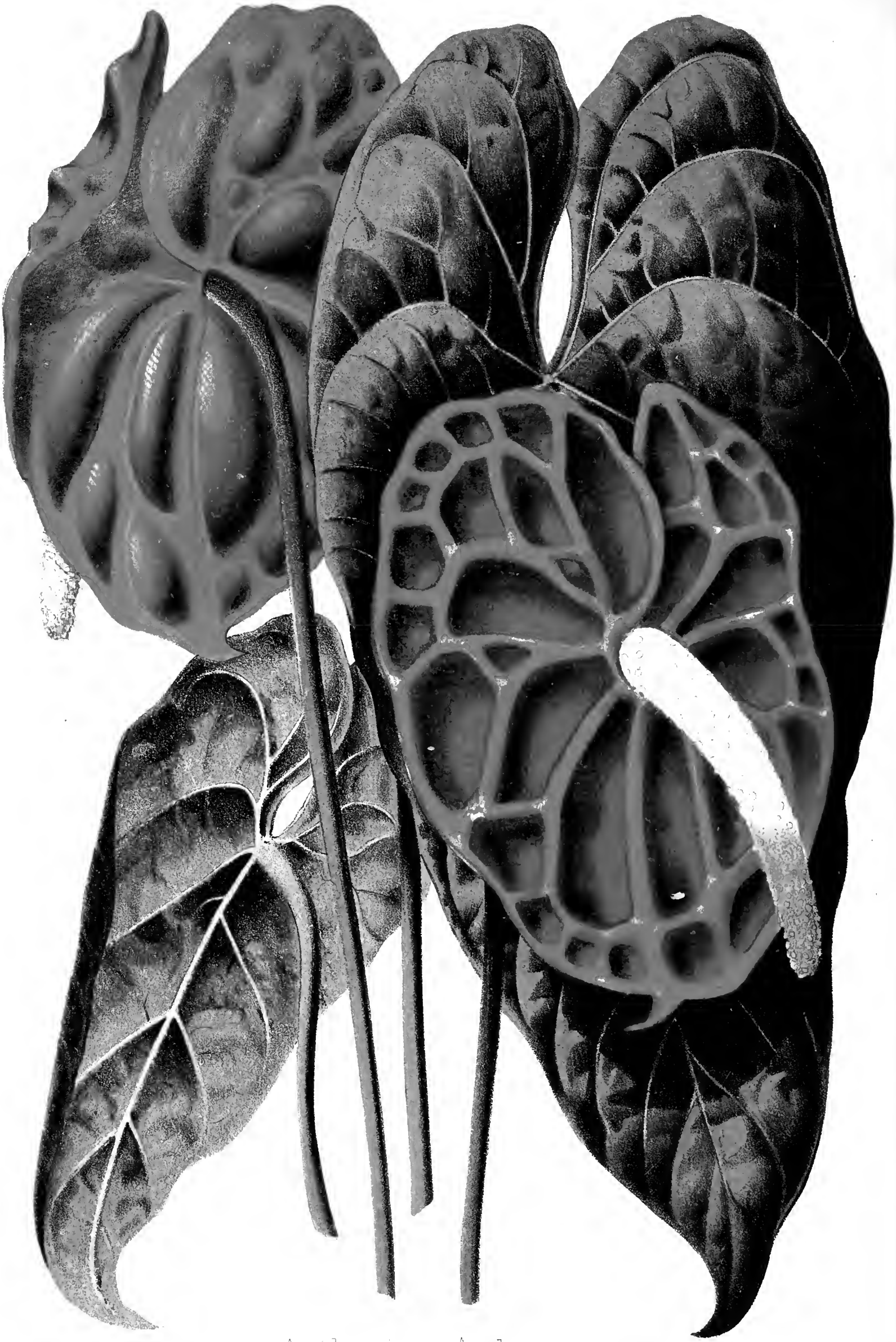
— THE newly-introduced CORYDALIS LEDEBOURIANA is a pretty, thick-stalked, dwarf plant, with ternately divided glaucous leaves, and a leafy raceme of pinkish flowers. It will, doubtless, prove a valuable addition to our list of herbaceous plants, since it is a native of the south-east districts of Altai, and is no doubt perfectly hardy in this country. C. KOLPAKOWSKYI, discovered by Albert Regel in Kuldscha, is an allied species of similar habit; it has dark purple-red flowers, with a paler spur; and as this has withstood the St. Petersburg winters without any protection, its hardiness in England cannot be called in question.

— FAR too little use is made of some of the better class of Annuals as decorative pot-plants. One of those which are too seldom seen is the SCHIZANTHUS PINNATUS, and its strikingly coloured varieties, a plant worthy of every attention. Mr. Findlay grows it in admirable style in the Botanic Garden at Manchester, where a number of specimens serve to decorate the show-houses during the early summer months. The seeds are sown in September, the plants being grown through the winter in small pots, and transferred in spring into 6-in. ones, a good rich compost being made use of. When thus grown into bushy plants four or five feet high, their handsomely spotted lilac flowers are very ornamental and effective.

In Memoriam.

— DR. NILS JOHANN ANDERSSON died at Stockholm on March 27th, at the age of 59, after long suffering. This celebrated Swedish botanist and traveller was born on February 20th, 1821. He studied at Upsal, graduated as Doctor of Philosophy in 1845, and resided at the University, as Assistant-Professor of Botany. Afterwards he took part in the expedition of the frigate Engénie round the world, 1851-1853. In 1855 he became Demonstrator of Botany at Lund, and in the following year was appointed permanent Professor of Botany, Director of the Bergianska'schen Garten, and Superintendent of the botanical division of the Royal Museum, where he worked with great success till the beginning of 1879.

— MISS FRANCES JANE HOPE, of Wardie Lodge, near Edinburgh, died suddenly on April 26th. The deceased lady inherited a love of botany from her uncle, the celebrated Dr. Hope; yet she was not so much a botanist as a gardener, for it was a greater pleasure to her to cultivate her flowers and make them happy, than to classify and dissect them. Her garden was the great interest of her life. She worked early and late in it, sparing no pains to add to her collection, which was open to flowers of all sorts, for she loved even those which others thought unattractive.



Anthurium Andræanum

P. De Pannemaeker Chromolith. (Gand, Belgique.

ANTHURIUM ANDRÉANUM.

[PLATE 517.]

WE have already, at p. 78, noticed the flowering of *Anthurium Andréanum*, and of its subsequent exhibition both at Ghent and in London. The figure published from dried specimens by M. Linden three years ago (*Illust. Hort.*, 1877, xxiv., t. 271), led to great expectations regarding its beauty; and these, now that it has flowered for the first time since its introduction, and when it cannot be supposed to have attained its best condition, have been more than realised. No finer plant has for many years been added to our collections, and when submitted at the meeting of the Royal Horticultural Society at South Kensington on April 13th, it was accorded a First-class Certificate by acclamation.

Anthurium Andréanum (written *Andræanum*, both by Linden and Engler), as we have already stated, is a plant of tufted habit, as, indeed, is well shown in the annexed woodcut from the *Gardeners' Chronicle*. The petioles, which are ascending, slender, cylindrical, and thickened at the top, support a cordate oblong, glabrous, leathery blade, which is dark green above, paler beneath, and marked by a few prominent nerves, and is, moreover, attached by a kind of hinge, which permits it to assume either a deflexed or a spreading position. The slender flower-stalk is erect, considerably longer than the leaf-stalk, and terminates in the decurved spadix, which is about three inches long, as thick as a swan's quill, ivory-white at the base, greenish-yellow at the tip, and is surrounded by the spreading cordate acute, firm-textured leathery spathe, which is conspicuously and irregularly corrugated, and of a brilliant scarlet hue, like pure sealing-wax, with the surface shining as if varnished—the colour much more intense and brilliant than that of *A. Scherzerianum*. It belongs to the section named *Cardiophyllum*, which includes *A. regale* and *A. crystallinum*, with their allies.

This grand novelty, M. André states, was discovered in May, 1876, in the State of Cauca (not Choco), in Columbia. The first batch of it sent to Europe arrived in bad condition, but a second venture, by the Indians who accompanied M. André in his explorations, was more successful, and in May, 1878, after his return to Paris, M. André was fortunate enough to receive another importation of it, which was placed in M. Linden's hands. The plant, it appears, grows as an epiphyte, or on the soil in the midst of mosses and selaginellas. Its slender reddish-brown rhizomes are creeping, and at the node from which the leaves spring the erect flower-stalks are also developed, being thrown well up above the leaves. It is found naturally in a very rainy district, in a warm soil, and its inflorescence is of long duration. The largest spathe measured by M.

André had a length of nearly 5 inches, and although the spadix bore ripe fruits, the colour of the spathe was still brilliant. It is announced that M. Linden will send out *A. Andréanum* in the ensuing autumn, when, no doubt, it will be much sought after by cultivators.

Within the last few months a considerable number of plants collected and brought over by Mr. F. C. Lehmann, and said to be in

good condition, have been sold at Stevens's Rooms. Mr. Lehmann states that it grows at an elevation of from 3,500ft. to 4,200 ft., that it is of easy cultivation, and that a temperature of from 60° to 70° will suit it best. He adds, moreover, that the flowers (spathes) last in beauty for four months, and being most vivid in colour, far surpass in beauty those of the well-known *Anthurium Scherzerianum*. We have no doubt that Mr. W. G. Smith's figure of the plant, as rendered in the accompanying plate by M. de Pannemaeker, will be admitted as evidence that we have not said too much in its favour.—T. MOORE.

COCOA-NUT FIBRE REFUSE.

IT was the late Mr. Donald Beeton, who lived in the neighbourhood of a manufactory at Surbiton, who first drew attention to the usefulness in the garden of the refuse obtained in the preparation of the fibre contained in the husk of the cocoa-nut for the manufacture of matting, brushes, &c. No use had then been found for this refuse material, and large heaps of it were accumulating so as to prove incumbrances to the manufacturer. Aware of this, Mr. Becton conceived the idea of utilising it in the garden, and it was found so useful that, mainly through his recommendation, the refuse-heaps diminished in bulk, and at length disappeared. From that time it has in a quiet way come into very general use, especially in town gardens within reach of the fibre works, where the refuse, cheap enough in itself, can be obtained without excessive cost of carriage.

The cocoa-nut fibre refuse really consists of short scraps of fibre, and of the tissue which grows with it in the husk of the cocoa-nut. It is, therefore, vegetable matter, light in texture, and in its nature not very far removed from leaf-mould; and as there is nothing in it deleterious to growing plants, it can be employed with advantage as a substitute for that very useful adjunct to the compost-heap.

Plants root into this material so freely, that it is a very useful aid to the propagation of soft-wooded, free-growing plants generally. When mixed with a sufficient quantity of grit, so that it is not liable to become soppy with moisture, it may be safely used either in the compost prepared for cutting pots, or in that used for surfacing hot-beds, where propagation is carried out on a large scale. It is not, however, adapted for the propagation of hard-wooded plants, which take a longer period to strike root; but it is admirably suited for mixing with light earth to form a compost for bedding out divided plants of choice herbaceous perennials, or for pricking out young seedlings in order to nurse them on into size and strength. The roots are generally formed so abundantly, and seem to hold on to the fibre so tenaciously, that young plants reared in this may be transplanted with much less risk of failure than when growing in ordinary soil, which parts more freely from their roots.

The refuse may also be used as an ingredient in the composts used for all soft-wooded plants. In this case it takes the place of leaf-mould, and acts as a lightener of the compost, as a due retainer of moisture, and gradually as a pabulum for the growing plants. From this point of view, it may not, indeed, be superior to leaf-mould, but when it has commenced to decay it should be equally good, and those who cannot obtain leaf-soil in a tolerably pure state, may very well employ in its stead the refuse of the husk of the cocoa-nut, which can always be had free from any foreign intermixture.

When obtained fresh, the refuse is an excellent material in which to plunge pot-plants, whether in unheated or heated frames, as a protection to their roots against drought or frost. When, however, it is used as a plunging-bed, in hot frames, its decay is more rapid from its being more exposed to moisture, than when in cold frames, where it will last for a considerable period; but even under the circumstances indicated, being cheap, it can be readily replaced. It is not so durable for the purpose as tanner's bark, nor does it to any considerable extent supply heat by fermentation as that does; but where the heat is supplied by a tank or hot-water pipes, the refuse placed over the source of heat forms a good plunging-bed.

We have used this cocoa-nut refuse to good advantage as a mulching material, applied to the surface of flower-beds which it may be desired to shelter from excessive heat in dry seasons; and it may be employed in a similar way with much advantage around the base of the stems or over the roots of half-tender plants as a protection from frost in winter,

since it would thus not only retain the warmth of the soil, but to the extent of the protection rendered, would also ward off the attacks of frost. In either case, when the object for which it had been used was accomplished, it could be beneficially worked into the soil.

This refuse material is now to be had at a very reasonable price in many parts of London, and no doubt in other places where the preparation of the fibre is carried on; but one of the cleanest samples which has recently come under our notice has been obtained from Messrs. Chubb, Round, and Co., of Millwall, at whose Fibre Works it is prepared on a very extensive scale. The conversion of so-called waste materials to utilitarian purposes is one of the features of the present age; and in turning this "refuse" to account, the horticulturist is aiding in the good work of gathering up the fragments, so that nothing may be lost.—T. Moore.

SENECIO SPECIOSUS.

THIS pretty South-African plant is not new to our gardens, but newly introduced. It is recorded as having been in cultivation towards the close of the last century, and figures of it from garden plants were published by Andrews in 1806 (as *S. pseudo-china*), by Ker in 1816, and again by Loddiges in 1826, both the latter under its correct name of *S. speciosus*. It appears to have been subsequently lost or elbowed out of cultivation by newer favourites, until reintroduced two or three years since by Mr. W. Bull, when it was first identified with its South-African ally, *S. concolor*, but subsequently received its correct name, *S. speciosus*, its confused synonymy and history having been cleared up in the *Gardeners' Chronicle* (1879, p. 616) by Mr. Brown, of Kew. In South Africa it has

a wide range, extending from the Cape of Good Hope to Natal. Sir Joseph D. Hooker, whose figure of it in the *Botanical Magazine* represents specimens raised in the Edinburgh Botanic Gardens from seeds collected in December 1878 by Serjeant D. Williamson, speaks of it as a beautiful plant, and our woodcut from Mr. Bull's *Catalogue* shows it to be an object of no inconsiderable attractions.

The plant is a greenhouse perennial, but flowers freely in the open border during the summer months. It has a stout fleshy root, crowned with a rosulate tuft of leaves, which are about 6 inches long, obovate-lanceolate, crenately-toothed, or sinuately-lobed, or sometimes sub-pinnatifid, as in the accompanying figure; they are usually bluntish, and clothed more or less densely with glandular hairs. The flower-scapes are numerous, rising out of the axils of the central leaves, one to two feet high, hairy, furnished with a few small leaves, and terminating in a corymb of large showy flowers, of a bright magenta colour, the stalked flower-heads being fully an inch-and-a-half across, with a spreading ray of numerous ligulate florets, and a small disk of nearly the same colour. These bright flowers are very attractive, and they are so freely and continuously produced, that in a cool greenhouse they are developed successionally throughout the year, the height of bloom being, however, during the summer season.—T. MOORE.

THE TOP-DRESSING OF WALL-TREE BORDERS.

IN the olden times, whatever else was done or undone, this was pretty sure to be attended to, for these were the special spots for the production of early Peas, Cauliflowers, Kidney Beans, Lettuces, &c. Consequently these borders were sure of an annual dressing of some of the sweetest, if not always the richest, available manure. The result was that the roots that escaped rupture from deep digging, or injury from over-crowding, were pretty sure to find plenty of food ready to hand. The practice, therefore, of this surface-cropping of fruit-tree borders with vegetables, though bad in principle, like a good many bad practices, had some compensating advantages. It was at least a sure antidote to root starvation. True, it often gave the roots a plethora of food, and that not always, nor often perhaps, of the best quality. But of the two evils—plethora or starvation—the former is to be preferred.

In advocating, some years ago, in these pages, that each fruit-tree border should bear the inscription, "SACRED TO THE ROOTS," it was never meant that nothing should be added to the border in the form of food. It is to be feared that such was the interpretation placed on this advice in not a few quarters. The roots have had the soil, and nothing more. Now, the best soil gets worn out, and that much sooner than is generally supposed. The entire amount of plant food in even the best of soils would weigh but little, could it be separated from the mass or placed on one side before us. Most of us would be astounded or alarmed at the light weight, the small quantity. On the other hand, though the roots of trees can hardly be called gross, they are persistent feeders. Through summer and winter, spring and autumn, they peg away at their dark and often scanty larders in the soil. This form of expression is used advisedly, for the earth itself is not the plant-larder, but rather its mere shell or case, in which the root-food is stored or held. As the food is consumed, the larder becomes less full—empty. Hence the need of replenishment.

The best, and indeed, the only practical mode of refilling the root-larder of wall trees is by top-dressing. In general terms, too, such dressings must either be solid or liquid. Of course, the substances thus conveyed to the roots may be infinitely varied, but the vehicle by which they can be communicated must be solid or liquid. Both forms have their advantages. The liquid is soonest available, and most easily as well as more rapidly distributed. It also leaves the physical conditions of the soil—its texture, &c.—as it was before. This may prove a benefit, or the reverse, according to circumstances, but what may be termed the spontaneity of the action of liquid dressings is a powerful point in their favour. Long before solid dressings have reached the surface-skimming roots, the plant-food distributed through the medium of water has reached and filled every root.

Some of the best liquid-feeders are guano-water, dissolved superphosphate of lime, and water in which such solid manures as those of

deer, pigeons, barn-door fowls, sheep, and cows have been mixed up. House sewage, soapsuds, animal excrement, the overflow of closets, if properly diluted, are also among the best feeders of fruit-trees. Fruit-tree borders, when enriched with manure-water, should get enough to go right through them, so that every hungry root may be fed, and the whole of the interstices of the hungry soil may be filled with food.

Solid top-dressings mostly assume three forms—rich loam, sweet manure, and composts—all these of many qualities, but all of them resolvable into mixtures compounded of certain portions of good soil with various manures added to make it yet richer and better. These exert a very marked effect upon roots. It seems at times, when from three to four inches of such materials are placed over hungry roots as if the latter knew by a sort of vital telegraphy that the food was nigh them, for they at once rise up to meet, or rather to eat it. This rising of roots to meet and mingle in new top-dressings is one of those curious mysteries of vitality that has never been satisfactorily explained, as far as I am aware. It has been termed the power of roots to find the larder. But what is that power, and how comes it to be exercised apparently before any of the contents of the larder have reached the roots, to reveal its whereabouts? The fact, however, of the rising of the roots, when new food is placed over them, is of the greatest cultural importance, and though it may not explain the philosophy of top-dressing, it does prove in the most conclusive way, its immense utility.

But of course the plant-food, or solid dressing, being soluble, also finds its way to the roots by being washed down to them by the rains. Thus the food is slowly distributed through all portions of the border, so that ultimately the roots reap all the benefit from the food applied. And this gradual distribution has been held to be a main advantage of solid over liquid dressings—in fact, both may be best, according to circumstances. And if liquid dressings are speedily used up, nothing is easier than their repetition. So that, on the whole, where the trees stand in need of much artificial food, liquid top-dressings are the best.

As to the necessity for feeding the roots well, it is only needful to glance at the enormous strain put on Wall trees, to feel that they must indeed be well fed to sustain it. The hot bricks behind them, the enormous evaporation from their wide spread of leaves, and the heavy crops of fruit, all strain and try the energies of the trees to the uttermost. It is, therefore, essential that the roots should never lack either food or water, if the health and strength of the trees are to be preserved intact, and top-dressing such as herein described affords about the simplest means of furnishing them with both.—D. T. Fish, *Hardwicke.*

MANURES FOR ORCHIDS.

ON this somewhat novel topic a very interesting chapter appears in M. de Puydt's elegant and instructive volume, recently noticed in our pages. The following is a condensed translation of his remarks :—

Everybody knows that a plant wears out the soil in which it lives ; for having to extract therefrom certain elements necessary for its development, it exhausts the supply, and if this is not replaced, the plant cannot fail to waste, and sooner or later to disappear. Nature or art must therefore again supply these necessary elements—which fact practically involves recourse to the use of manure. This refers to plants in general. Are the orchids, especially the epiphytal kinds which live without touching the ground, and which are reputed to ask nothing, or almost nothing, from the soil, an exception to the general rule? Do not these, which grow in or on the soil, or on the rocks, need to assimilate to themselves certain mineral or organic substances? Must not the epiphytes find in the atmosphere which surrounds them, certain gases which are particularly useful to them? Does not the decomposition of the mosses in which their roots creep furnish them, with food? The waters of the sky, the dust, all that floats in the air, do they not bring to them a sufficient quantity of plastic elements, even in the most aerial station?

We may well believe that it is so, since nothing is made out of nothing. Besides, experience has proved that Orchids, even epiphytes, do not deviate from Nature's general plan, but live in much the same way as other plants. Therefore, where assimilable matters are insufficient in quantity, it must be possible and essential to supply them by artificial means.

Long since, many English cultivators, assimilating the treatment of terrestrial Orchids in this respect to that of other hardy plants, have mixed in the compost in which they plant

them, a little cow-dung, dried and pulverised, or wanting this, a little dry horse-dung. We think that, in this case, the addition of a little solid manure to the compost can only be of minimum utility. Orchids, whether terrestrial or aerial, are planted in a compost of materials which are very permeable, and through which the water one pours so profusely over them filters freely. It is impossible but that the little nitrogenous matter introduced with the cow-dung should be in a very short time absorbed or hurried away by the water, and after that its action can last but a very limited time. It seems to us that if a manure can be useful, and we do not doubt that it might be so, it would be necessary to give it not once in one or two years, at the time of potting, but now and then, in the liquid form, or even each time one waters, but then in very small quantities.

But the epiphytes? Is it sufficient, in order to give them all the vigour desirable, and to obtain from them a luxuriant flowering, to treat them, as is customary, in a good structure, with heat, water, &c., in pots half-filled with sphagnum and other matters? And on what do those feed which are grown on wood? Will the captive atmosphere of the house, saturated with water by vaporisation, be worth the free air of the virgin forests, charged with the gaseous products of their decomposition, for the food of the epiphytes? We may be allowed to doubt it. Orchids mostly belong to regions where life is in the highest degree of intensity, where plants die on the spot, where the decomposition of organic matters is incessant and considerable. The atmosphere of these forests is necessarily charged constantly with the gases which this transformation produces; and that it is these gases, combined with the rains, which maintain the life of the plants, of those especially which borrow nothing from the ground, it is not possible to retain a serious doubt.

But if the same plants, cultivated in our houses, have neither the azotised rains, nor the gases, nor the dust of their native place, is it not possible to supply them artificially? We must admit that certain data are wanting to fully resolve this question. What is the chemical composition of orchids? Is it the same in all? Are the same elements found in equal quantities in all their parts? For example, is the composition of the floral organs identical with that of the stems, pseudobulbs, and leaves? If not, the manure might be modified, so that it might be used according as the plant develops stems or flower-stalks. In the meantime, and since one cannot dispute that epiphytal Orchids cultivated in our houses do not find there exactly all the elements on which they ought to feed, by what means can one provide enough for their urgent necessities?

At the Botanical and Horticultural Congress of Bruxelles in 1876, this interesting question was raised by M. de la Davansaye. This distinguished amateur, in cultivating bromeliads and orchids, had placed in his houses gutter-pipes wherein circulated water into which a volatile nitrogenous substance had been thrown, and in this way he had obtained extraordinary results. The black soap used in the water with which he washed the leaves of his palms had been very favourable to them. M. Reichenbach, the learned orchidologist, has related that he had seen in an orchid-house an extraordinary development, obtained by a procedure which had been kept secret, but which he had discovered consisted in putting manure on the pipes at night; but the plants thus forced to excess had a very short duration. Professor Edouard Morren, in cultivating these epiphytes in his little orchid-house, adopted the plan of depositing in one corner of the house a piece of carbonate of ammonia of the size of a small nut, which becomes volatilised in about eight days, and furnishes the atmosphere of the house with a supplement of carbonic acid, and especially of ammonia.

Quite recently, M. le Comte du Buysson has published in the *Flore* the results of his experiences in administering to epiphytal orchids manures mixed with the water used for syringing. That to which he gives the preference is guano of good quality, of which he uses a gramme (nineteen grains) to about a quart of water. The mixture is prepared the previous evening, well stirred, and then allowed to settle, and he strongly advises that this proportion should not be exceeded. With this he syringes his Orchids all over once a week during their growth. The leaves are not stained by its use. Under this treatment, he says, his plants have become almost unrecognisable, and some young subjects have flowered which, without this aid, would have required years of growth. Two drops of ammonia in about a quart of rain-water have also produced excellent effects.

Great interest attaches to these experiences made by conscientious amateurs, in the face of which one cannot doubt that the dispersion of

ammoniacal gas in the house, by means of volatilisation, or that the use of ammoniacal salts dissolved in the water used for syringing or for watering, may be the means of strengthening the growth of epiphytes. We should do well to make use of the knowledge thus acquired, and be wise not to abuse it.—*Les Orchidées.*

THE ROYAL NATIONAL TULIP SOCIETY.

THE Exhibition of this Society for the present year took place on May 29th, in the gardens of the Royal Botanical Horticultural Society of Manchester, at Old Trafford, under the presidency of Samuel Barlow, Esq., Stakehill House, Castleton. The season has not been a propitious one for the Tulip, and probably the bulbs have not yet recovered from the shock received through the uncongenial meteorological conditions of the past year or two. The bloom, moreover, was late, and this excluded many of the northern growers, and gave to those of the midland districts a decided advantage. These several causes combined to make the show less perfect and comprehensive than it is in average years. Many of the flowers staged were, however, of excellent quality. The following are the names of the principal winning sorts in the several classes :—

Rectified Tulips.

Class I. 12 *dissimilar*, 2 *feathered and* 2 *flamed in each class.*—1st, Mr. W. Whittaker, Salford, with good examples of Sir Joseph Paxton, feathered and flamed, Bessie, feathered and flamed, Majestie, Mr. Lomax, Prince of Wales, Aglaia, Masterpiece, Mrs. Lea, Beauty of Brighouse, and Lady Catharine Gordon—a nice even stand of flowers; 2nd, Daniel Woolley, Esq., Stockport, with Masterpiece, feathered and flamed, Mabel, feathered and flamed, Aglaia, Mrs. Lea, Adonis, feathered and flamed, Bessie, feathered and flamed, Mr. John Mills, and Sir Joseph Paxton—some flowers very good, but one of the feathered byblœmens badly crippled; 3rd, Mr. David Barber, Stanton-le-Dale, with Masterpiece, John Dalton, Mrs. Lea, Bessie, feathered and flamed, Sir J. Paxton, feathered and flamed, Mabel, Sarah Headly, feathered and flamed, Hugh Miller, and Mrs. Piekerill; 4th, S. Barlow, Esq., Stakehill, with Lucretia, Talisman, Dr. Hardy, Modesty, Sir J. Paxton, feathered and flamed, Storer's No. 4, Alice Grey, Mr. Lomax, Adonis, Charmer, and Bessie—small but well-marked flowers, evidently short of growth; 5th, W. Wardle, Esq., Burton-on-Trent, with Violet Aimable, Aglaia, Adonis, Duchess of Sutherland, Sulphur, feathered and flamed, Bossie, Sir J. Paxton, feathered and flamed, Industry, and Lady Catharine Gordon. The *Gardener's Magazine* notes that Mr. Thomas Haynes, Warwick, showed an excellent stand in this class, and would probably have been placed first, but he was disqualified through showing a "quartered" flower.

Class II. 6 *dissimilar*, 1 *feathered and* 1 *flamed in each class.*—1st, Mr. Thomas Haynes, with Sir Joseph Paxton, Mrs. Lomax, Mrs. Pickerill, Lord Denman, Aglaia, and Masterpieeo—very fine blooms; 2nd, Mr. W. Whittaker, with Talisman, Sir Joseph Paxton, Mrs. Lomax, Bessie, Masterpieee, and Aglaia; 3rd, Mr. David Barber, with Heroine, Sarah Ann, Aglaia, Dreadnought, Hugh Miller, and Masterpieee; 4th, S. Barlow, Esq., with Modesty, Talisman, Violet Aimable, William Willison, Mrs. Lomax, and Sir Joseph Paxton; 5th, James Thurston, Esq., Wolverhampton, with Adonis, Sarah Headly, Mabel, Talisman, and Sir Joseph Paxton, feathered and flamed; 6th, Mr. Thomas Mellor, Ashton-under-Lyne, with Mrs. Lea, Bessie, Duchess of Sutherland, Masterpieee, Sir Joseph Paxton, and Mabel.

Class III. 6 *dissimilar*, 1 *feathered and* 1 *flamed in each class* (for 10s. 6d. subs. only).—1st, Mr. Hugh Houseley, Stockport, with Sir Joseph Paxton, Lady C. Gordon, Masterpieee, Mrs. Lea, Violet Aimable, and Chancellor; 2nd, Mr. R. Yates, with Pilot, Annie MeGregor, Queen of May, Masterpieee, Violet Aimable, and Aglaia; 3rd, Mr. Wm. Dymock, with Amelia, Sir J. Paxton, feathered and flamed, Modesty, Seedling, and Violet Aimable; 4th, Mr. J. Turner, Stockport, with Violet Aimable, Bessie, Sir Joseph Paxton, Masterpieee, Aglaia, and Beauty of Home.

Class IV. 3 *feathered*, 1 *in each class.*—1st, Mr. Wm. Whittaker, with Bessie, Mrs. Lea, and Masterpieee; 2nd, Mr. David Barber, with Sir J. Paxton, Heroine, and Adonis; 3rd, Mr. Thomas Haynes, with Mrs. Piekerill, Sir Joseph Paxton, and Heroine; 4th, Daniel Woolley, Esq., with Masterpieee, Mabel, and Bessie; 5th, Samuel Barlow, Esq., with Commander, Hepworth's Seedling, and Modesty; 6th, Mr. Hugh Houseley, with Mrs. Lea, Sulphur, and Unknown.

Class V. 3 *flamed*, 1 *in each class.*—1st, Mr. Thomas Haynes, with Sir Joseph Paxton, Aglaia, and Lord Denman; 2nd, Mr. David Barber, with Aglaia, Duchess of Sutherland, and Unknown; 3rd, James Thurston, Esq., with Mabel, Talisman, and Sir Joseph Paxton; 4th, Mr. William Whittaker, with Aglaia, Sir Joseph Paxton, and another; 5th, Daniel Woolley, Esq., with Sir J. Paxton, Bessie, and Mabel; 6th, Mr. Thomas Pegg, Chellaston, with Sir Joseph Paxton, Bessie, and Mabel.

Class VI. 2 *blooms*, 1 *feathered and* 1 *flamed, of any class.*—There was no competition in this class, which was for maiden growers only, notwithstanding that a distribution of valuable bulbs was offered to all who entered in it.

Class VII. 2 *blooms*, 1 *feathered and* 1 *flamed, of any class.*—1st, Mr. W. Whittaker, with Sir Joseph Paxton and Masterpieee; 2nd, Mr. Thomas Haynes, with Dr. Hardy and Mrs. Piekerill; 3rd, Mr. R. Yates, with Industry and Pilot; 4th, D. Woolley, Esq., with Julia Farnese and Aglaia; 5th, Mr. D. Barber, with Masterpieee and Sir Joseph Paxton; 6th, Mr. J. Turner, with Masterpiece and Aglaia.

Class VIII. *Single blooms.* Ten prizes were offered in each of the groups, and were taken as follows :—

Feathered Bizarres.—1st, Mr. T. Haynes, with Sir Joseph Paxton; 2nd, Mr. R. Yates, with Masterpieee; 3rd, Mr. D. Barbor, with Model; 4th, Mr. T. Haynes, with Sir Joseph Paxton, and 5th, with George Hayward; 6th, Mr. Whittaker, with King; 7th, Mr. T. Haynes, with Sulphur, and 8th, with Storer's 32; 9th, Mr. Whittaker, with Richard Yates; 10th, D. Woolley, Esq., with Unknown.

Feathered Roses.—1st, Mr. T. Haynes, with Industry, and 2nd, with Heroine; 3rd, Mr. H. Houseley, with Madame St. Arnaud; 4th, D. Woolley, Esq., with Mabel; 5th, Mr. Joshua Hague, with Mrs. Lea;

6th, Mr. Hugh Houseley, with Aglaia; 7th, Mr. W. Dymock, with Industry; 8th, Mr. E. Schofield, with Vicar of Radford; 9th, Mr. R. Yates, with Supreme; 10th, D. Woolley, Esq., with Julia Farnese.

Feathered Byblœmens.—1st and 2nd, Mr. T. Haynes, with Mrs. Pickerill; 3rd, Mr. Wm. Whittaker, with Adonis; 4th, Mr. T. Haynes, with Beatrice; 5th, Mr. Wm. Whittaker, with Violet Aimable; 6th, Mr. T. Haynes, with Seedling; 7th, Mr. Wm. Whittaker, with Majestic; 8th, Mr. W. Dymock, with Bessie; 9th, Mr. D. Barber, with Martin's Seedling; 10th, Mr. Thos. Mellor, with Edgar.

Flamed Bizarres.—1st, Mr. Thomas Haynes, with Sir Joseph Paxton, and 2nd, with Dr. Hardy; 3rd, Mr. W. Dymock, with Sir Joseph Paxton; 4th, Mr. E. Schofield, with John Edwards; 5th, Mr. Jno. Morris, with Ajax; 6th, Mr. T. Mellor, with Diadem; 7th, Mr. W. Whittaker, with Prince of Wales; 8th, Mr. T. Mellor, with Masterpiece; 9th, Mr. J. Thurston, with Seedling, and 10th, with Merit.

Flamed Roses.—1st and 2nd, Mr. Thos. Haynes, with Aglaia; 3rd, Mr. Thos. Mellor, with Lady Catharine Gordon, and 4th, with Mrs. Telford; 5th, Mr. R. Yates, with Andromeda; 6th, Mr. Thos. Haynes, with Hepworth's Seedling; 7th, S. Barlow, Esq., with Rose of England; 8th, Mr. W. Whittaker, with Sarah Headly; 9th, Mr. W. Dymock, with Mabel; 10th, Mr. W. Whittaker, with Celestial.

Flamed Byblœmens.—1st, Mr. Thos. Haynes, with Bessie; 2nd, D. Woolley, Esq., with Adonis; 3rd, Mr. Jas. Thurston, with Talisman; 4th, D. Woolley, Esq., with Bessie, and 5th, with Lord Denman; 6th, S. Barlow, Esq., with Duchess of Sutherland; 7th, Mr. Jas. Thurston, with Model of Perfection; 8th, Mr. Thos. Haynes, with Thalia, and 9th and 10th, with unnamed flowers.

Class IX. *Best Feathered Tulip in the Exhibition.*—Mr. W. Whittaker, with Majestic, a heavily-feathered byblœmen. *Best Flamed Tulip in the Exhibition.*—Mr. Thomas Haynes, with Sir Joseph Paxton.

Breeder Tulips.

Class X. 6 *dissimilar*, 2 *of each class.*—1st, S. Barlow, Esq., with Glory of Stakehill, Excelsior, Hardy's No. 27, Ashmole's 112, Sir Joseph Paxton, and Mrs. Barlow—a very fine lot; 2nd, Mr. John Morris, Leigh, with R. Yates, Alice Grey, Maid of the Mill, Annie McGregor, Mabel, and Sulphur; 3rd, Mr. D. Barber, with Talisman, Miss Burdett-Coutts, Chas. Schuman, Proserpine, Annie McGregor, and William Lea; 4th, Mr. William Whittaker, with Mr. Wilson, Seedling, Mabel, Attraction, Miss Burdett-Coutts, and Sir J. Paxton; 5th, Mr. Thomas Haynes, with Seedling, William Lea, Mrs. Lomax, Talisman, Dr. Hardy, and Madame St. Arnaud; 6th, Mr. Thomas Mellor, with Sulphur, Sir J. Paxton, Mabel, Annie McGregor, Alice Grey, and Adonis.

Class XI. 3 *blooms*, 1 *of each class.*—1st, Mr. D. Barber, with Mrs. Pearson and 2 others; 2nd, Mr. Thomas Haynes, with Seedling, Annie McGregor, and Sir J. Paxton; 3rd, Mr. T. Mellor, with Queen of England, Sir J. Paxton, and Alice Grey; 4th, S. Barlow, Esq., with Sir J. Paxton, Mabel, and Alice Grey; 5th, Mr. E. Schofield, with Juliet, Nulli Secundus, and Seedling; 6th, Mr. J. Morris, with Mabel, Sulphur, and Adonis; 7th, Mr. Thurston, with Seedlings; 8th, Mr. J. Turner, with San Joe and 2 Seedlings.

Class XII. *Single blooms, in each of the* 3 *classes. Bizarre.*—1st, Mr. Yates, with Sir J. Paxton; 2nd, Mr. Barber, with Mr. T. Bass; 3rd, Mr. H. Houseley, with Unknown; 4th, Mr. T. Mellor, with Storer's No. 4; 5th, Mr. Haynes, with Lea's No. 2; 6th, Mr. Morris, with R. Yates; 7th, Mr. H. Houseley, with Unknown; 8th, S. Barlow, Esq., with Hepworth's Seedling.

Rose.—1st, Mr. D. Barber, with Miss Burdett-Coutts; 2nd, Mr. R. Yates, with Mrs. Barlow; 3rd, Mr. Thomas Haynes, with Unknown, and 4th, with Mrs. Lomax; 5th, S. Barlow, Esq., with Lady Grosvenor; 6th, Mr. Yates, with Lord Derby; 7th, James Thurston, Esq., with Seedling; 8th, Mr. William Whittaker, with Annie McGregor.

Byblœmen.—1st, Mr. Haynes, with Beauty of Litchurch, and 2nd, with Seedling; 3rd, S. Barlow, Esq., with Glory of Stakehill; 4th, Mr. Barber, with Talisman; 5th, Mr. Wardle, with Bridesmaid; 6th, Mr. E. Schofield, with George Hayward; 7th, Mr. Mellor, with Mrs. Hepworth; 8th, Mr. Mellor, with Adonis.

Class XIII. *Best Breeder in the Exhibition.*—S. Barlow, Esq., with Glory of Stakehill, byblœmen, a grand bloom.

Several new varieties were exhibited for the first time, and others that have been exhibited only a few times before again appeared, and fully sustained the expectations which had been formed of them. These will form the subjects of a future notice; and we may dismiss this account of the Exhibition by saying that the old and well-tested favourites kept, as usual, well to the front. These comprise, in *Feathered Bizarres,* Sir J. Paxton, Masterpiece, Demosthenes, Storer's 4, and Commander; *Flamed Bizarres*, Sir J. Paxton, Dr. Hardy, Orion, Ajax, and Prince of Wales; *Feathered Byblœmens*, Bessie, Adonis, and Violet Aimable; *Flamed Byblœmens*, Talisman, Adonis, Bessie, and Walker's Duchess of Sutherland; *Feathered Roses*, Modesty, Heroine, Industry, Aglaia, Charmer, and Mrs. Lea; *Flamed Roses*, Mrs. Lomax or Mabel, Aglaia, Madame St. Arnaud, and Sarah Headly.—B.

CLIANTHUS PUNICEUS.

AS a companion plant to the *Wistaria*, this sober-coloured climber comes in usefully, where there is room for it. I grew both plants together, and the dressy *Wistaria* looked like some fair lady adorned for a ball or an evening party, and had its effect heightened by contrast with the hue of the *Clianthus.* Both plants require to be looked up to, just as we see the flowers of Fuchsias and Laburnums in their pride, when they dangle over our heads. I prevented the *Clianthus* from flowering for one season, that I might get it well up to display its beauty. It was in the long open corridors at Alton Towers, with glass over-head only, but with no artificial heat, that I tried the experiment of growing the *Wistaria* and this plant together; and I found that there were few hardy greenhouse climbers that could equal them when they are in their glory, if well grown and in a suitable place to show themselves to advantage. They have, moreover, the advantage of coming early.

W. H. Lüchtmans

Chromo Strobant, Ghent

Protees:

1. Lady Rosebery. 2. Princess Beatrice. 3. Ne Plus Ultra.

The old *Wistaria* at Chiswick made a grand display annually on an open wall, but as we come northwards these hardy greenhouse climbers require some slight protection. We have, however, only to look at what is done with the *Clematis* to learn how to make bushes out of climbers, as seen at the late exhibition at Manchester in Whitsun week. It is this difficulty that hinders many climbers, hardy and tender, from coming to the front, for where would such elegant plants as *Tropæolum tricolorum* find a place to run up a copper wire, or the like, in any modern greenhouse? But when grown on a wire cage, it can be handled and moved about as easily as a *Pelargonium*. The lovely genus *Passiflora*, again—of which there are some hardy and others tender, but all of them interesting—and some other nearly allied genera, are of the easiest culture, in their respective places. The tender ones I trained on wires open in the middle, thus differing from Jackman's training, his being a solid globe, as that form answered his purpose best, The *Passiflora kermesina* is really "a thing of beauty."—Alex. Forsyth.

NEW YELLOW PICOTEES.

[Plate 518.]

THE history of the fine new Yellow Picotees here represented was given in Mr. Ball's paper, printed at page 87, and need not be here repeated. Our plate will, however, serve to show, that in speaking of them as a remarkably fine lot, and as comprising some of the greatest acquisitions in this class ever raised, Mr. Ball is in no way chargeable with exaggeration. Last summer they bloomed so late that they could not be produced at the Exhibition of the National Carnation and Picotee Society, but we may hope to see some of them brought out and staged at the show of the present year :—

Lady Rosebery (Fig. 1) is a pure yellow self, of large size, moderately full, and of extra fine quality. It was awarded a Floricultural Certificate on July 10th, 1878, by the censors of the Royal Botanic Society, and a First-class Certificate, on August 26th, 1879, by the Floral Committee of the Royal Horticultural Society.

Princess Beatrice (Fig. 2) is an extra fine variety, with bright yellow flowers, the broad, smooth petals beautifully edged with bright crimson.

Ne Plus Ultra (Fig. 3) is of a rather deeper shade of bright yellow, and more distinctly edged with crimson; it is a fine full flower, and was certificated, both by the Royal Botanic and the Royal Horticultural Societies, on the same occasions as those on which Lady Rosebery received these awards.

The peculiar features of these three fine varieties are very well shown in Mr. Fitch's characteristic figures.—T. Moore.

STEPHANOTIS FLORIBUNDA.

IT may be interesting to record a few particulars of a Stephanotis I had planted out in a brick box about eight years ago. The house is 40 feet long, and has a back light, the depth of which is six feet. The plant covers the whole of this space (40 ft. by 6 ft.), and is bearing just now 586 sprays of bloom in full flower, with an almost incalculable number more coming on. In addition to these, 350 sprays have already been cut. The plant is trained along the roof in ropes, with from three to eight shoots in a rope. If the plant was spread out in single shoots, it would just about cover the whole of the roof of the house, front as well as back. The dimensions of the brick box are 2 ft. 3 in. by 2 ft., and 15 in. deep; and it is situate at the end of the house adjoining a water tank, from which it is deluged freely, with a liberal admixture of manure-water. The plant has flowered equally freely every year, and again bears a second crop of flowers in autumn. I am pleased to be able to say that no bug—the pest of the Stephanotis—has yet been able to effect a lodgment on my plant.—Wm. Miller, *Combe Abbey Gardens.*

*** A very abundant-flowered variety of this plant raised at Elvaston Castle was shown recently at South Kensington. They were young plants from cuttings, small, but full of blossom. The two parent plants cover about 45 square yards of the roof of an ordinary stove; from these last year were cut 13,000 bunches, or an average of over 300 to each square yard. The shoots seem to make few joints that do not produce a bunch. The leaves are much smaller than usual, a circumstance which points to the variety being distinct. The same floriferous habit is present in newly-struck cuttings. About the middle of September, a quantity of cuttings from the summer shoots, consisting of three joints each, are put in; these are placed in 3-inch pots filled with ordinary soil, and when rooted are kept on growing in the same pots through the winter. The result is to supply during the spring a quantity of plants full of flower, and equal to anything in the way of successful miniature plant-growing that has ever been accomplished.

EARLY PEAS.

I OBSERVE that a clever cultivator has written of his experience of the early sowing of Peas in the open ground, *versus* raising plants for early crops under glass; and I can

quite endorse what he states regarding the two systems. Early sowings come in as quickly, give stronger plants, and yield better crops than those raised under glass. The only advantage of raising Peas under glass (and that by no means a secondary one) is their safety from mice and rats. All sorts of come-at-able means are adopted to secure good crops of early Peas. The best I have ever tried is, to lay two inches of half-rotten tree-leaves over a firm surface of ground, equal to the size of a two or three-light frame; on this space scatter two inches of rich light soil—rotted turfy loam suits well; sow the Peas thickly in rows, cover them over with fine soil, place the frames over them, and give abundance of air, but exclude frost and heavy rains—a little of either of which, however, does no harm. When the Peas are through the ground, let them grow almost as if they were in the open quarters, using the lights only when absolutely necessary.

The Peas should be thoroughly hardened to bear the weather, and planted out before they become drawn or matted. The ground in which they are planted should be in ridges exposed to the weather; plant the Peas between the ridges, using fine warm soil to cover the roots in the process of planting, the soil being placed nicely up to the collars of the plants. Stake them immediately after they are secure in the ground, so that they may have protection.

This is a much better method of raising early Peas than sowing them in tiles, pots, &c., for allowing the roots to become matted or pot-bound tells greatly against them; and raising them quickly in heat or in the absence of plenty of light and air is very injurious to their future progress and success, and does nothing to forward the crop.—M. T.

THE BARK OF FRUIT-TREES.

THE most touchy part of a tree is certainly the inner bark. It is there and there only that the welding of the scion with the stock is effected, and whether the junction be that of one twig with another twig (grafting), or with a single bud (budding), it is still a dealing with the bark. As the sap rises and falls, the buds are, so to speak, suckled, and follow the lead of the terminal growth, thus becoming two natures married, as it were, into one. Forgetting the crab or other stock from which the new leader started, the graft grows into an Apple-tree, and the stock is enslaved, and kept to labour in the dark, fostering this foreign child, whose affairs it had taken over when the inner bark enabled it to ride upon the back of the crab stock.

So much for the inner bark. The outer casing of bark, however, seems to be quite overlooked now-a-days in dealing with fruit-trees, especially gum-bearing trees, and although Apple and Pear-trees may do fairly well with very indifferent pruning, it is not so with Plums and Cherries. Who has not seen these latter with a cluster of gum the size of an egg exuded from an old wound, where a branch has been cut off, or of which a half or a third part of the tree has died away with little warning, leaving an unseemly gap on the wall surface? Even the Damson, hardy everywhere, and usually patient of cutting, yet feels the butchering knife and saw among its limbs and fruitful twigs, leaving plenty of wounds, without the salve to heal them—I do not mean the dab of paint put upon the place where the limb was sawn off, but salving all over the bark, from the ground well up into the forks of the tree, for the outer bark has its work to do as well as the inner bark; and it is so easily got at, that the wonder is it has ever been left alone. The very eating of the outer bark by hares and rabbits tells that there is virtue in it.

At the collar we find the change, for there the light and air begin to act, and the bark, hard and horny, seems idle; but it is not so. If we examine the roots, we find that they, too, have an outer bark; but it is a moist one, and unlike the dry bark of the stem and branches, it is always moist, for dryness to the root-bark would be death; and water is so essential to the development of tissue, that we shall do well to halt, and see if aught can be done to supply the moist medium.

However, on looking over some old books, to see if ringing and other violent means had been successful in those days of cutting, I stumbled upon Forsyth's work on Fruit-trees, and there I found the following paragraph in the postscript:—"I apply a mixture of cow-dung and urine only, made to the consistence of a thick paint, with a painter's brush covering the stem carefully over. This softens the bark, which peels off during the following winter and spring, and is succeeded by a fine smooth new bark." There is, elsewhere in the volume, the celebrated mixture for the wounds, &c., of fruit-trees, for which Mr. Forsyth got

his grant. Moreover, we are told that 1,500 quarto copies of his book were sold in eight months, showing that some leading men of the time took an interest in the subject.

In our day this manuring above the collar would be practised by some, and sneered at by others, and yet both parties would place their productions on the exhibition tables, and it would require some skill to pronounce which was the better way of doing the work. Whoever has planted an orchard, or has the charge of one, will agree with me that much watchfulness is needed to protect the trees from their enemies, for when unprotected the fleet-footed hare will come miles to visit them in snowy weather, and the rabbit will chime in with the hare, and both will bark forest-trees as well as fruit-trees from sheer hunger. Last winter I saw miles of holly-hedges damaged by ground-game, and much valuable timber ringed and ruined. In the case of fruit-trees outside a walled garden, it is right to protect them from this and all other dangers by all reasonable means; and here is the remedy, cut-and-dry, that effectually protected the fruit-trees of those days, and so improved the bark that it looked fresh to the eye and fruitful. I would fain add some remarks on ringing, for the game have done much in this way, but nature assists the process of getting the new bark to hide the defect and heal the wounds, and I need scarcely say, help her with some sort of salve such as Forsyth has pointed out. If the remedy had wanted the aid of a galvanic battery or the electric light, our men of science would have been "baiting the bishes," but its merit lies in its being cheap, and so simple that every one may use it. More sensible is the careful groom, whom we see in livery-stables filling with cow-dung the frog of the horse's foot, to which the application has been of unquestionable service. Alex. Forsyth, *Salford.*

SUBURBAN GARDENING.

JULY.—It is an old saying among gardeners and others that in whatsoever quarter the wind happens to be on March 21st, there it will remain for a great portion of the intervening time till June 21st. This is a piece of old-folk weather-lore, and may not be altogether based on the most correct observation; but it is worthy of note that the wind has remained in the north for a great portion of the three months between March and June. Happily, the long-wished-for rain has come at last; Nature now smiles benignantly, and there is hope that the deferred summer-time may have come in earnest. The blessed rain has done wonders for the gardener, and his heart rejoices thereat.

Kitchen Garden.—Alas! the May frosts, that almost invariably happen between the 15th and 25th of May, have done their treacherous work, and many a piece of Potatos, Runner and Dwarf Beans, Vegetable Marrows, and other tender things, have been cut off in the youth of their budding promise. No time should be lost, now that the rain has fallen so bountifully, in getting out all kind of winter stuff at the earliest moment, for they will soon lay hold in the soil. *Celery* also should be got into the trenches with all possible despatch; the sooner Celery can be got into a generous growth, the larger will be the reward of the gardener by-and-bye. We may now reasonably look for fine growing summer weather, and the gardener should be quick to seize on favourable opportunities to get his work well in hand. It is not too late to plant out *Tomatos* against walls; and the quicker they can be got out and induced to make a vigorous growth, the better will they be able to resist the ravages of the disease that has worked such havoc among these plants during the past few years. As the plants make growth, the shoots should be nailed to the wall, and a little manure-water given at times. Those who are fond of *Endive* should now plant out some for autumn and winter use. Sow *Strapleaf* and *Improved Snowball Turnips*: and if there is ground to spare, a few dwarf *French Beans* for succession. In all cases where *Scarlet Runner Beans* are grown without the aid of sticks, the tops should be pinched out to keep the plants dwarf, and cause them to put forth lateral growths. A few *Leeks* may be put out in a well-manured and deeply-dug bed, placing them about a foot apart each way. Another sowing of *Lettuce*, *Radishes*, and of *Mustard* and *Cress* can be made. The *Broad-leaved Cress* is well worth growing for salads.

The hoe should be kept constantly going, for the purpose of keeping weeds under, and loosening the soil about growing crops. Last year it was almost impossible to keep the kitchen garden in anything like good condition; this season things should be different, but a great deal depends on beginning well.

Fruit Garden.—On the whole, we think there are better crops of hardy fruits generally than was at one time supposed. The blight has laid hold of many trees, and we are sorry to see the American Blight is making head amongst the Apple-trees, but a weak mixture of paraffin and water, carefully applied, will do much to keep the last-named pest within bounds. Those who force *Strawberries* should begin to layer some of the strongest runners, and whether the plants be required for pots or for planting-out in beds, it is well to begin

early. For pot-culture small pots should be used for the layers, filling them with rich soil, and pegging the layers down into it. By-and-bye, when planted out in beds, it is well not to plant too deeply in the soil, but to keep the crowns pretty well above it. Now is the time to nail in close to the wall the young shoots forming on wall fruit-trees, and those that are not required to fill up vacant places can be removed. The young growths on out-door vines still need attention, as recommended last month.

Flower Garden.—Day by day a new lustre should be added to this department, and the gardener should second the bountiful efforts of Nature by keeping all flower-beds and borders as neat and clean as possible. One special task belonging to the month of July is the layering of *Pinks*, *Carnations*, *Picotees*, and *Cloves*. It should be gone about in a workman-like way, by first getting together a good compost, made up of three-parts of yellow loam and one of leaf-mould and sand. Some pegs, three or four inches in length, made of fern or the branches of trees, are also necessary. All dead leaves should be removed from the plants, and the soil stirred about them. Then a layer of compost must be laid on the soil, and the work of layering can be proceeded with. The earlier the layering can be done, the stronger will be the plants when required for putting out in autumn. It is not too late to put out *Antirrhinums* for blooming this summer, or *Pentstemons*, provided the plants are fairly strong. *Wallflowers*, *Sweet Williams*, *Foxgloves*, *Canterbury Bells*, &c., can be planted out where they are to flower. *Dahlias*, *Hollyhocks*, and such tall-growing subjects must be staked, or the wind will spoil them.

Cold Frames.—Those who grow *Auriculas* should have them repotted during the month, taking care not to over-pot, and giving the plants a place in the frame on a north aspect. *Polyanthuses* are better planted out, as they seem to benefit greatly when afforded a change of this character. The things that are now occupying the cold frame may be allowed to have warm refreshing showers, but not heavy rains. Cuttings of any hardy plants it is desirable to increase should be put in pots, and find a place in the cold frame, keeping them moist, and shading when the sun is hot. Cuttings of fine named *Pansies* should be secured, placing them in pots and housing them in the frame, which is useful as a place of shelter in many ways, that will readily suggest themselves to the villa gardener.

Greenhouse.—Now that hot weather is likely to follow the welcome rains, the greenhouse plants must be well looked after in the matter of water. *Fuchsias* and *Pelargoniums* should be getting into good condition; and with *Balsams*, *Petunias*, and such well-known plants, be the leading features. A few days ago, we saw in a suburban greenhouse *Gloxinias*, the fibrous-rooted and other flowering *Begonias; Lobelias*, *Plumbago capensis*, with its pretty blue flowers, some scented-leaved *Pelargoniums*, *Tropæolums, Echeverias*, *Kalosanthes coccinea*, *Bamboos*, *Dracænas* of the hardier types, and several other things that, while they filled the house, were varied and effective. The villa gardener should never be satisfied with growing the same things year after year, but endeavour to add fresh subjects that are suitable. By keeping the plants clean, and free from decaying leaves, the beauty of the display can be much heightened. A slovenly greenhouse is an eye-sore of the most decided character. On the other hand, a few common plants well kept can be made a source of enjoyment for a long time.—SUBURBANUS.

GARDEN GOSSIP.

THE Messrs. Veitch and Sons, of Chelsea, recently set up at South Kensington a group of INDIAN AZALEAS, most tastefully intermixed with Japanese Maples. The effect was singularly pleasing. The most telling of the Azaleas was Flambeau, a lustrous crimson, but small in size. Other fine sorts were Eclatante, salmon-red, very bright and striking, an invaluable decorative variety; Cocarde Orange, a very taking double variety, with orange and salmon-red flowers, very free; Stella, salmon, slightly semi-double, fine in form, and with a dash of bright purple on the upper segment; Grandis, very large, of fine form, with dashes of purple on the orange-salmon; La Rose, a pale magenta-rose, large, very fine, free, and a most desirable decorative variety; Oswald de Kerchove, a very bright rosy-magenta, and a most desirable variety; Reine des Roses, a paler shade of rose, large and very pleasing; Comtesse de Flandres, delicate pinkish-rose, very fine and free; Madame Van der Cruyssen has double rose flowers, and is also very free; Madame Louise de Kerchove, salmon, edged with white, very pretty and fine, as well as of excellent form; Mrs. Turner is more delicate in tone, but very good; Roi Leopold alba remarkably free, inclined to become semi-double, and occasionally flaked with carmine-pink; Pharailde, a fine white, with large flowers having fringed petals, but very chaste indeed because of its purity of colour; Rosa Bonheur, a good white semi-double, with dashes of pale green in the centre; Marie Van Houtte, pure white, with slight flakes of carmine, and semi-double; Leonie Van Houtte, a very good white, with slight dashes of green; Apollon, a grand variety, large and splendid in form, and occasionally striped with pale rose. These Belgian varieties seem to have almost superseded those of English origin, being more vigorous, with larger flowers, and richer and more varied colours.

— THE charming ODONTOGLOSSUM VEXILLARIUM is this year blooming finely, having become well established. A grand plant in Dr. Paterson's choice collection at Bridge of Allan, though quite a small plant with one bulb four years ago, has now several large and well-matured bulbs, one of which has borne four spikes, with twenty-nine blooms upon them. The plant bore fifteen spikes,

and no fewer than 111 flowers, large in size, of good substance, and of a rich dark colour. At the York Nurseries, Messrs. Backhouse and Son have a magnificent variety, named *floribundum*, with nine flowers on the spike—last year it produced twelve—the individual blossoms being 5½ in. across. Mr. Bull, of Chelsea, showed at the Regent's Park a variety called *picturatum*, with whitish sepals and petals, and a fine rosy lip bordered with white. Mr. F. Yates, of Pleasington, and others have the richly-coloured form called *superbum* with deep pink blossoms, measuring over 4½ in. across; and another resembling Mr. Bull's picturatum, but with more rose-colour on the sepals and petals, the lip being margined with white, and having a rich crimson trifid spot at the base, the middle lobe of which is much the longer. Other fine forms are constantly appearing, so greatly do the individuals of this noble species vary amongst themselves.

— Of late years we have heard little of Persian Ranunculuses, and we began to fear they had almost gone out of cultivation. We are, however, delighted to hear from Mr. S. Barlow that he has the promise of the finest bloom of these beautiful plants that he has ever seen, perhaps 2,000 blooms, and "nearly all from poor Carey Tyso." If it fulfils Mr. Barlow's anticipations, this bed will presently be a sight worth seeing.

— Some little Books, which in the several departments to which they apply can be recommended to those who read French, have been recently sent to us by M. Rothschild, publisher, of Paris. *La Culture Maraichère* (4th edition), by M. A. Dumas is a condensed practical treatise on market gardening adapted for the south and centre of France, and is written for gardeners by one who daily handles the spade and the dibble. The book deals with the aspect of the garden, with soils, with garden operations generally, and the special culture of the particular plants, winding up with a calendar of operations. It is a very trustworthy treatise.—*Traité de Botanique Élémentaire*, and *Éléments de Matière Médicale*, by Dr. Léon Soubeiran. These are small treatises compiled for the use of the students of pharmacy. The first comprises a summary of structural botany, and a brief account of the natural orders, and such genera especially as are of importance to the druggist. The second is a condensed account of the plants yielding the principal medicinal substances and of the drugs themselves, the arrangement being according to the use to which each substance is put. A large number of woodcuts is given, and altogether, as a students' compendium, it seems likely to be serviceable.—*La Pisciculture*, by M. Jules Pizzetta, and *l'Ostreiculture en France*, by M. de Bon, form together a useful little manual, on the interesting subjects of Fish-culture and Oyster-culture. The principal contents embrace the structure of fishes in general, practical fish-culture, the collection and fertilisation of the eggs, and the incubation, hatching, and treatment of the young fry, &c. There are also descriptions and illustrations of various sea and fresh-water fish. Oysters are treated on in a similar manner.

— An improvement in Tubular Fencing has been introduced by Messrs. Bayliss, Jones, and Bayliss, of Wolverhampton. The patterns have hitherto all been circular, but as a result of careful study and experiment, this firm now brings before the public a further improvement, which consists in making the horizontals of flat-sided, instead of round tubes, which is said to greatly increase the strength of the fence, and permits it to be readily bent round curves, whether obtuse or acute. In this shape it has only been found necessary to adopt two distinct sizes. The smaller section, measuring an inch in the longer diameter, is found of ample strength to meet all ordinary requirements, but a larger size is made. The standards are of very substantial girder and T iron, and the work, when completed, appears a solid and durable structure, the T-iron uprights being fitted with broad ground bed-plates, which effectually prevent them moving by the rubbing of stock or other pressure.

— The New H. P. Rose, Red Dragon, originated among some seedlings in Messrs. Paul's nurseries at Waltham Cross in 1875, and was admirably figured in the *Rose Annual* for 1878-79. The flowers are of great substance, cupped, and of an intensely rich crimson colour in a young state, becoming tinged with purple as they advance. The plant is extremely vigorous, with handsome foliage, and its habit renders it well adapted for training to pillars and similar positions.

— In the Tropæolum tuberosum we have a grand garden decorative plant which has been most unworthily neglected. To grow it well, the tubers should be planted at the end of March in any ordinary garden soil, in clumps of some half-dozen, and around them a cone of stout stakes, intermixed with some spray, should be fixed; to this the shoots attach themselves, and presently cover the whole cone, making a grand display of flower and foliage, some 8 ft. high and 4 ft. wide at the base. Though it may be cut down by the late spring frosts, it comes up again with vigour, evidently little injured. The tubers are best lifted every year, but it is not absolutely necessary to do so, for if they are well covered over with ashes, they may be left in the soil with safety.

— The following Double-flowering Rhododendrons are noted in the *Gardeners' Magazine*:—The old *Fastuosum flore-pleno*, a good variety, with the flowers semi-double, pale lavender, sometimes deepening to a rich warm lilac, and lasting in good condition for a considerable time; *Duc de Brabant*, hardy enough and pretty good in its way, although not a grand acquisition; usually primrose-white with red spots, sometimes deepening to a rich primrose-yellow. *Hyacinthiflorum*, one of the catawbiense section, the colour bluish-purple, and the flowers more decidedly double than any; *catawbiense flore-pleno*, a handsome lilac flower, semi-double, attractive, and long-lasting.

— In the Freesia odorata, which has been flowering with Messrs. E. G. Henderson and Son, at the Pine-apple Nursery, we have an exquisite little bulbous plant, in the way of *F. Leichtlinii*, but distinct, on account of the delightful perfume emitted by the blossoms, which surpasses that of even the sweetest-scented orchids. The flowers are tubular and funnel-shaped, about two inches long, arranged on slender stalks in a dense one-sided spike, and expanding in quick succession; they are pure white, with a dash of orange colour on the lowest division of the corolla. The plant is admirably adapted for cutting purposes, and for its scent alone it is well worth growing.

— THE variety of RHUBARB called STOTT'S MONARCH grows to a very large size, as we learn from Messrs. Stuart, Mein, and Allen, of Kelso, who state that three stalks of this sort, grown at Edenhall by Mr. William Elliot, gardener there, weighed, without the leaves, 9½ lb. The width of the largest leaf was 4 ft., length, 3 ft. 8 in., length of stalk, 24 in., circumference, 9 in. The weight of the largest leaf and stalk was 6¾ lb., and of stalk alone 3¾ lb. This variety of rhubarb is attracting considerable attention.

— MESSRS. E. H. Krelage and Son, of Haarlem, announce the introduction of living bulbs of NARCISSUS CANARIENSIS, which was not previously in cultivation in this country. It is a slender form of *N. Tazetta*, and appears to be the smallest-flowered form in the whole group. The plant grows about 18 in. high, the leaves very narrow, scarcely more than ⅓ in. in breadth, the scape slender and about equal to the foliage, bearing a 7-flowered umbel, the dried flowers barely ½ in. across, and having the cup or crown very much reduced, scarcely more than a line long, or about one-third the length of the ovate lance-shaped segments, the flower tube, extremely slender and about ¾ in. in length, having a peculiar enlargement or swelling just where it joins the base of the stellate limb. It well deserves culture, as one of the most elegant forms of a very beautiful group. This Narcissus is very scarce in its native habitat.

— To kill SCALE ON PLUM TREES, as well as on those with more tender bark, the fluid sold by Messrs. Killengrey and Jacques, Doncaster, as SOLUBLE PHENYLE, is recommended. The fluid should be used much diluted till a safe strength is found, but three tablespoonfuls in a gallon of water is suggested as being suitable for all the harder barks. It should be brushed on, or rubbed on with a flannel, which takes off quantities of the scale and the eggs, and the smell makes the rubbed bough very uninviting for insect deposit. It is necessary, however, to be careful, for if the fluid is allowed to drip about, it will kill the bit of the leaf that it lies on, though a little care will make all safe.

— THE FUCHSIA EARL OF BEACONSFIELD was raised some seven or eight years ago by Messrs. John Laing and Co., of the Forest Hill Nursery. Mr. Laing fertilised flowers of the old Fuchsia fulgens with the pollen of some of the best florists' varieties of that day, and in due time raised about a hundred seedling plants, amongst which were some curious things not worth keeping, but amongst them was the subject of this note, which was certificated by the Royal Botanic Society on June 21st, 1876, under the name of *Laing's Hybrid*, and again in July of the following year by the Floral Committee, under the name it now bears. It is undoubtedly one of the most beautiful and most useful decorative varieties that we have.

— THE pretty evergreen creeping-stemmed BEGONIA COMTE DE LIMMINGHE is a charming plant for the winter and spring decoration of the hothouse. To get nice plants, cuttings should be put in in spring, singly, in small pots, and plunged in a little bottom-heat, when they will soon be fit for potting on into 5 or 6-in. pots—a size in which they will make nice plants about 2 ft. high and 15 in. through by the end of summer. A few stakes are required to train them round, the plant being otherwise of a pendulous habit. It should be kept in a cool light house through the autumn, and introduced to the stove or intermediate-house in December, and in five or six weeks will be nicely in bloom, when its profuse cymes of waxy salmon-coloured pale-edged blossoms are very attractive.

— THE lovely winter flowering alpine SAXIFRAGA BURSERIANA is a very attractive object early in the year. The flowers, which are produced in great profusion, are pure white, borne on slender dull scarlet stems, arising from a dense cæspitose tuft of greyish-silvery leaves. There is also a beautiful variety of it flowering most freely, *S. Burseriana major*, which is larger in all its parts, and bears blossoms fully twice the size of those of the ordinary type; this will be a welcome addition to our winter-flowering rock plants.

— THE Japanese DIOSPYROS KAKI has been experimentally planted in Algeria, and some time since, a sample of its fruits, which had been sent for tasting to the Central Horticultural Society of France, were pronounced uneatable. It was afterwards found, however, as is well known here, that to be good the fruits must be eaten when bletted, that is, in the same condition of ripeness as that in which Medlars are eaten. It is not, therefore, surprising to learn that specimens from the same sample tasted six weeks later were reported to be delicious. The Kaki may probably be largely planted in Algeria, and prove a source of revenue to the growers in that colony. It appears that some varieties are more robust than others, proving hardy even where the sea freezes. The trees require but little care.

— THOSE troublesome little torments, the HOUSE FLIES, can be kept in bounds by various means; but anything is better than poisoning them. A writer in the *Albany Cultivator*, who, for two seasons, tried fly-paper, lost her chickens about as fast as the flies, and the dead flies were lying everywhere in the house, so as to become disgusting. She suggests that a tumbler of soapsuds, with a bit of pasteboard, smeared with sugar on the under-side, with a small hole the size of a three-cent. piece, will dispose of a good many; and that a paste, made of a spoonful of resin, a spoonful of lard, and two spoonfuls of syrup, simmered together, and spread thinly on papers, and laid on window stools and shelves, will catch a great many more, and they can be flung into the stove, paper, flies and all, and that is the end of them.

— FROM experiments made with the FIR-TREE OIL AS AN INSECTICIDE, by Mr. Taylor, as reported in the *Journal of Horticulture*, it would appear that if used at a strength of ½ a pint of the oil to 4 gallons of water, and applied with a syringe or a vaporiser, it destroys green-fly, red-spider, the light-coloured green-fly of plum-trees, and the black-fly which infests cucumbers and melons. At double that strength it makes a good wash for plant-scale if gently rubbed on by means of a piece of sponge or a soft brush; and better than all, it effectually kills the two kinds of gooseberry caterpillar—all this without the slightest injury to the plants. The maker is Mr. Hughes, of Manchester. The odour of the oil is not unpleasant, it mixes readily with hot or cold water, has no sediment, and does not require washing off the plants.

— Our Belgian friends report that the New Pine-apple, *Ananassa Mordilona*, introduced in 1871 by M. Linden, from the cold districts of Columbia, where it bears the name of Mordilona, has just been fruited in the garden of M. F. Massange, of Louvrex. The fact is noted in the *Belgique Horticole*, where the fruit is described to be nearly cylindrical and of a vermilion-red colour, the pips slightly prominent, rounded, smooth, and without prickles. The flesh is pale yellow, extremely tender and sugary, and of an exquisite flavour. The fruit in this instance weighed about 3 lb., but it is stated that it acquires a weight of 10 lb. in its native country. The leaves are leathery and spineless. It would thus appear to be distinct, and if of permanently good quality, with a hardier constitution than the varieties of *A. sativa*, the cultivation of Pine-apples may be considerably influenced by its introduction, since it might be usefully employed for hybridizing purposes.

— The resinous substance found on the branches of the Creosote Plant, *Larrea mexicana*, has been proposed as a substitute for lac in the preparation of lac-dye. The plant belongs to the order Zygophylleæ, and is a shrub from 4 ft. to 6 ft. high, growing in dense scrub-like masses in Mexico, especially on the borders of the Colorado desert, its presence being a sure indication of a sterile soil. The common name is derived from the fact that the plant has a strong creosote-like smell, which is so powerful that no animal will touch it. The ruby-coloured resinous matter to which the odour is due is abundant in all parts of the plant, the branches being frequently covered with it, in the same manner as true lac. It is used by the natives in the treatment of rheumatism, and also for fixing their arrow-heads to the shafts, and for forming into balls, which they kick before them, as they journey from point to point of their trail.

— The rare Rheum nobile has bloomed this summer in the Edinburgh Botanic Garden, for the first time in Europe, and is of a very ornamental aspect. The flower-stem is about 4 ft. high, and is clothed with large yellow or lemon-tinted membranaceous bracts overlapping each other, rendering it a very striking object. The bracts at the base of the flower-stem are fully 6 in. in diameter, gradually diminishing upwards and entirely hiding the insignificant green flowers. A notice of the plant, accompanied by coloured drawings made by Miss Woon, was read at the last meeting of the Botanical Society of Edinburgh.

— Nowhere in the British Isles, says the *Gardeners' Chronicle*, is the handsome North American Yucca filamentosa variegata "grown to so great an extent, or with so much success, as in the neighbourhood of Manchester. We lately saw a fine lot of plants at the Firs, Fallowfield, where Mr. Smith, Sir Joseph Whitworth's gardener, had a large three-light frame full of plants of various sizes. The method of propagation adopted by Mr. Smith is that of cutting up the roots in the same way as Dracæuas are treated, and in a compost of peat, sand, and loam, in which the two former preponderate, the young plants appear to thrive like evil weeds in good ground. Although a native of North America, it will not make much growth in a cool greenhouse, but in a little warmer temperature grows with great luxuriance."

In Memoriam.

— Mr. John Scott, latterly head of the herbarium department, Botanic Garden, Calcutta, died recently at Garvald, East Lothian, aged 42. Some sixteen years ago Mr. Scott was employed in the Royal Botanic Garden, Edinburgh, whence he obtained an Indian appointment, and after a short sojourn in Calcutta, was sent to Darjeeling. On the hills he had excellent health, and it was only in his subsequent sojourn in Calcutta that he contracted the disease to which he has succumbed.

— A. B. Stewart, Esq., of Ascog Hall, Bute, one of the most enlightened and liberal patrons of Horticulture in Scotland, died a few weeks since. He was at the head of one of the most extensive mercantile concerns in the kingdom —Messrs. Stewart and M'Donald, Buchanan Street, Glasgow—but found opportunity to share in nearly all good and benevolent undertakings. Mr. Stewart contended that there was no better way of getting at the heart of man than through flowers, and hence the gardens of Rawcliffe Lodge were laid under constant contribution, to make the exhibitions held under the auspices of the Glasgow Horticultural Society attractive and entertaining. Mr. Stewart was for many years President of the Society, and gave assistance and aid, which will be greatly missed by the directors and friends of the association.

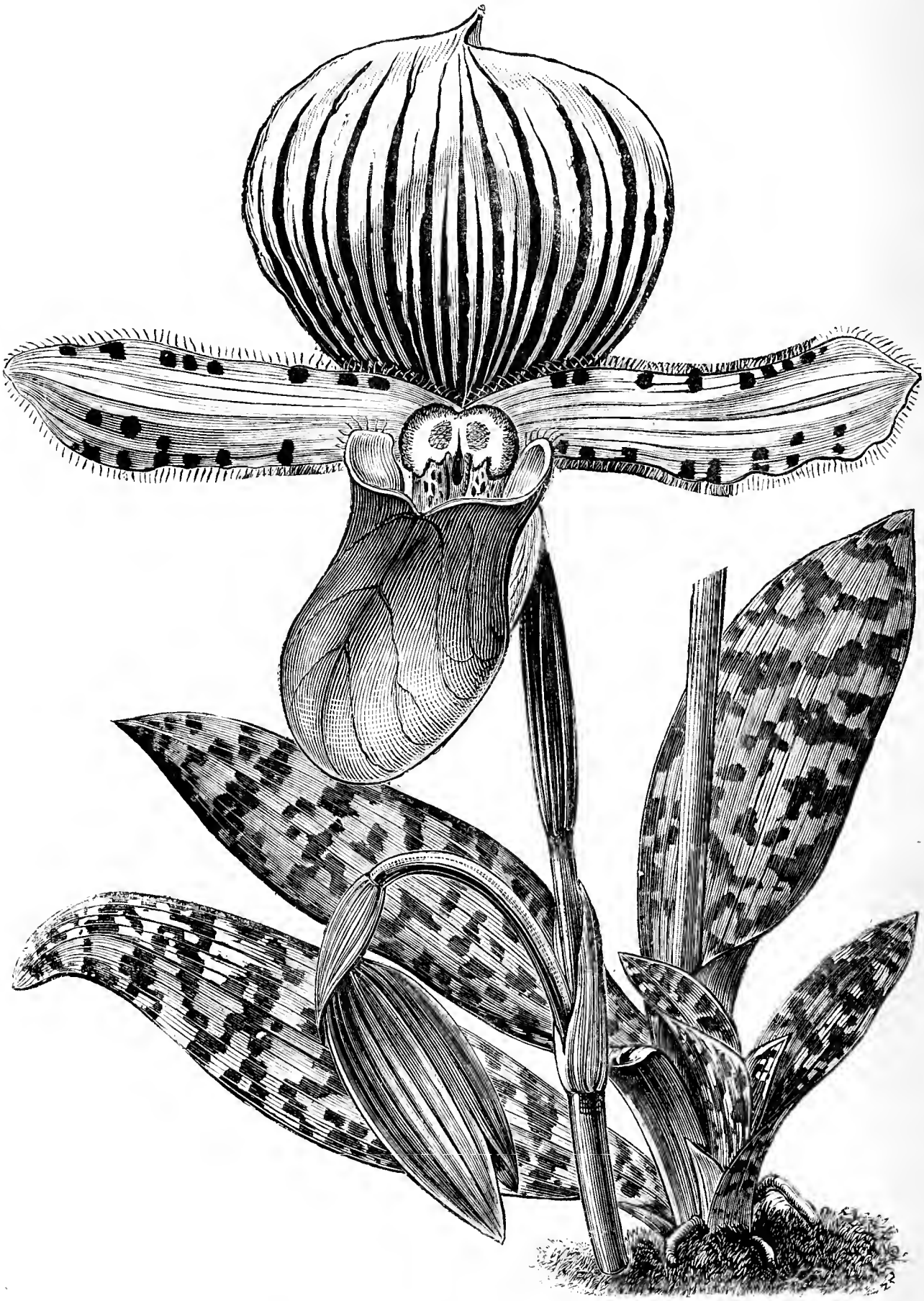
— M. Jean Nuytens Verschaffelt died at Ghent, on May 30th, at the age of 44. This amiable horticulturist was the adopted son of M. Jean Verschaffelt, to whose extensive nursery business at Ghent he succeeded on the retirement of the latter. M. Nuytens Verschaffelt was deservedly a favourite for his genial straightforward character, while his collection of plants was one of the most remarkable, even in that town of nurseries, Ghent.

CYPRIPEDIUM LAWRENCIANUM.

THIS fine species of Lady's Slipper was introduced recently from Borneo, through Mr. F. W. Burbidge, by Messrs. Veitch and Sons, of Chelsea, and has been named in compliment to Sir Trevor Lawrence, Bart., M.P., one of the most liberal patrons of orchid-culture, and whose collection of these plants at Burford Lodge, near Dorking, probably stands pre-eminent, both in respect to the choiceness of the varieties, and the excellence of their cultivation.

The plant, it will be seen, has something the character of *C. barbatum*. The leaves have on their upper surface a dark green mosaic on a light ground of whitish green. The flower is equal in size to that of *C. barbatum majus*; its upper sepal very broad and rounded, white with purplish shining veins, the larger of which run out to the edge. The petals are divaricate, narrow, green, purplish at the tip, ciliate, and

with the usual dark fleshy warts on the limb. The lip is very large, with the short lateral horns purplish-brown above, yellowish below,



covered with very numerous warts internally; the staminode is a special ornament. It is of very free-blooming habit, and, whether for its distinctly marked foliage or its fine flowers, it must become very popular. The accompanying figure, for which we are indebted to Messrs. Veitch, represents at the back, the foliage diminished in size, and in front, a blossom and bud of the natural size. The full-sized leaves are about a foot long, and somewhat resemble those of *C. Dayanum*. The plant is fully described by Professor Reichenbach, in the *Gardeners' Chronicle*, N.S., X. 748. —T. MOORE.

Dahlia coccinea scarlet Dwarf.

W.H. Fitch del

P. De Pannemaeker. Chromolith. (Gand) Belgique

DAHLIA COCCINEA SCARLET DWARF.

[PLATE 519.]

WE have already, at p. 52, invited attention to the usefulness of the choicer varieties of *Dahlia coccinea* for decorative gardening, their freely-branched and elegant style of growth, and their brilliant colours, mostly scarlet and yellow, rendering them not only effective in the flower-garden and shrubbery borders as attractive flowering plants, but causing the branches, with their long-stalked flower-heads, to be sought after in homes of taste, for the decoration of large flower-vases. The plant is a species quite distinct in character from the Dahlia which has given birth to the so-called double varieties of the florist, so distinct, indeed, that their respective paths lie wide as the Poles asunder, having, in fact, nothing in common but the one fact that both happen to belong to the family of composite plants which botanists have named Dahlia, after a Swedish member of their fraternity—a name which florists also have adopted for the flower they have bred up from *D. superflua*, another member of the genus. This explanation is necessary, since the florists are rather inclined to resent the revival of the culture of these single Dahlias, a feeling which is quite objectless, since there is no sort of rivalry between the two. The florists' Dahlia is well able to hold its own amongst admirers of florists' flowers. The *Dahlia coccinea* simply comes before us, as any other half-hardy brilliant flower might do, claiming a place in the first rank amongst our ornamental summer garden plants.

We have said that the flower-heads of the varieties of *D. coccinea* are what is called single, that is to say, the disk is surrounded by a single row of radiate florets—like the Cineraria, for example. No doubt, as it shows a tendency to vary, it may in time produce so-called double-flowers; but so far as present indications go, this would scarcely be an improvement, and in the meantime we must look upon *D. coccinea* as a single-flowered composite, both elegant in habit, and effective from the brilliant colour of its flowers.

The form we now figure is one called SCARLET DWARF, which was raised in the Chelsea Botanic Garden, and is being sent out this season by Mr. Cannell, of Swanley. It is dwarfer in habit than the type, more branching and floriferous, the parent plant being faithfully represented by the woodcut at p. 53 prepared from a sketch made by Mr. Worthington G. Smith. We have nothing to add to the information there given, and need only mention that there is a yellow-flowered variety of similar habit called Yellow Dwarf, which, together with Scarlet Gem and Yellow Gem, were raised from the same batch of seedlings, and are all worth growing as decorative border plants.—T. MOORE.

GLADIOLUS COLVILLII ALBUS.

EVERY gardener who is called upon to furnish large supplies of cut flowers for bouquets or the drawing-room should grow this chaste beauty in quantity. At the present time, we have this and *G. byzantinus*, a rich purple, in full flower, and find them invaluable for dressing small or medium-sized vases; moreover, they travel well, and the unexpanded blooms open after the stems are placed in water. They are extremely cheap; their culture is simple, and, like all the bulbous tribe, they increase in quantity under good management. On the warm sand at Cheltenham last year, I saw a dense row that had stood for three years without protection; but on our cold, calcareous loam, where we suffer more from wet than frost, I lift and dry the bulbs, and stow them away safe from frost. In January I place eight or ten bulbs in a 6-in. pot, filled with light rich soil, and bury these in leaf-mould in a cold pit, where they remain undisturbed until March. They are then uncovered, watered for the first time, hardened off, and planted out in April. Although the autumn-flowering varieties are well known, and such kinds as *G. Colvillii*, *cardinalis*, and *insignis*, known as Cornflags, were found in large masses in every herbaceous garden years ago, the modern bedding raid has driven them out of cultivation, and many of the rising generation of gardeners are not even aware of their existence; but the return to hardy plants will soon

bring them back to our gardens, as they are plentiful enough on the Continent, and every enterprising nurseryman will henceforward give them a prominent place in his autumn-bulb catalogue.—W. COLEMAN, *Eastnor*.

LACHENALIAS.

FAR too little use is made of this beautiful genus of Cape bulbs, which last Spring was brought prominently into notice by the appearance of a fine hybrid, raised by the Rev. J. G. Nelson, of Aldborough Rectory, Norwich. We occasionally find the *Lachenalia* brought out in great beauty, but the instances in which this result is seen are few and far between, and the plants themselves, though not difficult to grow, very readily slip through the cultivator's fingers.

The genus consists, according to Mr. J. G. Baker, of three botanical groups or sections, of which one only, Eulachenalia, is of much importance from the decorative point of view, the others being rather of botanical than horticultural interest; and of these Eulachenalias, there are only three well-marked types, namely :—

L. PENDULA, marked by its more robust stature, broader leaves, and flowers in which the segments of the outer row are nearly as long as those of the inner. Good figures will be found *Bot. Mag.*, t. 599 ; *Andrews' Bot. Rep.*, t. 62 ; *Redoute's Liliacew*, t. 52, and *Jacquin's Icones*, t. 400, which latter work contains by far the most complete series of plates of Lachenalias which we possess. *L. pendula* has a couple of fleshy leaves above an inch broad, a stout scape about half a foot long, and a lax raceme of from six to fifteen cylindrical flowers above an inch long, in which bright red predominates.

L. RUBIDA is dwarfer in stature and narrower in leaf, with outer segments about a quarter of an inch shorter than the inner three. Good figures of the typical form will be found *Bot. Mag.*, t. 993, and *Jacquin's Icones*, t. 398. It extends its range from Cape Town into Namaqualand, and there are two varieties, both figured by Jacquin, namely, *tigrina* and *punctata*, in which the outer segments have bright red blotches or dots upon a pale ground.

L. TRICOLOR is the commonest and best known of the species, and is marked by its dwarfer stature as compared with pendula, and rather smaller flowers and narrower leaves, but especially by the outer segments of the perianth being scarcely more than half as long as the three inner. Of this, in addition to the type as figured *Bot. Mag.*, t. 82, there are three varieties, namely, *L. quadricolor*, figured in *Jacquin's Icones*, t. 396, and *Andrews' Bot. Rep.*, t. 148, in which the outer segments are red at the base, and yellowish-green upwards, and the inner bright red at the tip, with a yellow claw ; *L. luteola*, figured *Bot. Mag.*, t. 1704, in which both rows of segments are lemon-yellow ; and *L. aurea*, which is figured in *Florist*, 1871, p. 265 ; *Gard. Chron.*, 1872, p. 109 ; and *Bot. Mag.*, t. 5992, a fine variety with the segments of both rows bright orange or golden-yellow.

Mr. Nelson's hybrid *Lachenalia* was raised between *L. aurea* and *L. luteola*, and combines the rich yolk-of-egg-yellow of the former with the free-flowering and free-growing habit of the latter. It will be a welcome addition to our limited number of these pretty Cape bulbs, the more especially on account of its free habit. We learn that *L. aurea* was the male parent, and *L. luteola* the female. The seed was sown in the autumn of 1877, and the batch of seedlings are blooming in the spring of 1880, which is good evidence of its free-flowering character.

Some of the cultivated *Lachenalias*, as *L. aurea*, have the peculiarity of taking long rests, sometimes lying dormant for a whole season, and many persons fail to keep them continuously in health. From our own observations of fifty years since, when we knew of some which were admirably cultivated in the window of an ordinary living-room, we are inclined to think they like a drier atmosphere than they generally get. Mr. Divers, of Burghley Gardens, however, states (*Gard. Chron.*, N.S., xiii., 340) that he has grown *L. quadricolor* in various temperatures, ranging from 40° to 70°, and has always found them succeed best at 40° to 50° in a moderately damp atmosphere, close to the glass. The finest he ever saw were grown in a cold pit from which the frost was barely excluded, in pans 4 inches deep, and were potted in good loam, with a liberal supply of sand and charcoal, and a little leaf-soil, and well fed also with liquid manure. A well-grown pan of Lachenalias, containing from twenty to thirty bulbs, well repays a little extra care in its culture.

Another correspondent, "J. C.," finds the best way to manage *Lachenalia tricolor* is to grow it in baskets. These baskets are made up about October, placing the bulbs in layers round the outside, using a little sphagnum to keep in the soil; they are hung in a fern-house for the winter, where they make foliage 2 feet long; the flower-spikes begin to show early in the year, and about March, with the long spotted foliage hanging down, and the flowers pointing upwards, they look very graceful. Some quite 3 feet through have become a mass of bloom. When the flowering is over they are placed under the greenhouse stage, watered for a few weeks, and then allowed to become quite dry, when they are shaken out, and from four to six good bulbs are obtained from one, besides a quantity of small ones.—T. Moore.

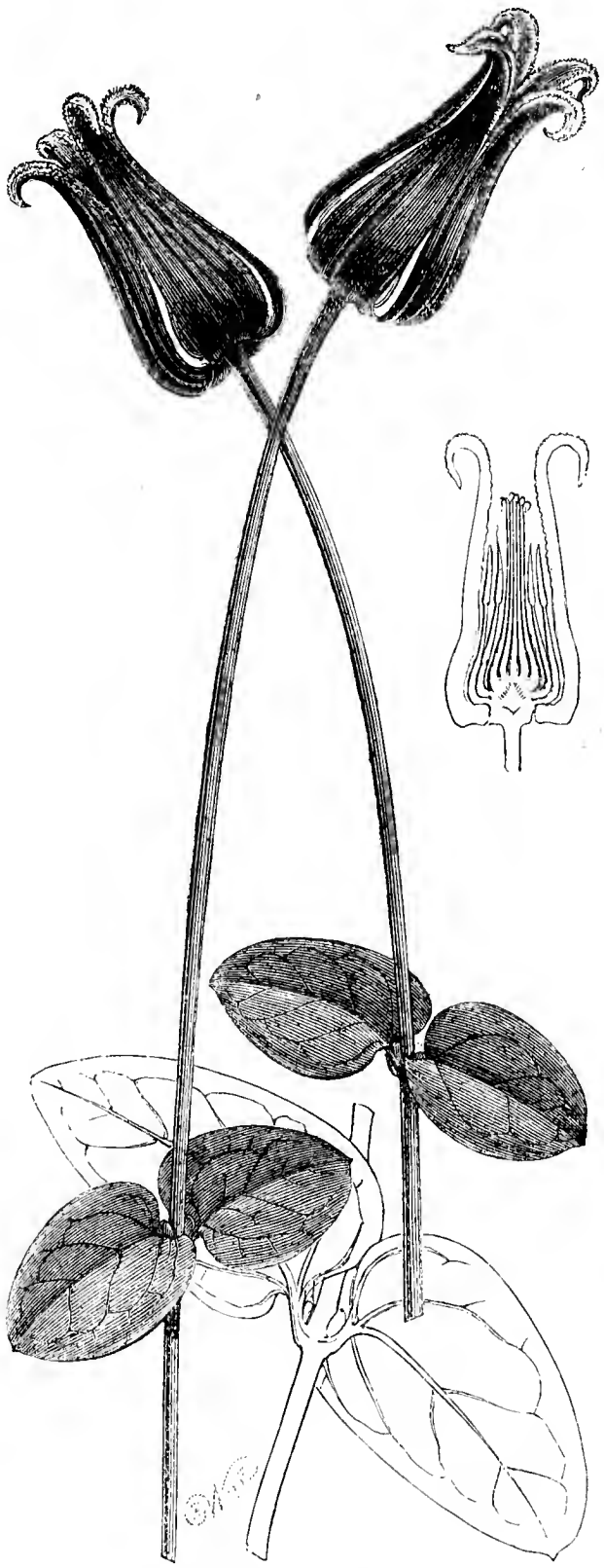
EARLY TURNIPS.

THERE is a great difficulty in getting the old and new turnips to shake hands, so to speak. The old ones are out of season, generally, before one can get the new ones in. These esculents are in considerable demand here, and are generally asked for before I can get them ready. This spring I thought I would sow across the kitchen garden a few drills of the various sorts, in order to prove which was the earliest, and by far my first favourite is Early Purple-top Munich, for, notwithstanding the season being backward, I had nice roots by the middle of May. The top is small, and altogether different from anything of the kind I have previously grown.

I also sowed the Early Paris Market, a singularly shaped kind, more like an intermediate carrot with white flesh and sweet, but it ran to seed directly. The Early Stone served me the same. The Early Six-weeks was better, but two weeks behind the Munich. The Early American Strapleaf, Veitch's Purple-top, and Orange Jelly I can strongly recommend for summer and autumn sowing, but they require rather longer time to come in. Now, will any one tell me why the British public are so prejudiced against the last-named variety? Its colour is objected to in the dining-room, but surely that is a great mistake, for it is not so insipid-looking as the white varieties, and for winter use it has no equal.—J. Rust, *Eridge Castle.*

CLEMATIS COCCINEA.

WE have to thank Mr. G. Jackman, of Woking, for the specimen of this interesting Clematis represented in the accompanying woodcut. The attention of European cultivators was first directed to this



Clematis coccinea.

plant by a coloured figure which appeared in the *Revue Horticole* for 1848, under the name of *C. Pitcheri*, a dull purple-flowered species, with which it was for some time confounded. Further research, however, showed that this scarlet-flowered species was a distinct plant, to which Dr. Engelmann had given the name of

C. coccinea, and which Dr. Asa Gray referred to *C. Viorna*, under the varietal name of *coccinea*. It is a native of Texas, where it was gathered by Dr. Lindheimer, and it has since been found by Mr. C. Wright about Austin and towards the Rio Grande.

It is a pretty, slender growing climber, with opposite ovate leathery leaves, having a glaucous surface, and the long-stalked flowers, which bear a pair of smaller ovate leaves (bracts) on their pedicel, are pitcher-shaped, with the tips of the leathery sepals recurved, of bright red or scarlet when fresh, but long enduring, and changing to a dull red as they become aged. The pairs of leaves are almost connate, being connected by a slight ridge which crosses the stem at the node. The woodcut shows the parts of the natural size.—T. MOORE.

FONDANTE DE BIHOREL PEAR.

M. CARRIÈRE publishes, in a recent number of the *Revue Horticole*, the following description of the above-named French Pear, which, he observes, is still but little known, and which he does not find to have been previously described.

Fondante de Bihorel:—*Fruit* small, somewhat recalling the Rousselet, or even the Doyenné of July; *stalk* straight, strong; *eye* very open, broad, with the divisions short or almost wanting; *skin* yellow, brick-red, or dark shining red on the parts strongly exposed to the sun; *flesh* yellow, close, melting; *juice* very abundant, fine, sugary, of an agreeable taste, which is, however, peculiar—*sui generis*. Mature during the first fortnight of August.—M.

CLIMBERS AND TWINERS.

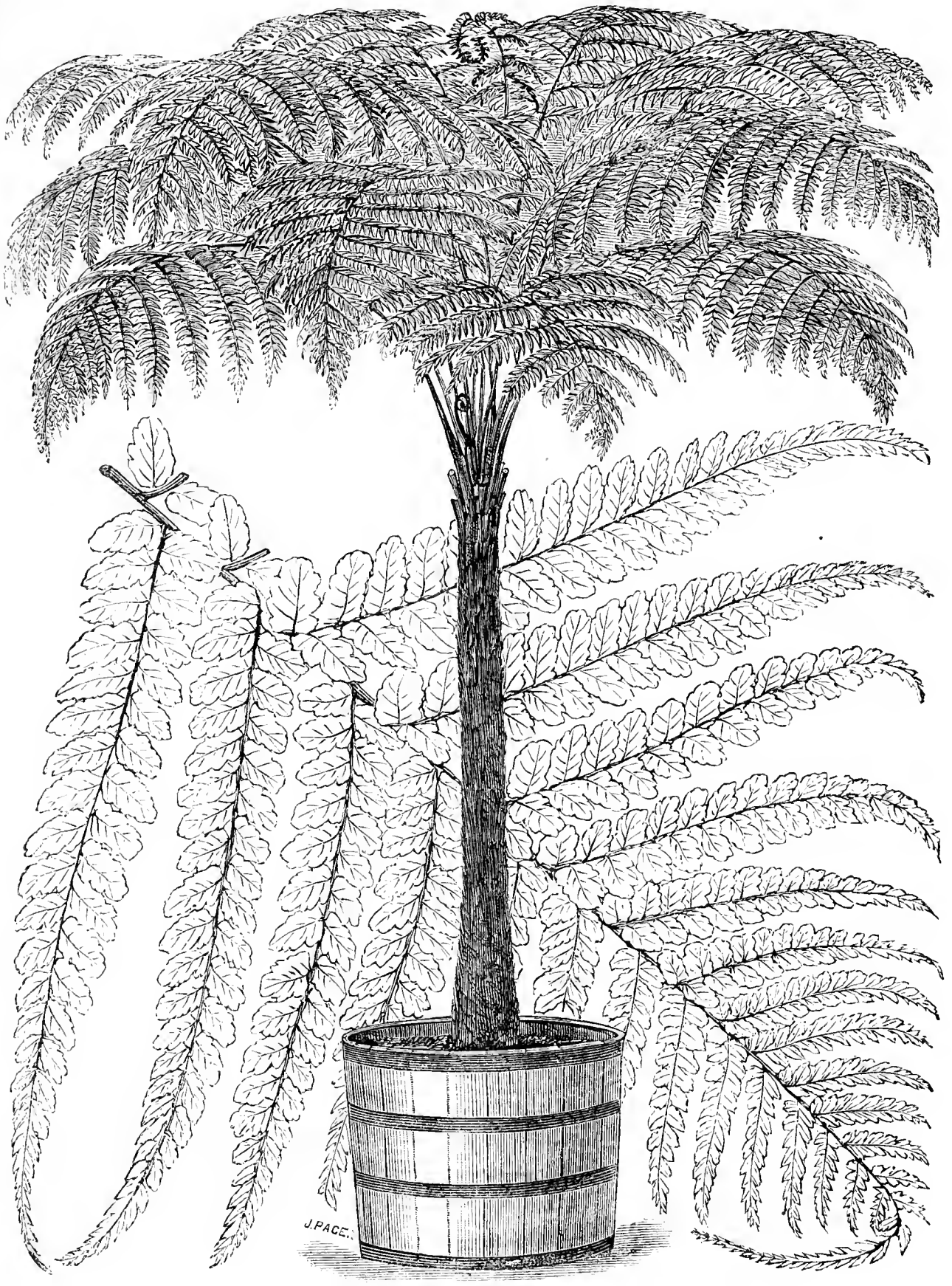
I HOPE some of our modern gardeners, and particularly our lady gardeners, will take up the subject of Climbers and Twiners, for who does not admire in the reserve garden a row or two of the homely Sweet Peas? and how useful for nosegays and indoor decoration! Then what is there to equal Ipomœas, save and except thy latest Rose "the Queen?" But I must forbear. I begin to dream that long-forgotten climbers are rising again to view, and I seem to smell the fragrance of Mignonette in the Grape Vine in flower, and see its tendrils already formed to hang its bunches as quite a pattern to other Climbers. By going one step further, we come to the union of two dissimilar plants, producing a good effect when grown together. I recollect a low tree in the flower garden at Kenwood (Lord Mansfield's) on which was trained a gourd of the small globular kind, and the union was most happy, as seen at a short distance. The Weeping Ash, too, with its pinnate leaf, takes the Rose readily as a partner; and the same may be said of the Weeping Elm—it makes a happy pair, and a living prop, holding up the queen of flowers to her well-merited admiration.

The Convolvulus major is but a homely subject, but some lady gardeners do wonders with it on a balcony, with a few strings for it to lay hold of, and a green box of earth no larger than a hat-box; and this plant lived and bloomed where scarcely any other annual could hold its own. The homely Scarlet Runner was originally a flower-garden plant, and though it has lost dignity, still it is worthy of honour, and is not to be despised because it makes a dish for the table, as well as running and flowering wherever it gets a chance. It is a sure cropper, and it is a nice-sized seed for beginners to experiment with. Many a cottager cultivates it successfully, sits under its shade, and praises its blazing blossom and rough pod, that bring him good cheer.—ALEX. FORSYTH.

DICKSONIA BERTEROANA.

A HANDSOME specimen of this noble tree fern is one of the most striking ornaments of Messrs. Veitch and Sons' Fern-house, at Chelsea. It is a distinct and characteristic plant, a native of the island of Juan Fernandez, whence it was introduced to our gardens by Mr. Downton, in his capacity of collector for Messrs. Veitch's establishment. It has a special interest, as being one of the very few plants indigenous only to that remarkable island which are met with in cultivation in British gardens.

In the mature state, *Dicksonia Berteroana* forms a short stem (caudex), reaching to a height of from 12 ft. to 15 ft., at the top of which it develops a crown of arching fronds, which spread gracefully in all directions. The fronds are coriaceous in texture, rhomboid.



DICKSONIA BERTEROANA.

tripinnate, the pinnæ oblong-lanceolate, 12 in. to 15 in. long, and 5 in. to 6 in. broad, the pinnules sessile, lanceolate, and the segments close-set; those of the sterile fronds are nearly entire, and those of the fertile ones deeply pinnatifid, both surfaces being green and glabrous. The sori are six to eight in number on the lower segments, which they nearly cover, the midrib and tip only being exposed.

In the young state, the plant is also of elegant and symmetrical growth, and the fronds gradually assume the general characteristics of those of the mature plants. Even at this stage the thick and leathery texture of the fronds becomes obvious. These several features render it both a useful and a pleasing addition to our conservatory and greenhouse arborescent ferns, amongst which, on account of its firm and durable texture, it retains its verdure for

an indefinite period. It has worthily been Certificated both by the Royal Horticultural and Royal Botanic Societies. We owe our thanks to Messrs. Veitch and Sons for the use of the illustration.

The species was first described by Kunze, under the name of *Balantium Berteroanum*, and was transferred to *Dicksonia* by Sir W. J. Hooker, in his *Species Filicum* (i. 67), where a figure (t. 23) showing the details of the fructification, will also be found.—T. MOORE.

VIOLA ARDWELL GEM.

AMONGST the numerous varieties of yellow Violas now in cultivation, Ardwell Gem stands out pre-eminent. It has all the qualities of a first-class bedding variety—a strong constitution and a compact habit—is a free, continuous bloomer, and produces flowers of a fine substance and of a rich primrose colour. It is extensively grown, and much admired in this part of the country.

It was raised a few years ago at Ardwell, in Wigtownshire, and was sent out by one of the London nurserymen. Wherever Violas succeed, it should find a place.—ARCHIBALD FOWLER, *Castle Kennedy, Stranraer.*

CAULIFLOWERS.*

THE delicacy and excellence of this estimable vegetable chiefly depend on the rapid and vigorous growth of the plant. Like all other Brassicas, it requires soil of the very best description, thoroughly cultivated, moderately deep, and highly enriched, and for a general crop an open plot of ground is to be recommended. The primary object in its cultivation is to obtain a supply ready for use by the time the Broccoli crop is exhausted, and then to keep up a supply until frost comes and renders a continuance impracticable.

The autumn seed-beds are here prepared on an open space where the soil is rich, and the seeds are sown about August 20th. As early kinds, we prefer Frogmore Forcing and Early London, and as a late sort, the Walcheren. We also grow another very excellent variety, which is not yet in commerce, named Bailey's Selected, which will undoubtedly prove to be the best extant. When the plants are ready, the most advanced of the early sorts are carefully lifted, and potted firmly in rich soil in 60-sized pots, and placed in an open frame where protection can be afforded. These plants form the early section, and are by-and-by planted out under hand-glasses at the base of south walls, and in other sheltered places which have been prepared for them.

At about the first week in February the next set of plants is taken from the same beds, and pricked out into prepared rich soil, somewhat adhesive, for facility of lifting. These plants are intended for the general crop, and are not transplanted until about the first week in March, when they are placed, with all the material possible adhering to them, about 2 ft. 6 in. apart every way, on an open flat, in some of the best ground at command.

The third and last set of plants, obtained from the same beds, are the smaller ones, which are put into 60-sized pots, and kept as cool as possible during the winter months, and afterwards are removed in the pots to the back of a north wall, and subsequently planted out towards the end of May, part of them being planted on the north borders. By these means, we have been able to meet all demands for this vegetable, until others come in from the early spring sowings, which should be made —the first in a frame or a sheltered corner early in February, and the second out-of-doors about the end of March. These plants undergo the same preparation as the others, as to being pricked out, and afterwards transferred to where they are to be grown. We find that by this process the plants become strong and sturdy, and capable of withstanding the attacks of those pests which, under other conditions, are so troublesome.

The after-cultivation consists in merely stirring the surface soil about the plants occasionally until the mulching material is applied, which should be done before vigorous growth sets in, after which all that is required will be copious supplies of water whenever dry weather prevails. When the heads begin to appear, shade them from the atmosphere by covering them with some of the larger leaves of the plant; and in the autumn months, if frost is expected, they should be taken up with a ball of earth attached, and placed out of the

* Condensed from the *Gardeners' Chronicle.*

reach of frost until they are wanted for use. In addition to the varieties which we have already named, we can also confidently recommend for autumn use Veiteh's Autumn Giant, and Dickson's Eclipse, the latter having proved here to be very true in its character and invaluable as an autumn kind.—G. T. Miles, *Wycombe Abbey Gardens.*

NATIONAL ROSE SOCIETY.

Amongst the successes of the year may be noted the Shows held under the auspices of the National Rose Society. The metropolitan meeting at the Crystal Palace, on July 3rd, was indeed fixed rather too early for some growers, but the display was, nevertheless, a good one. The final contest for the Cranston Challenge Cup, between Mr. Jowitt, of Hereford, and Mr. Baker, of Heavitree, took place on this occasion, the rival "forty-eights" being very closely matched; but the greater substance of Mr. Jowitt's flowers eventually gained for them the coveted trophy. The Provincial Show at Manchester on July 17th was more fortunate as to time, and proved a grand success, the flowers generally being of good quality, both as regards size and colour.

Crystal Palace Show.

Nurserymen.—The Silver Cup given by Mr. Hollingworth, of Maidstone, for the best 72 single trusses, distinct, was won by the Cranston Nursery and Seed Co.; Messrs. Curtis, Sandford, and Co., Torquay, were 2nd; Messrs. Paul and Son, Cheshunt, 3rd; and Messrs. Keynes and Co., Salisbury, 4th. The finest of the first-prize blooms were those of Annie Laxton, Madame Furtado, Hippolyte Jamin, Centifolia rosea, Sir Garnet Wolseley, Jean Chirpin, Général Jacqueminot, Constantin Tretiakoff, Etienne Levet, Countess of Oxford, Mrs. Baker, Beauty of Waltham, Horace Vernet, Madame Charles Wood, J. S. Mill, Sénateur Vaise, Cheshunt Hybrid, and Mons. Noman.—The same exhibitors occupied the same relative positions in the class for 24 "trebles," a class which was very creditable in point of quality. The Cranston collection contained three very fine trusses of the old favourite, Général Jacqueminot, which were simply superb in size, substance, and colour; other varieties, splendidly shown, were Etienne Levet, Countess of Oxford, Beauty of Waltham, Devoniensis, Sir Garnet Wolseley, Alfred Colomb, Marquise de Mortemart, J. S. Mill, Madame Noman, and Hippolyte Jamin.—36 single trusses: 1st, Mr. James Walters, Mount Radford Nursery, Exeter; 2nd, Mr. Turner, Slough; 3rd, Mr. Frank Cant, Colchester; and 4th, Mr. W. Farren, Cambridge.—24 distinct, three trusses of each: 1st, the Cranston Co.; 2nd, Mr. G. W. Piper, Uckfield; 3rd, Messrs. Keynes and Co.; and 4th, Messrs. Paul and Son.—24 singles: 1st, Mr. Walters; 2nd, Mr. Turner; 3rd, Mr. W. Farren; and 4th, Mr. Rumsey, Joyning's Nursery, Waltham Cross. In these several classes the varieties were nearly the same, those shown by Mr. Walters being very fresh and particularly bright in colour.—12 Teas or Noisettes, single trusses: 1st, Mr. Prince, of Oxford; 2nd, Messrs. Mitchell and Sons, Piltdown Nursery; and 3rd, Messrs. Paul and Son.

Amateurs.—The closest competition took place in the amateurs' classes. The first was for 48 single trusses, in which the competition was confined to the previous winners of the Cranston 50-guinea Challongo Cup; Mr. Jowitt was declared the winner. The most striking of his blooms were those of Sultan of Zanzibar, Etienne Levet, Annie Laxton, Dr. Andry, A. K. Williams, Abel Grand, Madame C. Wood, Duc de Vallombrosa, Laurent Descourt, Captain Christy, Alfred Colomb, Charles Lefebvre, Le Hâvre, Horace Vernet, Edward Pynaert, Princess Beatrice, and Souvenir d'Elise, the last-named being judged the finest single Tea Rose in the show, and as such awarded the special prize given by the Society of Rosarians of Antwerp, who also gave a similar award for the best H.P., which was won by Mr. Baker, with a magnificent flower of A. K. Williams, whose beauty of form and brilliancy of colour was conspicuous in his stand of forty-eight, which came in 2nd.—36 single trusses; this was a very strong class, and brought out a grand lot of flowers. Mr. James Brown, gr. to A. J. Waterlow, Esq., Reigate, was 1st.—For 24, Mr. Baker was 1st.—For 18 single trusses, Mr. Thos. Gravely, Cowfold, Sussex, won the 1st prize, a Cup, given by Mr. Baker; Mr. F. Warde was 2nd; and the Rev. E. S. Fellowes, Wimpole Rectory, Royston, 3rd, amongst 13 competitors.—12 "trobles:" Mr. Baker, 1st; Mr. Jowitt, 2nd.—12 single blooms: 1st, Mr. J. Ridout, gr. to T. B. Haywood, Esq., Reigate.—Messrs. Paul and Sons' Silver Cup for six distinct Cheshunt-raised Roses, two trusses of each, only brought one stand of blooms, and to this, shown by Mr. Jowitt, the cup was awarded, the varieties being Duke of Edinburgh, Princess Mary of Cambridge, Lord Clyde, Annie Laxton, Sultan of Zanzibar, and Cheshunt Hybrid.—9 blooms: 1st, Mr. Ridout; 2nd, the Rev. Allan Cheales.—12 Teas, or Noisettes: 1st, Mr. G. P. Hawtrey, Aldin House, Slough, with fine blooms of Comtesse de Nadaillac, Madame Hippolyte Jamin, Madame Lambard, Rubens, Boule d'Or, Catherine Mermet, &c.

Open Classes.—12 New Roses, distinct, and not in commerce previous to 1877: 1st, Mr. Turner, with Harrison Weir, Madame Lambard, Mrs. Laxton, Madame Alexandre Bernaix, Charles Darwin, Penelope Mayo, Richard Laxton, Madame Emma Ali, A. K. Williams, Duchess of Connaught, Hon. Geo. Bancroft, and Mrs. Harry Turner, a beautiful dark crimson; 2nd, Messrs. Paul and Son, Cheshunt, with Edward Dufour, Egeria, Duke of Teck, May Quennell, Léon Renault, Cannes de Coquette, Charles Darwin, Madame Alphonse Lavallée, Paul Jamin, Madame Gabriel Luizet, Harrison Weir, and Earl of Beaconsfield.—12 blooms of Maréchal Niel: 1st, Mr. B. R. Cant, the blooms being all cut from the original plant introduced into this country in 1864, a standard on the Brier planted against a south wall —12 blooms of A. K. Williams, perhaps the finest of all the new Roses: No entries.—12 blooms of Marquise de Castellane: 1st, Mr. James Walker.—12 blooms of Reynolds Hole: 1st, Mr. J. Walker.—12 blooms of any Hybrid Perpetual not named above: 1st, Mr. J. Walker, with grand blooms of Marie Baumann; 2nd, the Cranston Co., with Horace Vernet; 3rd, Messrs. Paul and Son, with Charles Darwin. In the corresponding competition for 8 blooms, Mr. R. N. G. Baker was 1st, with a splendid stand of Madame la Baronne de Rothschild; 2nd, the Cranston Nursery and Seed Company, and 3rd, Mr. Jowitt, with excellent stands of Madame Lacharme, which beat others of Captain Christy, La France, Comtesse de Serenye, and Mdlle. Marie Cointet. Mr. James Brown, gardener to A. J. Waterlow, Esq.,

Reigate, was awarded the 1st prize for a good stand of Belle Lyonnaise; and Messrs. Paul and Son for "three trusses of any new seedling Rose not yet in commerce or announced," their novelty being a very promising H.P., named R. N. G. Baker, rose suffused with purple.

MANCHESTER SHOW.

The Show here was held in the Botanic Gardens. Dark Roses largely preponderated. Perhaps one of the finest collections of Alfred Colombe ever exhibited was staged by Mr. Jowitt, since for colour, size, symmetrical outline and evenness, the blooms could not have been better. The Cranston Co. exhibited handsome blooms of their new Rose Mary Poehin, a fine, fresh, and excellent dark Rose, which was much admired.

Nurserymen.—72, distinct, single trusses: 1st, the Cranston Co., with a fine collection, fresh, fine in colour, and large in size, some of the most remarkable being Mdlle. Marie Finger, La France, Marie Baumann, very fine; Mary Pochin, new, full, and a fine bright flower; Dingee Conard, Alfred Colomb, Niphetos, very fine, and perhaps the most magnificent bloom in the collection; Dupuy Jamain, Mdlle. Eugénie Verdier, Capitaine Christy, Le Hâvre, Baron Haussmann, A. K. Williams, a beautiful bloom; Madame Lacharme, Mrs. Jowitt, a fine new Rose not yet in commerce; John Stuart Mill, Reynolds Hole, Etienne Levet, Souvenir d'un Ami, Comtesse de Serenye, Catherine Mermet, and Emilie Hausburg in fine condition; 2nd, Messrs. Paul and Son, Cheshunt, who had conspicuous examples of Souvenir d'Auguste Rivière, a very fine dark Rose; Marie Baumann, Brightness of Cheshunt, Comtesse de Choiseuil, a fine new Rose; Earl of Beaconsfield, Annie Wood, Charles Lefebvre, one of the best coloured blooms in the Show; R. N. G. Baker, new; John Bright, Alba rosea, in beautiful condition; Camile Bernardin, Jean Ducher (Tea), Charles Darwin.—48, three distinct trusses of each: Messrs. Paul and Son, Cheshunt, who had fine blooms of Magna Charta, Charles Darwin, Catherine Mermet, Maurice Bernardin, Camille Bernardin, Niphetos, Marguerite Brassac, and Ferdinand de Lesseps.—24 distinct varieties, three trusses of each: 1st, the Cranston Co., who had Beauty of Waltham, Exposition de Brie, Princess Mary of Cambridge, and Princess Beatrice, all very good.—24 distinct, single trusses: 1st, Mr. J. Griffiths, with very fine blooms of Beauty of Waltham, Sir Garnet Wolseley, Mons. E. Y. Teas, Sénateur Vaisse, very fine, Louis Van Houtte, Madame Charles Wood, May Quennell, large and fresh.—12 Teas or Noisettes, distinct, single trusses: 1st, the Cranston Co., with a good collection, including Niphetos, a fine bloom, Madame Lambard, Souvenir d'un Ami, America, Souvenir de Mons. Paul Neyron, and Jean Ducher.

Amateurs.—36 distinct, single trusses:—1st, Mr. Jowitt, with highly meritorious blooms, of which the following were beautiful in form and colour:—Alfred Colomb, Le Hâvre, Exposition de Brie, Comtesse de Serenye, Camille Bernardin, Beauty of Waltham, Louis Van Houtte, A. K. Williams, and Maréchal Niel; 2nd, Mr. G. P. Hawtrey, Slough. Harrison Weir was conspicuous amongst many other very good blooms.—24 distinct, single trusses: 1st, A. G. Soames, Esq., Bourne, with a very good collection, including Etienne Levet, Sir G. Wolseley, Charles Lefebvre, and La Rosière.—12 distinct, single trusses: 1st, Rev. J. H. Pemberton, Haveringatte-Bower, with very fine blooms.—6 distinct, single trusses: 1st, E. Mawley, Esq., Addiscombe.—12 Teas or Noisettes, distinct, single trusses: 1st, Mr. G. P. Hawtrey, with very fine blooms, including President, Caroline Kuster, Marie Van Houtte, Jean Ducher, Adrienne Christophle; 2nd, Mr. A. G. Soames, in whose stand Catherine Mermet and Caroline Kuster were again good.—6 new Roses, distinct single trusses, not in commerce previous to 1877: 1st, Mr. G. P. Hawtrey, with Countess of Rosebery Harrison Weir, Richard Laxton, La Coquette, A. K. Williams, and Beauty of Stapleford.

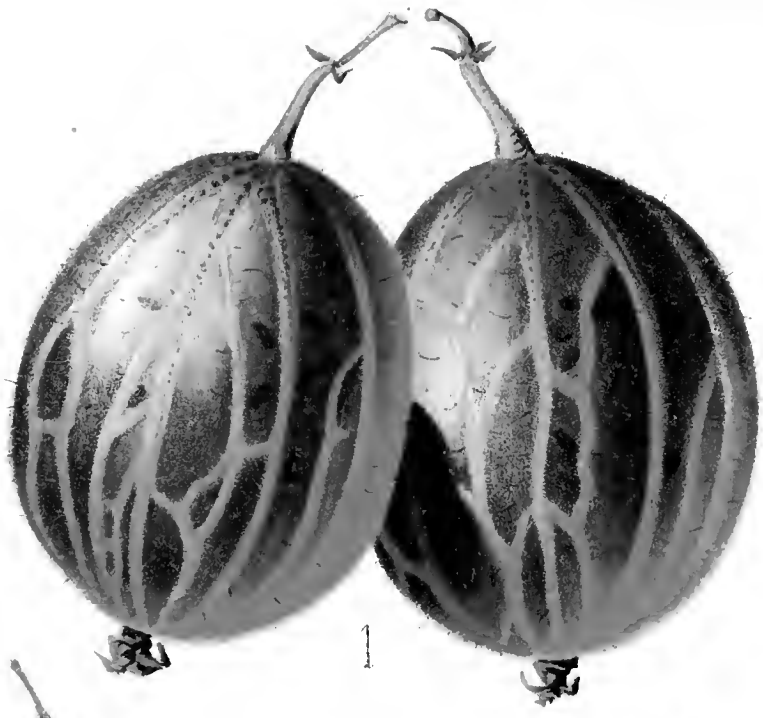
Open Classes.—12 new Roses, distinct, single trusses, not in commerce previous to 1877: 1st. Messrs. Paul and Son, Cheshunt, with Penelope Mayo, full and good, Comtesse de Choiseuil, A. K. Williams, Constantin Tretiakoff, Magna Charta, Madame Gabriel Luizet, Charles Darwin, Léon Renault, and Paul Jamain; 2nd. The Cranston Co., who had Madame Chiverot, Mary Pochin, Princess Charlotte de la Trémouille, Wilhelm Kœlle, and Duchess of Bedford.—12 single trusses of any Hybrid Perpetual (dark): 1st, Mr. T. Jowitt, with Alfred Colomb; 2nd, The Cranston Co., with Marie Baumann; 3rd, Mr. G. Prince, Oxford, with Duke of Edinburgh.—12 single trusses of any Hybrid Perpetual (light): 1st, Mr. T. Jowitt, with a magnificent stand of La Duchesse de Morny; 2nd, The Cranston Co., with fine blooms of La France; 3rd, Messrs. Davison and Co., with La France.—12 single trusses of any Tea or Noisette:—1st, The Cranston Co., with large fresh blooms of Niphetos; 2nd, Mr. G. Prince, with Souvenir d'un Ami.—12 single trusses of any yellow Rose: 1st, Mr. Prince, with Perle des Jardins.—X.

THE GOOSEBERRY CATERPILLAR.

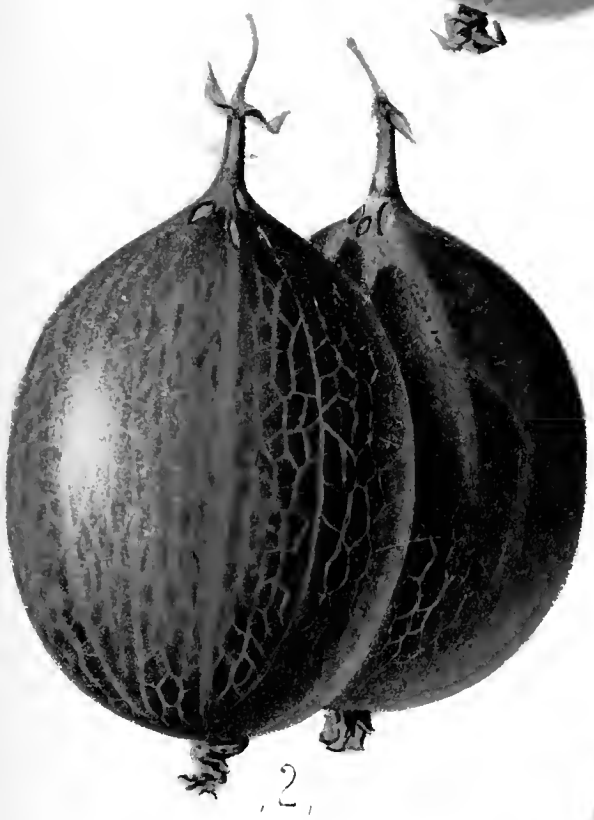
IT may be that amongst the many drawbacks which fruit-growers will have to place to the credit of the inclement season of 1879-80, the exceptional abundance of the Gooseberry and Currant Caterpillar will not be the least. My own experience, which now embraces a few decades, points to the present spring and summer having been the worst I have ever observed in regard to these pests. Here in Essex, whichever way we turn, we see the same phenomenon of trees denuded of their leaves, and of fruit hanging unnatural-looking upon bare stems and branches.

These pests commenced their onslaught much earlier than is their wont, and upon the Gooseberry bushes first. Having, where not promptly destroyed, committed great havoc on these, they next attacked the Currant-bushes; and I observe, in looking through the latter, that there still exists upon them numerous colonies of these same caterpillars in the very earliest stage of pupahood. The moths, which, with their prettily-marked wings, are so conspicuous, are also to be seen flitting across one's path in all directions, which, to say the least, is bad augury for the future. It is needless to say that to destroy these will be profitable?—WILLIAM EARLEY, *Ilford.*

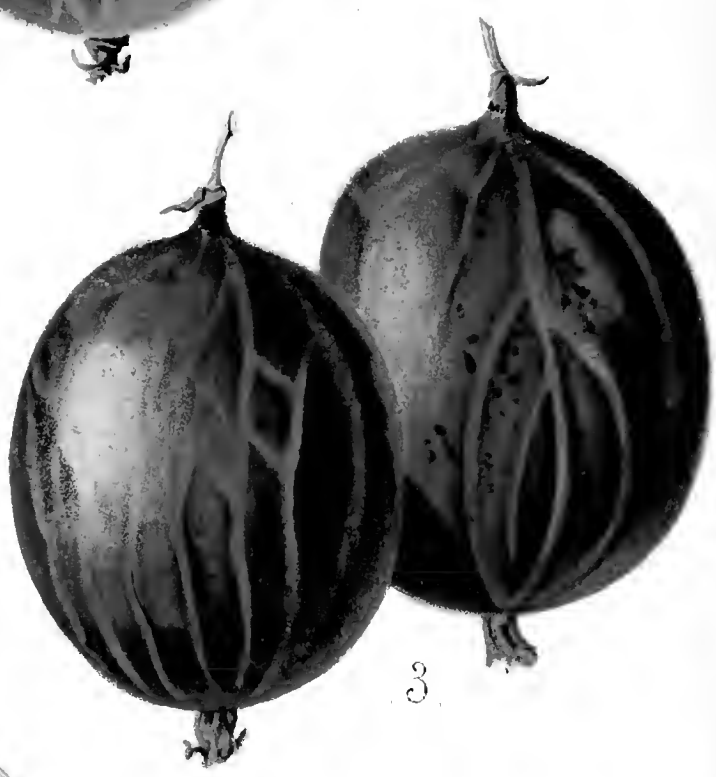
*** Hellebore powder seems to be one of the most reliable remedies, but being poisonous requires to be used with caution.



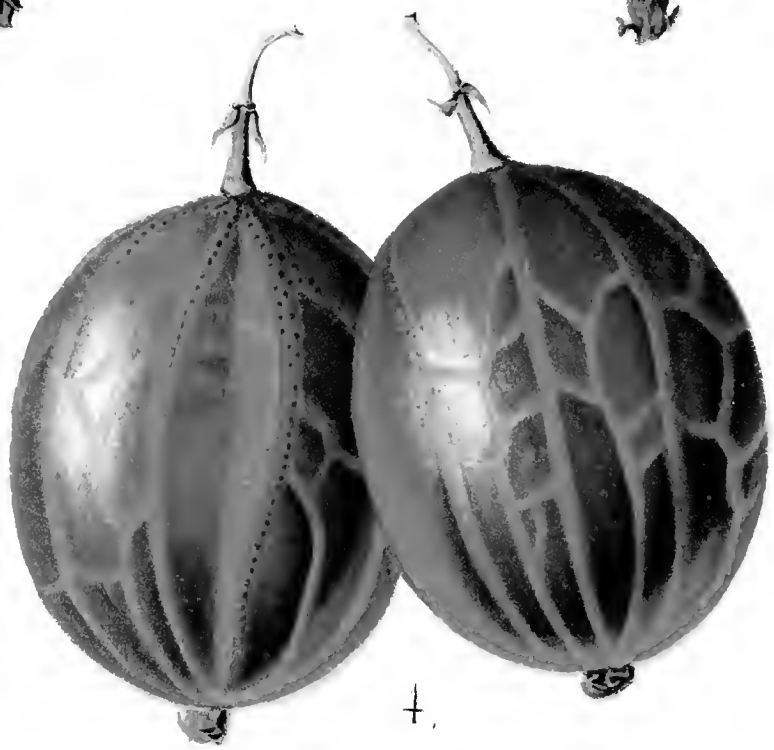
1



2



3



4

J.I. Macfarlane del.

Chromo Stroobant, Ghent

Gooseberries

1. Transparent, 2, Ringer. 3, Rover. 4. Leveller.

CHOICE GOOSEBERRIES.

[Plate 520].

THE varieties of Gooseberry represented in the accompanying plate were received last summer along with those figured on Plate 512 (p. 57), from Mr. C. Leicester, of Macclesfield. They have been selected, like those previously published, as much for their qualities as table fruit as for their distinctness of colour and character, and may therefore be recommended for general cultivation. Mr. Leicester's notes on the several kinds are as follows:—

Fig. 1. Transparent (Bratherton).—A seedling out of Antagonist, raised by the late Mr. Joseph Bratherton, and let out by him at Nantwich, Cheshire, in October, 1871. *Berry* hairy-skinned, long, and well-formed; *colour* creamy-white. In 1878 it weighed 26 dwts. One of the best white gooseberries; it is very prolific, a vigorous grower, making long straight wood of medium strength, and forming a fine bush. It will become a general favourite.

Fig. 2. Ringer (Chippindale).—Raised by Mr. David Chippindale, of Rishton, and let out by him at Oakenshaw, Lancashire, in October, 1864. *Berry* smooth-skinned, long, and well-formed; *colour* dark greenish yellow. In 1870 it was the largest yellow Gooseberry ever exhibited, and the largest berry shown that year of any colour, weighing 32 dwts. 21 grs. It is very prolific, a vigorous grower, and makes long wood and a fine spreading bush. An excellent variety, and indispensable for exhibition.

Fig. 3. Rover (Bratherton).—Raised by the late Mr. Joseph Bratherton, and let out by him at Nantwich, Cheshire, in October, 1869. *Berry* a little hairy-skinned occasionally; *colour* dark purplish-red. Shown in 1867, when a seedling, of the weight of 29 dwts. 11 grs., the largest berry of the season; and in 1878 weighed 31 dwts. 19 grs., on both occasions beating all the gooseberries then in cultivation. It is a prolific variety, vigorous in habit, making long wood, with large leaves, and forming a fine spreading bush, but it is at present very scarce, and does not strike freely from cuttings. When more generally circulated, it will take a leading position.

Fig. 4. Leveller (Greenhalgh).—Raised by Mr. Joseph Greenhalgh, and let out by him at Ashton-under-Lyne, Lancashire, in October, 1851. *Berry* smooth-skinned, long, and well-formed; *colour* dark yellow. In 1864 it weighed 30 dwts. 11 grs. It is very prolific and of the finest flavour, and is a vigorous grower, making a fine bush. One of the most useful Gooseberries in cultivation.

RED-SPIDER
ON VINES AND PEACHES.

THOSE who have to do with the management of Vines at this season of the year, know how liable they are to be attacked by Red-spider, particularly after a turn of bright, dry weather—the more so, if attention has not been paid to supplying the roots liberally with water. A dry, close atmosphere also tends very much to the increase of this pest.

For the information of amateurs, and those who have not had much experience in growing Vines, I may indicate how to detect its first appearance, which is generally about the stoning period, or just before the second swelling commences. A practised eye can at once discover its presence, by the slightly brown shade which clusters of leaves here and there assume, often first seen near the apex of the roof, or along the ends. Washing the back of the leaves with a rag dipped in water containing an infusion of soap often prevents its spreading.

Wherever it has appeared, a close watch should be kept, and means used to prevent its spreading, otherwise, in a week or two, if not destroyed, it will assuredly do serious injury to the vines. When once established in a house at this particular stage of growth, the vines become paralysed, young shoots cease to grow, the old leaves become brown on the back and crumple up; the spiders, with their webs, may be seen with the naked eye; the fruit swells indifferently, colours badly, and a tendency to shanking is increased; and, if allowed to go on, the foliage falls prematurely, greatly weakening the vigour of the vines, and destroying the prospects of a good crop of fruit the ensuing year.

Practical gardeners adopt many plans to eradicate this noxious insect on vines. I have tried many. The one I prefer is this:—As soon as we see the slightest indication of its presence, we paint the hot-water pipes with a mixture of buttermilk and sulphur, mixed well together and made about the thickness of paint; a liberal coating should be put on all the pipes in the house, mixing with it a little soot, if desirable, to save appearances. The house should have full air on, to lower the temperature. The evening the extra fire is used, shut close up, back and front quite close, and fire so as to raise

the temperature to 82°, which continue for two nights in succession. If the intervening day is dull and no sunshine, continue the same temperature during the day. It is generally advisable to repeat this in about a fortnight, in case another generation may be putting in an appearance. While the fumigating process is going on, the atmosphere of the house should be as dry as possible. Admit air on the second morning in the usual way, and give a good syringing to refresh and clean the foliage, and generally red-spider will not give much trouble during the remainder of the season. The fumes of the sulphur, if the temperature is not raised above 82°, will at this season be strong enough to destroy the insect, but will not injure the foliage; early in the season, when the nights are colder outside, 75° is high enough.

If the red-spider is entirely destroyed, within a fortnight or three weeks, according to the vigour of the vines, young shoots will push out from the points of the laterals, and grow rapidly, and the young foliage will be in perfect health; but if the growths are slow, and the leaves small and crumpled, with brown spots, the pipes should once more be called upon to give forth their sulphuric fumes.

Occasionally red-spider does not appear till the fruit is colouring. In that case the same treatment should be applied, with this difference, that an inch or two of air should be left on top and front, to prevent the moisture of the atmosphere condensing on the berries and ruining the bloom.

Peaches are liable to be attacked in the same way and at about the same stage of growth as the vines, and should be treated in every respect the same.

When vine and peach borders are well drained, which now-a-days they almost always are, it is seldom that they get enough water during the growing season. The want of water at the root is the principal cause of the spread of red-spider.—ARCHIBALD FOWLER, *Castle Kennedy, Stranraer*.

THE SCHIZANTHUS AS A POT-PLANT.

FORMERLY, the different kinds of *Schizanthus*, both the annual and biennial species, were much grown as pot-plants for the summer decoration of the greenhouse and conservatory, and very handsome they were when well arranged, presenting, moreover, considerable variety of character. Of late years they have been ousted from this position by more novel, if not more beautiful and useful subjects, but the recent mention in the *Gardeners' Chronicle* of some of the annual sorts of the type of *S. pinnatus* and *S. porrigens*, as being still used in the Manchester Botanic Gardens, has led several cultivators to bespeak more consideration for them. Thus Mr. Ellis, of Pendleton, notes that few things are more gay and useful for the conservatory during the early summer months than *Schizanthus pinnatus* and its several pretty varieties, which are easy to cultivate and inexpensive. He has had a number of plants flowering in 6-in. and 8-in. pots, with upwards of 300 flowers on each plant, almost, if not quite, equal in beauty to many of the small-flowered Orchids. For flowering in April and May he sows in August in rich, light soil, consisting of light loam, leaf-mould, and silver-sand. When the seedlings are 2 in. high they are potted singly into 3-in. pots, and placed on a shelf in the greenhouse close to the glass, where they are kept through the winter, during which time they require but little water. As soon as active growth commences in the spring, they require frequent pinching back to induce a bushy habit, which also greatly increases the number of flowers. Our friend, Mr. D. T. Fish, of Hardwicke, adds to the foregoing that it is also a very useful plant for blooming in the autumn; for this purpose it may be sown in May or June, grown on in cool pits, or even in the open air, till the middle of September or beginning of October. Placed on a light shelf in the conservatory it will continue flowering till Christmas in a temperature of 45° to 50°. It is extremely useful at that transitional season of the year, and the curiously marked flowers form a striking contrast to most of the flowers of autumn. The Schizanthus is also a useful plant for cutting for the decoration of small vases, and the flowers mounted singly, and skilfully used in bouquets, produce an effect different and distinct from almost any other.

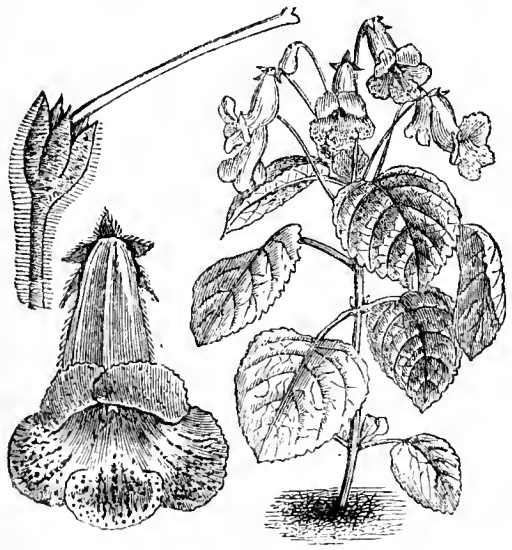
Another writer takes up his pen in behalf of the biennial race represented by *S. retusus*, and which, with its white variety, is exceedingly handsome. *S. Grahami alba*, when used in glasses as cut flowers, he observes, will last

fresh and in good condition for a considerable time. To raise plants for blooming in spring, seed should be sown towards the end of August, and the plants thus obtained should be wintered on a light airy shelf near the glass, where they can be kept strong. These, potted on in March or April, will be at their best during May and June. Like all annuals, they require the stimulus of rich soil and plenty of liquid manure when growing and flowering.

The most floriferous of all the kinds is *S. papilionaceus,* a garden variety of the porrigens type, the blossoms of which are spotted and blotched in a peculiarly beautiful manner.—M.

EUCODONIA LILACINELLA.

THIS is a very pretty Gesneraceous plant, suitable to the adornment of the conservatory in summer and autumn, for although the plants require a stove-heat for starting and maturing their growth, they continue blooming for a much longer period if



EUCODONIA LILACINELLA.

removed to the conservatory, than if allowed to remain in the stove. They require much the same treatment as *Gesneras*, viz., a period of rest in a dry state during the winter season, to be again brought into active growth in the early spring. The same soil and treatment as recommended for *Gesneras*, at p. 83, will be proper for the *Eucodonias*.—G. EYLES.

THE PELARGONIUM SOCIETY.

THE annual exhibition of this Society was held on June 29th, in the Garden of the Royal Horticultural Society at South Kensington. The display was more extensive than on any previous occasion, and the specimens shown by H. Little, Esq., Mr. Catlin, and others, were worthy of all praise. The most interesting of the classes, however, were those provided for new varieties, in which only one prize was given.

NOVELTIES.

Large-flowered or Show Pelargoniums.—3 *varieties, distinct:* Mr. Turner, with Maid of Perth (Foster), Hoctor (Foster), a well-shaped flower, of large size, bright salmon, with maroon blotch, and a white throat; and Mountain of Light (Foster), of good habit, the flowers scarlet, with a dark blotch.—2 *varieties, distinct:* H. Little, Esq., Hillingdon Place, Uxbridge (Mr. J. Wiggins, gr.), with Ruth Little (Jackson), a variety of good habit, and rosy-red flowers, with dark blotch; and Formosa (Jackson), a dwarf-habited plant, with well-shaped pale pink flowers produced in large trusses, the top maroon breaking into fiery-red.—1 *variety:* The Rev. A. Matthows, Gumley, Market Harborough, with Sir Walter Scott, a well-shaped grand salmon-scarlet flower, with maroon blotch.

Small-flowered or Fancy Pelargoniums.—3 *varieties, distinct:* Mr. Turner, with Lady Hervoy (Turner), fine, the upper petals deep red, the lower rosy red, Jenny Howlett (Turner), and Queen of the Hellenes (Turner), a novel flower, white, with rose blotch on the upper petals, and distinct spots on the three lower ones.

Large-flowered Decorative Pelargoniums.—3 *varieties, distinct:* Messrs. J. and J. Hayes, Edmonton, with Lady Isabel (Hayes), a very pleasing flower of full size, soft rosy-purple in colour, with reddish-maroon blotch; Mr. John Hayes, and Mrs. John Hayes, blush, with a red blotch, and very pretty.—2 *varieties, distinct:* H. Little, Esq., with Rosy Morn and Bridesmaid, both raised by the Messrs. Jackson, the latter blush with blackish blotch breaking into crimson.—1 *variety:* Mr. Turner, with Macbeth, a salmony flower, with dark upper, and blotches on the lower petals.

Zonal Pelargoniums.—3 *varieties, distinct:* Dr. Denny, with Lalla Rookh, a plant of tall habit, producing fine trusses of scarlet flowers; Cynthia, a good free-flowering variety, with large trusses of crimson-lake flowers; and Prima Donna, a very fine pure white flower, with slightly zonate foliage, and of dwarf and compact habit.

Double-flowered Zonal Pelargoniums.—3 *varieties, distinct:* Messrs. Saltmarsh, Chelmsford, with Lord Cecil, a fine sort, with immense trusses of reddish-scarlet flowers; Mrs. Arthur Lattey, with large trusses of bright rose-coloured flowers; and Sultan, crimson.—2 *varieties, distinct:* Mr. Turner, with Nancy Lee, scarlet-flowered, with finely variegated leaves; and Kensington, a bronze Zonal with white flowers.—1 *variety:* Dr. Denny, with Enchanting, distinct, and producing large trusses of rose-pink flowers.

Ivy-leaved Pelargoniums.—1 *variety:* Mr. H. Cannell, Swanley, with Beauté de Lyon (Sisley), a variety producing good trusses of large scarlet flowers.

Seedlings.—First-class Certificates were on this occasion awarded to the following varieties:—*Large-flowered:* Constitution (Foster), exhibited by the raiser, the flowers distinct and of fine form, salmon-pink, with dark upper petals; Belle Hélène, exhibited by its raiser, the Rev. T. C. Bréhaut, Guernsey, a darker and brighter flower than Amethyst; and Minotaur (Foster), shown by its raiser, a flower with very smooth petals, the upper petals dark maroon, and the lower ones crimson with maroon blotch.—*Fancy:* Queen of the Hellenes, shown by the raiser, Mr. Turner, described above.—*Decorative:* Mrs. Ashby, shown by Messrs. J. and J. Hayes, one of the most floriferous of varieties, with large trusses of well-shaped frilled flowers, soft rose in colour, with a dark blotch; Eclipse, raised and exhibited by Mr. Brown, Hendon, crimson with maroon blotches and spot, a good free grower, with large trusses; Bridesmaid (Jackson), a dwarf free flowering, light variety; Criterion (Jackson), a glowing reddish-scarlet, with red blotches; and Hayes' Seedling, a fine rose-coloured flower with a bluish tinge near the throat, and large trusses, the last three shown by H.

Little, Esq.—*Zonal:* Prima Donna, the finest single white ever produced; and Ulysses, a fine scarlet, both raised and shown by Dr. Denny.—*Double Zonal:* Progress, with very large trusses of bright scarlet flowers; Enchantress, with fine rose-coloured flowers, both from Dr. Denny; and *Lord Cecil*, from Messrs. Saltmarsh and Son, noticed above.

The following were awarded First-class Certificates at the meeting held on June 13:—*Decorative:* Madame Thibaut, a distinct and most attractive semi-double rose-pink flower, broadly and evenly edged with white; and Mrs. Potten, a very pleasing, neat flower, white with a dark maroon blotch on the upper petals, and a puce-coloured spot on the lower ones, a sturdy grower, raised and exhibited by M. Lemoine. *Double Ivy-leaved:* Gloire d'Orléans, a very fine double of a lustrous rosy-magenta shade of colour, raised by M. Foucard; and M. Dubus, an equally fine double flower, of a bright rose-colour, raised by M. Dubus, both shown by M. Lemoine.

SPECIMEN CLASSES.

6 *Large-flowered, distinct.*—1st, H. Little, Esq., with large plants from 3 to 4 feet over, and well bloomed, of Snowflake, Victory, Mary Hoyle, Sultana, Janette, and Illuminator; 2nd, Mr. Turner, with smaller well-bloomed plants, and very richly coloured flowers; 3rd, F. Hunt, Esq., York Lodge, Stamford Hill.—18 *distinct*, in 6-in pots: 1st, Mr. Turner, who had a little the best of his rival in the point of quality of the flowers, which, in the case of such sorts as Amethyst, Fortitude, Premier, Lord of the Isles, Emperor William, Autocrat, Queen of Scots, Alice, Joe, Partisan, Valiant, and Meteor, was of a high order; 2nd, H Little, Esq.

6 *Fancies, distinct.*—1st, Mr. Turner, with well-bloomed plants, about 2 ft. over, of Thomas King, Duchess of Edinburgh, East Lynn, Princess of Teck, The Shah, and Jewess; 2nd, H. Little, Esq.; 3rd, Mr. Weir, gr. to Mrs. Hodgson, The Elms, Hampstead.

9 *Decorative Pelargoniums** brought out excellent groups. 1st, H. Little, Esq., with fine, large, well-bloomed plants of Digby Grand, Kingston Beauty (Jackson), Miss André (Jackson), Magenta Queen (Hayes), Duchesse de Morny, Triomphe de St. Mande, Braid's Duchess of Edinburgh, and Hayes' Black Prince and Harlequin; 2nd, Mr. Turner, with, besides several of the above, Quadroon, white, with a dark blotch; Captain Raikes, Duchess of Bedford, and William Bull. 18 *plants, distinct*, in 6-in. pots: 1st, Messrs. J. and J. Hayes, with well-grown market plants, carrying grand heads of bloom, the leading varieties being Black Prince, Princess of Wales, Nelly Hayes, Delicata, Triomphe de St. Mande, Lady Blanche, Sultana, Lady Isabel, Miss Alice, Harlequin, Princess Hortense, and Mermerus 2nd, H. Little, Esq.

9 *Zonals.*—1st, Mr. Catlin, gr. to Mrs. Lermitte, Finchley, with a group which was, we believe, the best that has yet been shown, being about 4 feet over, superbly bloomed, and very bright in colour, consisting of Alice Burton, Fanny Catlin, Lizzie Brooks, Mrs. Leavers, Rev. A. Atkinson, Ellen, Mrs. Pearson, Titania, and Lucy Bosworth; 2nd Mr. Weston, gr. to D. Martineau, Esq., Balham; 3rd, Mr. W. Meadmore, Romford.

9 *Double-flowered Zonals.*—1st, Mr. Catlin, with La Cygne, Gorgeous, Pioneer, Henri Beurier, Madame Thibaut, Aline Blanchard, Progress, Nöemie, and Modesty; 2nd, Mr. King, gr. to G. Simpson, Esq., Wray Park, Reigate; 3rd, Mr. W. Meadmore. The classes for eighteen singles and eighteen doubles brought out a lot of small plants, amongst which were to be found many of the latest novelties. Mr. Catlin took the lead in both classes.

The prizes offered for cut flowers of all the types of Pelargoniums brought out a most beautiful lot of blooms, which were greatly admired.

* We are informed that Maid of Kent, one of these seedling varieties, attributed to Messrs. Hayes, at p. 26, was raised by the Rev. A. Rawson, the Vicarage, Bromley Common.

LATE FORCING OF STRAWBERRIES.

IT is a most objectionable practice to load shelves with pots for the later supplies of this fruit. The plan is attended with much labour, and what is worse, a swarm of red-spider is often left behind which, if not perceptible while the strawberries are on the shelves, developes in great force when they are gone. The early forcing of Strawberries on shelves has some advantages, for, if well managed, they pay for the expense incurred for fuel and labour in forcing Vines and Peaches in the same structures. There are, however, other systems which I much prefer before the shelf system, but to which I need not refer at the present time, it being *late* forcing to which I would briefly direct attention.

It has always been my aim, in all manner of forcing, to secure as large a supply as possible with as little expense and labour as practicable. To supply plenty of Strawberries from early in April to the period of gathering them from the open ground, I prefer pits firmly filled in with leaves, so as to cause a gentle warmth for a short time. On these are placed a few inches of rich soil. The Strawberry plants are then lifted from the border on which they have been prepared for work, and planted with the roots entire, leaving plenty of room for the flowers and foliage to develope; rich loam should be packed round and among the roots, and water at about 90° given, to moisten all the soil in the bed. The lights should be put on, and covered at night, to exclude frost; and in a short time the roots will be actively at work, and the plants will show signs of growth. In due time the flowers will appear, when air must be administered freely, but not when the wind is frosty. When the crop is set, thin-out the smaller berries, and give a mulching of clean litter; then soak the soil with guano-water, finishing with clear rain-water, to leave all sweet and clean. A warm April or May shower may be allowed to fall over the plants with great advantage. There should be no stint of moisture at the roots. When colouring begins, air should be increased (often pulling off the lights), and a little should be left on all night. Splendid fruit, with flavour equal to those grown in the open ground, may be thus obtained. The preparation of the plants is simply planting them in rich soil, as if they were for permanent use, and lifting and planting in the pits from January to May, as the demand may render necessary. Ours have this season been extra fine in crop and quality.—M. TEMPLE.

SUBURBAN GARDENING.

AUGUST.—Will the summer be wet and uncongenial as that of last year? is the question which gardeners are found putting to themselves. The want of sunlight, the influence of the invigorating sun, is greatly needed to give the ripening touch of summer to vegetation, and swell the grand chorus of earth's joy. Let us hope it will not tarry, but come quickly.

Kitchen Garden.—While what the market gardeners term "dripping weather" abounds, a good supply of Winter Greens should be got out. Every spare plot of ground should be planted with *Dwarf Scotch* and *Cottager's Kales, Brussels Sprouts*, *Savoys*, and *Colewort*s. It is always an advantage to have a good supply of these useful vegetables. The ground that has been used for early Potatos and Peas should be cleared, and if necessary, dug, and planted with something else. Some *Cauliflower* (*Early London* or *Walcheren*) should be sown to winter in frames, and *Enfield Market Cabbage* for spring use; also *Winter Spinach*, and successional sowings of *Turnips, Lettuce*, and other *Salads*. *Parsley* is a most useful thing in the garden, and if the crop is short, it is well to sow now, the advantage being that it will grow strong to stand the winter. *Celery* is growing fast, and needs earthing-up gradually, doing it a little at a time, as undue earthing-up checks its growth. If some seed of the *Early Horn Carrot* be sown early in the month, an autumn supply of this delicious vegetable will be obtained.

Fruit Garden.—Fruit-trees are now making a very rapid growth under the influence of warm showers of rain, and it should be the endeavour of the gardener to encourage in every possible way the ripening of the wood of the season. If any trees, and especially pyramids, have been allowed to become crowded with young wood, the shoots should be thinned out somewhat, so as to admit sunlight and air among those remaining. The summer pruning and nailing-in of *Wall-trees* should be continued, and the young wood pinched in on espaliers. *Strawberry-beds* should be cleared of weeds and runners, and new plantations made, deeply digging and heavily-manuring the ground previous to planting.

Flower Garden.—Now is the time when this department should be in its full beauty, and if there be any pretensions paid to arrangement of colour in the beds, now is also the time to note what is defective, so that newer and better plants may be substituted another season. As far as possible, some variety should be introduced to the garden, and especially can this be done by means of herbaceous plants, as many good and new things are constantly being introduced. As the weather is showery, and at the same time, close and warm, bedding plants are growing freely and even rank. *Petunias*, *Verbenas*, *Phlox Drummondii*, and other plants of a trailing character need to be kept pegged down into position to give the beds and borders a neat and regular appearance. The smaller the garden, the more necessary is it to keep the beds neat and trim, and free of weeds and decaying flowers and leaves; while everything, including creepers, plants in vases, &c., must be kept within proper limits. The lawn should be kept close, the grass verges and box and other edgings neatly trimmed, and gravel paths be kept free from weeds, and frequently rolled.

During August, any plants that are propagated by cuttings must have attention given to them in this respect, that there be no lack of stock for another season. Cuttings can be taken of a good number of subjects, without destroying the appearance of the beds. The earlier the cuttings can be taken the better; and the stronger will be the plants for wintering.

Intermediate Stocks should now be sown, and some *Mignonette* for flowering in pots. *Calceolarias*, *Cinerarias, Primulas*, &c., should be potted off, at least some of the forwardest plants, for early flowering. August is the month when the gardener has to look forward to the winter supply of flowers, and take the necessary precautions to secure it. *Chrysanthemums* in pots need to be kept well tied out, watered, and syringed frequently over-head.

Cold Frames.—Let it not be supposed that the Cold Frame is simply a receptacle for taking rubbish that may have ceased to be useful for decorative purposes. It is a kind of nursery for the Greenhouse, and gives accommodation for many things during the intermediate stage between the seedling and the flowering state. Any bulbous plants that bloomed in the spring should be occasionally watered, else the bulbs will shrivel up. All plants in the frame must be kept clean and free from decaying leaves, and be watered as required. Pans and boxes of biennials in course of being raised from seed must be kept moist on the surface, or the tiny plants will wither as they emerge from the seed-vessels.

Greenhouse.—It is in August that this house should be at its gayest. There should be now a great variety in bloom, viz., *Liliums*, *Petunias*, *Balsams, Heliotropes*, *Pelargoniums* of many kinds, *Tropæolums*, &c. The newer *Ivy-leaved Pelargoniums* make pretty greenhouse plants trained to balloon frames, when they bloom on their surface. The tuberous-rooted *Begonias* are now fine; and in an amateur's greenhouse we recently saw the fine old *Fuchsia fulgens* in splendid form. Two points are essential in the management of greenhouse-

plants, viz., to keep the surface soil stirred occasionally to prevent the growth of moss on the top; and also to keep the plants well watered, and free from decaying leaves. It is a series of small attentions that keeps the greenhouse gay at this time of the year; and if these are ungrudgingly bestowed, the greenhouse will now be a source of much enjoyment to lovers of flowers.—SUBURBANUS.

GARDEN GOSSIP.

THE Thirty-seventh Anniversary Festival of the GARDENERS' ROYAL BENEVOLENT INSTITUTION was held on July 21st at the "Albion," Aldersgate Street, under the presidency of H.R.H. the Duke of Connaught, K.G., who was supported by H.S.H. the Duke of Teck, G.C.B., and by the Right Hon. Sir F. W. Truscott, Lord Mayor of London. The meeting was well attended, and from a financial point of view proved to be the most successful which has yet been held. After grace had been sung, and the usual loyal toasts had been duly honoured, the Chairman proposed the toast of the evening, "Continued success and prosperity to the Gardeners' Royal Benevolent Institution," in the course of which, remarked:—"I know as well as most of you, that the culture of flowers is one attended with a deal of trouble and care. It is often on a cold night that the gardener has to sit up and watch his plants like a mother would watch her child. It is often that a gardener sets out in the soaking rain to save his flowers, and in many ways gardeners have to undergo a good deal of hardship. Therefore, we should all feel that the Society is one which appeals to our hearts. It is one that is admirably managed, from all I can hear. Its managing committee consists of 24 gentlemen, who take the deepest interest in it, and who look after it with the greatest care, and see that no extravagance of any kind is permitted. Six of these gentlemen are practical gardeners." The Secretary, Mr. Cutler, stated that the subscription lists amounted to over £1,400, and would probably reach £1,500. Of this sum Mr. H. J. Veitch had collected £554 0s. 6d., comprising £269 2s. 6d., contributed by 259 donors, some of them being young gardeners, in sums varying from 2s. upwards, £126 from twelve life subscribers, and £158 18s. from 149 new annual subscribers; and Mr. R. Tait, of Manchester (Dickson, Brown, and Tait), had collected 110 guineas.

— IT is announced that the following GREAT EXHIBITIONS will probably be held in 1881 and 1882:—The Manchester Royal Botanical and Horticultural Society, it is said, will in this way celebrate its jubilee in the first week of September, 1881, the gardens at Old Trafford having been open to the public in 1831. It is also rumoured that an International Exhibition will be held in Edinburgh in 1882, in connection with the Royal Caledonian Horticultural Society.

— THE Annual Exhibition of the NATIONAL CARNATION AND PICOTEE SOCIETY (Southern Section) took place on July 27, at South Kensington. The date was a little late for the earlier southern flowers, but the later flowers and the blooms from more northern districts were in good condition, and the result was an excellent display of very choice flowers. We shall give a report of the varieties shown in our next number.

— WE learn from M. André, that the plants supposed to be ANTHURIUM ANDRÉANUM, collected by Mr. Lehmann, and referred to at p. 97, probably represent a distinct species. This at least is the opinion at which Mr. N. Brown, of the Kew herbarium, has arrived after an examination of the specimens, but the publication of his observations is reserved until the living plants develope their inflorescence.

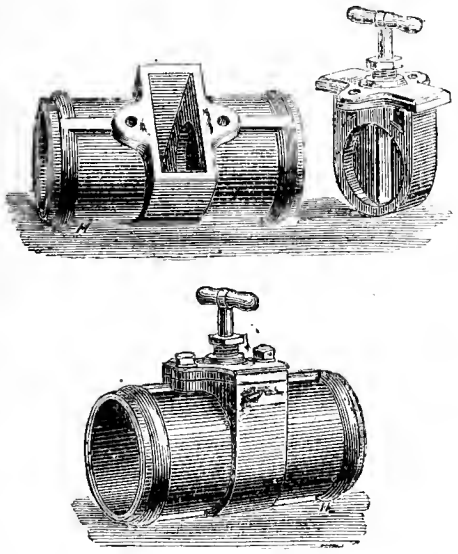
— AMONG the BOOKS on our table are the *Tree-Planter* and the *Tree-Pruner*, by S. Woods (Crosby Lockwood and Co.). The first relates to the propagation rather than the planting of trees, shrubs, climbers, greenhouse plants, suffrutiecse and herbaceous plants, fruits, and herbs; the second relates to the pruning of fruit-trees, shrubs, and greenhouse plants. Both contain many useful practical hints, but these are frequently not very clearly expressed. The *Amateur Gardener*, by Mrs. Loudon, revised by W. Robinson (F. Warne and Co.), is a new cheap edition of a well-known useful work, the type of which is rather too small and close-set for the comfort of the reader. *Arboriculture for Amateurs* (*Bazaar* Office) is a handy volume on a subject of much interest, in which chapters are devoted to the following subjects:—Formation of plantations, trees for dry and shady places, trees for moist situations, broad-leaved trees, ornamental planting, orchards, and hedgerow planting. The information is useful and practical, but the type is small. There is an index, which greatly adds to the utility of the book.

— TO grow CYCLAMENS well, a crop of seedlings should be raised annually. Seed of a really good variety or strain should be secured, and sown as soon as ripe, in pans, slightly covered with soil, and kept moderately moist. Place them in a brisk heat, and when the seedlings are large enough to handle, prick them off, and as soon as possible pot them into small thumb-pots. From thence shift into 3-in. pots, and as soon as these are filled with roots move them into 5-in. ones, in which they will blossom the first year. The best soil for them is good loam and peat, and plenty of silver-sand; and they must have free drainage. They require to be kept growing on freely in a genial warmth; and must be kept thoroughly clear of insects, for they seldom recover from an attack of green-fly, if it be allowed to get the upper hand. They also require great attention as regards watering, and should never be allowed to become dry.

— A FINE specimen of the rare Sumatran PTYCHOSPERMA PATULA has lately fruited in the Palm-house at Kew. The bold foliage is of a dark green colour, the pinnæ being broad and rather unequal. From below the crown of pinnate leaves the gracefully drooping fruit-panicles spring out; these in a young state are of a soft greenish-yellow, but later on the branches assume a deep salmon-colour, which contrasts well with the yellow fruits.

— THE remarkable Australian DAVIDSONIA PRURIENS, which Dr. Mueller refers to the *Saxifragaceæ*, is said to acquire the dimensions of a tree, and to produce a succulent fruit about the size of a Magnum Bonum Plum, the flavour of which is, indeed, somewhat rough, but nevertheless, an excellent preserve can be made from it.

— An Improved Throttle Valve, produced by the Meadow Foundry Company, was awarded a silver medal at the Royal Horticultural Show at South Kensington on June 11th. In the many attempts which have been made in this direction, something has usually been wanting,—either the valves have taken up too much space, or repairs could only be done in an indifferent manner and that by a skilled artizan. In the valve represented by the accompanying figures, these and other causes of objection have been overcome. It will be seen that



it takes up no more room than a common valve; the connection of the valve and seating with the box is so simple, that a *labourer* can take it out in case of fouling, clean it, and replace in a few minutes; and should any accident occur to the valve, it is only necessary to keep one or more of the valves and seats in duplicate, to replace the damaged one as easily. This is no doubt a great advantage in establishments where the assistance of skilled artisans cannot be promptly obtained. The use of this valve may therefore be highly recommended.

— Writing in the *Gardener's Magazine*, Mr. G. Gordon recommends the following as the 12 Best Abutilons:—*Chinois*, a very brightly-coloured variety, of splendid habit and free-blooming, the flowers large, of fine form, pale orange washed with red; *Darwinii robustum*, a fine rose-coloured variety in the way of rosæflorum, which it surpasses in the size of its flowers; *Darwinii grandiflorum*, orange-colour, veined with red, of splendid habit; *Le Grelot*, rose-lilac shaded and veined magenta, flowers large, habit remarkably good; *Louis Marignac*, pale lilac slightly veined and shading to white, exquisitely beautiful and decidedly first-class; *Insigne*, rather robust, the best of the purple varieties; the more recent Louis Van Houtte and Souvenir de St. Maurice are similar, but not so good; *Megapotamicum variegatum*, an elegant variegated variety of slender habit, well suited for small standards and baskets; *Niveum marmoratum*, a robust variety, with handsome variegated foliage, forming attractive specimens, and well suited for bold masses in the flower-garden; *Princess Marie*, a beautiful variety, with rose-lake flowers; *Perle d'Or*, clear rich yellow, the best of its colour, quite surpassing Reine d'Or and Lemoinei; *Seraph*, pure white, very free and fine, quite surpassing Boule de Neige; *Vesuvius*, brilliant reddish scarlet, very rich in colour, and quite distinct.

— In Planting Frame Potatos, the practice adopted by Mr. Denning, at Coombe, seems to present strong evidence of the value of shallow planting. Mr. Denning plants all his Potato tubers intended for frame-work first in small pots, the top of the tuber just projecting from the soil. When the plants are about 8 in. in height they are planted out in frames 10 in. apart each way, the tuber rootlets being just buried. The stems afterwards receive two earthings, by added soil of about an inch each in thickness; and the result of this mode of culture is that the young tubers are produced far earlier, are finer, and there is a better and more regular crop than is found where the tubers are planted perhaps from 4 in. to 5 in. deep at the first. This plan admits of the strongest being selected to plant up together, and the weaker ones remain until they are more advanced in growth, and thus make a successional planting. The routine of potting and planting begins early in the year, and continues as long as required.

— The Hardiness of Azalea Mrs. Carmichael is well attested. Mr. Carmichael states that last autumn he planted out two plants of it, and these have withstood the severe winter, and look as fresh as possible. The plants were in an exposed situation, and had no protection. He says:—"I am fully confident that hybrids between Mrs. Carmichael Azalea and the large-flowered greenhouse varieties will be hardy. Then let Rhododendrons look to their honours."

— The new Clematis Pellieri is described in the *Revue Horticole* as a hybrid raised by the late M. Pellier, of Montertreau (Sarthe), from *C. erecta* fertilised by *C. lanuginosa*. It is a robust plant, 5 ft. to 6 ft. high, with simple ovate-lanceolate leaves about 4 in. long, and a dichotomously-branched inflorescence of large flowers, 4 in. across, with from 4 to 6 sepals, of a pale violet or mauve-blue, with bright lilac filaments, and yellow anthers. It is vigorous in growth, and hardy, extremely floribund, being clothed for more than three months with very large flowers, which slightly recall those of *C. Durandii*, but are larger and prettier. M. Pellier himself, as quoted by M. Carrière, ascribes its origin to *C. Viticella* crossed by *C. lanuginosa*.

— The varieties of Phlox setacea raised by the Rev. Mr. Nelson are exceedingly pretty, the dense masses of varied white, blush, and pink-tinted flowers being very effective either as border or rock plants; and, what is of some importance, they are not particular as to soil. The variety *compacta* has pinkish-blush flowers, with a crimson eye; *grandiflora* has darker-coloured flowers; *Model* is pink, with a purplish-crimson eye; and *Bride*, white, with red eye, this being later than the others to flower.

— No doubt the Aubrietia deltoidea is amongst the most generally useful of spring-flowering plants, being fitted either for front-row plants in borders or rockwork, or to cover speedily any sterile piece of ground under trees or in the open garden. There are several varieties of it, the best forms of which are probably *A. Campbellii*, which forms masses of large violet-purple flowers, *A. Hendersoni*, and *A. purpurea*, all being worthy of extensive cultivation.

— M. Carrière has recently described two distinct and very handsome Variegated

YUCCAS. One, named *Yucca gloriosa mediopicta*, is a stout short robust plant, with the leaves green, marked in the centre with a broad band of creamy-white, broader on the lower face. This variety is very rare; and was exhibited by M. Paintèche, of Passy, at the Palais de l'Industrie, in 1880. The other is *Yucca gloriosa marginata*, a variety of medium vigour, the numerous leaves narrow and attenuate at the base, and bordered with yellow, more or less marked, sometimes variegated with rose; the under-side is of a shining-green, except the edges, which are yellow. This kind is also in the possession of M. Paintèche, and M. Carrière observes that it comes near the variety he has described under the name of *Y. gloriosa variegata*, sometimes called *Y. gloriosa marginata aurea*. All these plants are hardy, and very ornamental.

— GOOD hardy varieties of LETTUCE are invaluable. Amongst these Hick's Hardy Green Cos, and the Little Queen have been highly spoken of, as having last winter withstood the severity of the weather with good results. Hick's Cos is larger than the Brown Cos, and grows much closer than that variety. The Little Queen, which is said to be lowly and dwarf in habit, close and firm in heart, and very hardy, is, moreover, said to require no tying up, as it blanches naturally, and withstands the cold of winter and the drought in summer with equal indifference; it may be planted from 6 in. to 8 in. apart, and the leaves fold over the heart so closely that there is no waste.

— THE new substance called HEVEENOID appears to be destined to supplant vulcanised indiarubber. Its base is indiarubber, and the combination of this base with camphor vulcanised by sulphur constitutes Heveenoid. The pure rubber is first boiled in water, then torn to pieces, washed, dried and baked to make it more homogeneous, after which it is rolled up and laid away for use. It has then to be combined with camphor and sulphur, and is finally worked into endless sheets, which can be cut to any desired length. In ordinary vulcanised rubber the sulphur combines only to a limited extent with the rubber, but in Heveenoid the constituents are stated to be chemically united, the sulphur forming a sulphide of camphene. Heveenoid is the subject of a patent, and is made by a company in New York. It is from 30 to 50 per cent lower in price than vulcanised rubber, and is more pliable, durable, and insoluble.

— CUT blooms of two NEW FUCHSIAS, named Miss Lizzie Vidler, and Trumpeter, have been sent to us by Mr. G. Fry, of Lewisham. The first is a very full double sort, with short broad coral-red sepals, and a dense compact corolla of a magenta tint of rose, the flower large and well proportioned. The second is a single variety, with a long salmony-red tube, and still longer narrowish sepals of the same colour, but brighter in the bud, and a prominent magenta-rose corolla, the petals of which are rolled outwards at the edge so as to give it a trumpet-shaped outline. They are said to be of good habit, and if so, are handsome decorative kinds.

— THE Council of the Royal Horticultural Society have awarded the LARGE GOLD FLORA MEDAL to Mr. JOHN DOMINY, of the Royal Exotic Nursery, Chelsea, on the occasion of his retirement into private life, in recognition of the distinguished services he has rendered to horticulture generally, and especially for the remarkable results he has achieved in the hybridisation of plants, especially in the family of Orchids. No man better deserves such a mark of public recognition.

— ON the evening of July 5th, a PRESENTATION TO MR. AND MRS. WILLS, on the occasion of the General Horticultural Co. taking over his business, was made at St. James's Hall, Sir P. Cunliffe Owen presiding. The subscription was mostly confined to the leading employés of the firm, those growers from whom large purchases are made, and a few personal friends, and had been got in with the strictest privacy. The presents consisted of a very handsome clock of the pure Gothic style, with ormolu and nickel-silver mounts, Swiss China ornaments, &c., with silver plate inscription, and side vases to match; in addition to a handsome gold keyless hunting-watch to Mr. Wills, and a diamond ring containing five stones of pure white diamonds, and a five-stone diamond keeper to match, to Mrs. Wills. The cost of the presents was nearly £200.

— IT is announced that Mr. PETER GRIEVE, who has presided over the gardens at Culford for more than 30 years, is about to retire. Mr. Grieve will carry into his retirement the highest respect of his employer, and the affection and esteem of a very large circle of gardeners and gentlemen who have known him personally, or by his pen, or through his works.

— AT the Exhibition of the SCOTTISH PANSY SOCIETY, on June 11th, the following First-class Certificates to new varieties of Pansies were granted, namely:—To Messrs. Downie and Laird, Edinburgh, for Fancy Pansies, Robert Laird, L. Y. Heathcote, and R. K. Mitchell; to Messrs. Dicksons and Co., Edinburgh, for Fancy Pansies, Perfection, Miss Duncan, and Mrs. W. M. Welsh. Besides these, Certificates of Merit were awarded to Mrs. Taylor, Corstorphine, for Fancy Pansies, Minnie Nicoll, and Mrs. Mitchell; and to Mr. George Ross, Laurencekirk, for Fancy Pansies, J. C. Findlater and Mrs. D. L. Whitton.

— THE new epiphytal UTRICULARIA ENDRESII, which was recently exhibited by Sir Trevor Lawrence, Bart., is a charmingly beautiful plant. In the form and size of the flower, as well as in the foliage, it is similar to *Utricularia montana*, which is now becoming familiar in collections, but the blossoms are of a most delicate tint of mauve, and have a bright conspicuous blotch of orange on the lower lip-like petal. It is a native of Costa Rica, and was introduced by Messrs. Veitch and Sons, Chelsea, through the late M. Endres, after whom it is named. Its elegant habit adapts it thoroughly for basket-culture in the orchid-house.

In Memoriam.

— THE Rev. W. F. RADCLYFFE, of Okeford Fitzpaine, near Blandford, Dorset, died on July 8th, aged 79. He was an old and valued contributor to the *Florist and Pomologist*, and many of Mr. Rivers' new Peaches have been figured therein from specimens of his growing. He first became known for his interest in horticulture while rector of Rushton, from whence he removed a few years since to Okeford. His great specialities were Roses, Strawberries, Peaches, and Nectarines, and on these four subjects his contributions to periodical literature have been of a voluminous and thoroughly practical character.

Camellia Manara

Miss E. Regel del.

Chromo. Stroobant Ghent.

CAMELLIA MANARA.

[PLATE 521.]

OUR thanks are due to Messrs. W. Paul and Son, of Waltham Cross, for the opportunity of figuring the superb variety of Camellia japonica represented in the accompanying plate. As will be seen from Miss Regel's portrait, it is a variety of the first rank, so far as regards depth and form; while its bright rose-crimson colouring, with the white stripe on the centre of the petals, which are cupped and somewhat pointed, is very pleasing and attractive, and its constitution, habit, and foliage are all that can be desired. Mr. Paul describes it as a grand Camellia, taking a very high rank amongst the varieties forming his extensive collection, which is certainly the finest set of these plants now existing in the neighbourhood of London, and will well repay a minute inspection during the blooming season.

The cultivation of the Camellia has been so often referred to in our pages, that we need not repeat the instructions which have formerly been given under this head.—T. MOORE.

EXPERIMENTS IN THE HYBRIDISATION OF FLOWERS.

THE following experiments were not undertaken originally for any scientific purpose, but simply to assist myself, and to satisfy a natural curiosity in connection with an old pursuit, to which I have been addicted for many years—the raising of seedling florists' flowers. The conclusions which I have arrived at by an analysis of these experiments, as well as some of the facts which experience has taught me in the pursuit of my hobby will, I fain would hope, be of some interest to many of your readers.

The plant on which the experiments were carried out was the Zonal Pelargonium, or the Scarlet Geranium, in its more popular appellation. I selected this plant because my gardener, at that time, was a novice in seedling growing, and I thought the cultivation of this plant would give him less difficulty. It proved, however, too great a difficulty for him. Such is the kind of gardener often recommended to us. Much of my own work, I fear, and much of the value of the following remarks have suffered in consequence of this man's lack of skill.

The number of varieties on which I operated was 142. They consisted of the best of the older varieties of the period, and of about 60 of the latest introduction, selected from the English and French nurseries. The hybridising was performed on these during the summer of 1877. The number of different successful crosses, or of crosses from which I gathered seed, was 391; the number of seeds procured was not accurately noted, but the number of plants growing at blooming-time was about 2,000. Of course, under ordinary treatment, plants from seeds sown in 1877 should flower in 1878. I was much vexed to find that none did. In the following autumn, therefore, I changed my gardener, and was fortunate enough to secure the services of a veteran at the work, whose zeal was at least equal to my own, and who has been a successful raiser of florists' flowers for many years,—Mr. H. Eckford.

Under Mr. Eckford's treatment, the plants at once revived, and we began to reap the results. Unfortunately, many of the plants by this time had become "leggy," or drawn, so that one of the characters which I should have liked to investigate more fully, the influence of the parent on the "habit," has been noted only in a small number of the experiments,—in 85 cases only out of 550.

In the hybridisation, the plants to be operated on were deprived of their anthers, either so soon as, or in most cases before, the pollen was developed, and in every case before the stigma of the pistil had opened, and was ready to receive the pollen. In the Pelargonium, it is an invariable rule, so far as my observation goes, that the floret is never impregnated by pollen of the same floret, and hence arises a natural disposition of self-set flowers to give variation in the offspring, or, in florists' terms, "not to come true from seed." The formation of the pistil in the Pelargonium is such that its fitness for reception of pollen can be readily ascertained. The stigma is formed of five segments, which at first lie parallel like the closed ribs of an umbrella, and in an upright position, and as the plant grows these spread backwards or open laterally, forming a kind of cross. The inner side of the

expanded segments is set with minute hairs, which, when the divisions of the pistil are erect, lie close against its inner side, and, as the segments open or curve back, stand out at right angles and form a kind of brush. The Pelargonium is thus dependent on exterior sources for fertilisation, which is not the case with many other kind of flowers. I think, therefore, the value of the present observations is increased by this property, though, of course, there is always a possibility of miscarriage in some details in every long investigation.

When the hybridisation is completed, it is necessary, of course, to preserve a record of the operation, if only to secure variations in the act; and without a means of marking the details, none of the results which I am about to describe could have been obtained. When the number of subjects to be operated on is as large as I used, a system of registering the act became absolutely necessary. I devised, therefore, the following plan for marking the floret operated on, so as to show me, when the seeds were fit to be gathered, what pollen had been employed for fertilisation. I describe my system, and which has been arrived at after several variations and developments during many years, for the benefit of those who may like to use it, as well as to show how far my experiments may be relied upon as giving correct results as to the parentage of my seedlings.

Of course, in my catalogue every variety which I grew had its number, and by which any plant could be at once identified. What was required was something to mark the floret operated upon, and which would denote the number of the pollen plant used. The originality of my plan consists in being able to represent any number from 1 to 300 or 400 by means of a material which could be readily tied around the pedicel of the floret. What I use is variously-coloured worsteds and silk thread. In my scheme, the worsted (Berlin wool) represents the units, and sewing or purse-silk the tens, and the various colours of the spectrum with black and white give the several numerals, thus:—

Black. White. Violet. Indigo. Blue. Green. Yellow. Orange. Red.
1 ..... 2 ..... 3 ..... 4 ..... 5 ..... 6 ..... 7 ..... 8 9

Then, by using grey to represent 100, and brown 200, drab 300, I had as high a number as I ever required.

As an example of the mode of using the above plan:—Suppose that I desired to cross Jean Sisley with Sir Charles Napier, using the pollen of the former on to the stigma of the latter. On taking pollen from Jean Sisley, the number of which was 38 in my catalogue, I should take a piece of violet silk to denote 30, and a piece of orange wool denoting 8, or together 38, and tie them around the pedicel of the pip operated upon; this would, of course, remain until the seed was ripe. On gathering the seed, the mother-plant would be witness for itself, and the male parent would be known by the colours used.

Each seed in my experiments was at once labelled on gathering, and placed in a small pill-box, and its numbers marked on the lid, thus 73 × 38, the former being that of Sir Charles Napier in that year's catalogue. On sowing, each seed was sown singly in a thumb-pot, and a small glass label, written with a scratch diamond, inserted at the side. These labels are cheap, indelible, and indestructible, and I have found them very suitable for my purpose.

Before proceeding, I may here say that for the purpose of taking the pollen, I prefer the use of velvet to the camel's-hair brush, and always used the former. The velvet may be tied around the top of a stick, when it represents somewhat the bumble bee. I prefer also black velvet, with which it is easy to see what pollen one has collected, and it is very easy, after each operation, to cleanse the velvet by passing it three or four times across the coat sleeve. I consider that the camel's hair-brush cannot be so readily cleaned, nor can it be ascertained whether it is cleansed, so that it would have been difficult to feel certain that only one kind of pollen had been used in any single operation. In many instances, it is better, perhaps, to use no instrument, but to apply the pistil itself, but this could not always be achieved, and it involves the destruction of the bloom and more time, and with the velvet no chance of admixture of pollen need happen.

The seeds were sown in the autumn of the same year, 1877, and, as already said, they did not bloom, except in a very few instances, till the summer of 1879.

For carrying on the present inquiry, each seedling on blooming, so soon as it arrived at its best, was placed between a plant of its male

and female parent, and a separate note of the apparent predominating influence of its male or female parent in each case arranged under the following divisions:—A, in habit; B, in the foliage; C, in the colour; D, in form of pip; E, in the truss; F, in the time of flowering. During the latter part of the investigation, the last-named inquiry was abandoned; and as regards the habit, as already stated, any satisfactory conclusion could be drawn only in 85 cases, while results were obtainable on most of the other points in 550 examinations.

In noting the influence that seemed to predominate in each plant, the following letters were employed,—M, when the male influence was most apparent; F, when the female influence was more marked; I, when the result was intermediate between the male and female; and N, when no resemblance was to be detected. A table formed out of these, as below, was employed to arrive at the conclusions.

Numbered Seedling.	Parentage.	Habit.	Foliage.	Colour.	Form of Pip.	Truss.
18	20 × 2	N	F	I	M	M
19	60 × 17	—	M	F	I	F
20	51 × 61	M	M	M	F	F

The above, which is an extract from a page in the note-book formed as described, identifies the seedling by a number in the first column, gives next its male and female parent, and then, by the symbols used, denotes whether the male or female influence predominated in the particulars of each column, or whether the effect was intermediate or nil. It will be seen that often the predominating influence was different in the different parts of the same seedling. This No. 18 resembled its female parent in the foliage, but the male in form of pip, while the colour of the corolla was intermediate, and this variability of influence was evident in a great majority of instances.

To arrive at any general conclusion, the table thus formed, when 550 seedlings had been examined, was analysed, and the following general results were obtained,—that is, the various columns have been analysed, and the calculations reduced to the same ratio, or to a ratio per centum :—

INFLUENCES PREVAILING, PER CENT.

	In habit.	Foliage.	Colour.	Pip.	Truss.	Generally
Male	18·82	25·22	21·35	25·65	14·45	21·10
Female	47·05	40·22	23·95	33·91	25·17	34·06
Intermediate .	24·70	27·72	40·52	31·08	50·58	34·92
None	9·17	6·81	14·16	9·34	9·79	9·85

There are many interesting facts to be drawn from the above table, to some of which I will direct attention.

1. That some effect from the artificial hybridisation was apparent in 90 per cent. of the whole.

2. It will be seen, on referring to the last column, where the general results appear, that the influence of the female was greater than that of the male parent in the ratio of about 3 to 2.

3. And that a joint influence of both parents was shown in rather more than one-third of the whole.

4. The above being the general influence, it will be seen that the influence of either parent varied considerably in the particular properties of the plants, thus :—

5. As regards habit, the female influence was the greater, as it was also in the foliage.

6. As regards the colour, for which the hybridiser often aims, it will be seen that the male and female influences are much more equally poised, and their joint influence in modifying the result was shown in $40\frac{1}{2}$ per cent.

7. As regards the pip, which includes that property which the enthusiastic florist so much seeks after in England, "form," my table goes to show that the influence of male and female are much more equal than is usually supposed, the female influence really preponderating only in the ratio of about 6 to 5. In making this estimate, the 31 per cent. of joint influence must not be omitted.

8. The eighth fact which the table shows, and which appears to be of a very encouraging kind to all hybridists, is that whether we look to the general effect, or to particular effects, the highest per-centages are on the line of intermediate influence of the parents. An intermediate result in Zonals may be expected at least in colour and size of truss.

Lastly, as regards this intermediate influence of the parents, I observed some curious and unexpected results. I was prepared to believe that very little change of breed or blood might produce great change of colour. There can be but very slight vital difference in the different portions of the same petal in flaked and variegated flowers, and yet the difference of colour is often great and quite opposite. In many of my hybrids, however, I found that the crossing of

two shades of colour produced just such an intermediate colour as would be derived by mixing the colours on a palette, as though the colour was produced by a mechanical admixture of the sap rather than a vital change. Thus, a scarlet and a white produced a seedling of light scarlet, like the result of mixing vermilion and white lead. A pink and a scarlet give a scarlet with a pink flush, a shade now quite familiar to florists.—W. H. O. SANKEY, *Sandywell Park.*

PEGGED-DOWN ROSES.

IN the Garden of Logie in Aberdeenshire I saw a crescent-shaped bed of Roses, such as I have never seen equalled since. In the first place, the shape, was of that undeniable type, leaving no room for critics to find fault with, for having only circles true to their centres, there were no crooks nor awkward bends to conceal. The bed was only about 6 ft. in diameter, slightly raised at the back, and full in the breast of the crescent. Not only was the manipulation so deftly accomplished that I reckoned it a bed of Ranunculuses, so dwarf and close it seemed, but on coming near I found it was a bed of moss roses pegged down upon moss, with only the flower-stalks with their elegant blooms, to be seen. Of course such a bed requiries some cost and a good deal of forethought to get suitable plants for this style of planting, and it is only in early summer that this kind of thing tells; but when it does tell, it is remembered for many a day. We mount the H.P. Roses on stilts to get them near the eye, and we see them acting as starers in every cottage garden, and the larger the rose the better for the credit of the owner; but here the Logie bed of moss roses, like "good wine wanting no bush," was laid down to be admired, and seemed quite at home, as if it claimed kindred with the moss on which it reclined.—ALEX. FORSYTH.

*** All roses on their own roots may be pegged down with advantage, and with very good effect.—ED.

WASHINGTON RATH-RIPE PEACH.

I am induced to draw attention to the excellence of this fine Peach, in consequence of the splendid examples I saw exhibited by Mr. Bond, of Walcot Park, at the recent Show held at Ludlow. They were so fine as at once to attract attention from all who saw them, being vastly superior to other sorts produced upon that occasion. The fruit was large, and highly coloured, with a brisk, refreshing flavour, which I have not before met with so richly developed in a yellow-fleshed Peach. I am persuaded that this is also a Peach well suited for market purposes, as betokened by its firm flesh, which will bear carriage well. It is a mid-season variety, which, on account of its superior merits, will, doubtless, be more generally cultivated when it becomes better known. I believe Mr. Bond has grown it for some years, and, doubtless, will favour us with some particulars as to its growth and general behaviour, as may, also, others who have tried it.—GEO. WESTLAND, *Witley Court.*

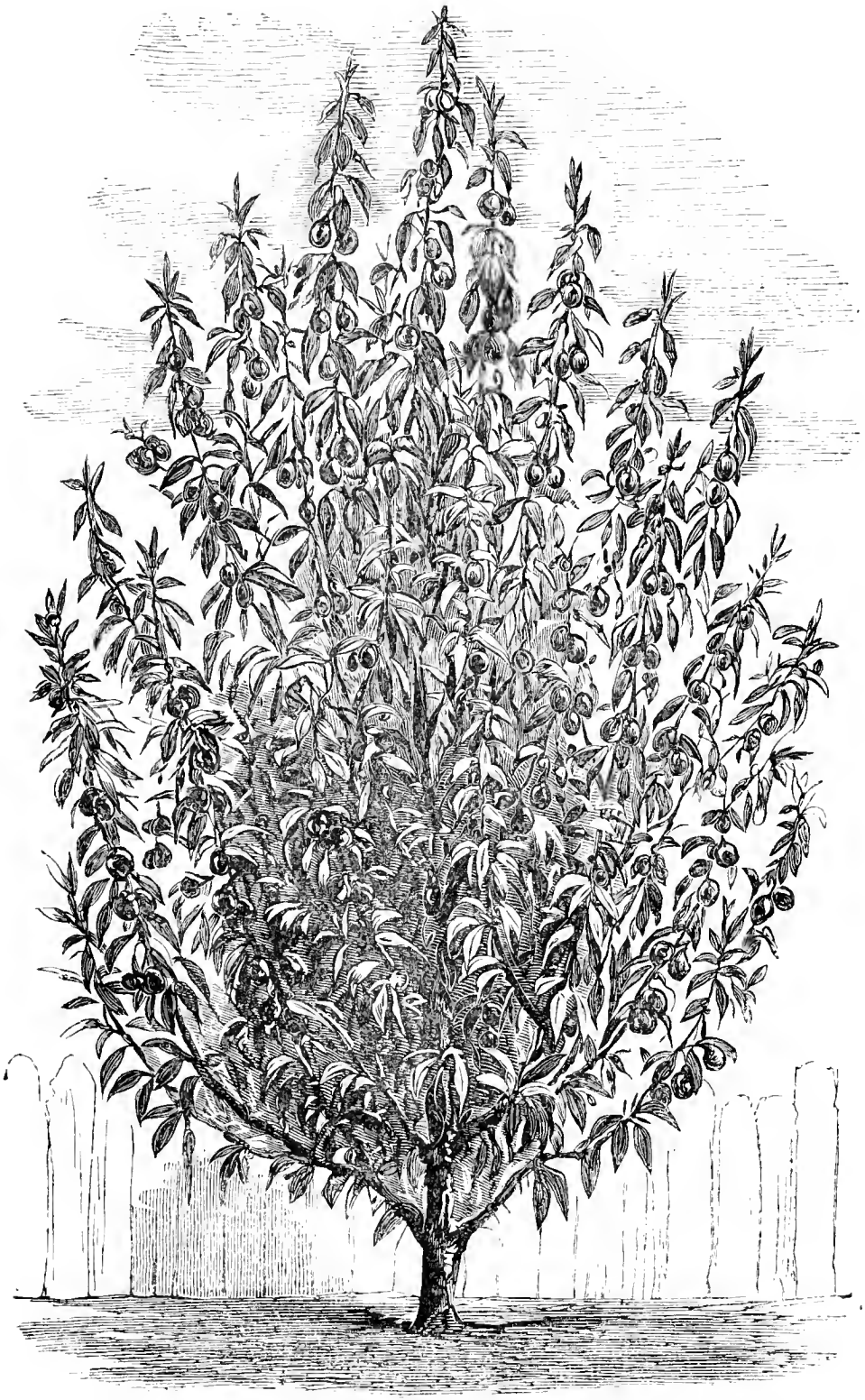
THE EMPEROR ALEXANDER APPLE.

THE proverbially shy-fruiting character of the large showy Apple, Emperor Alexander, is probably too well known for me to need to dwell upon the fact, before making the statement that I have in my orchard a very thrifty standard of this particular kind, probably about twelve or fourteen years planted, and having its branches sweeping down almost to the ground, most heavily laden with fruit, which are at this time swelling off freely. It would be especially interesting to know whether this is generally the case this season, in regard to trees of the same kind grown in other parts of the country.

This question appears to me all the more important, from the fact that as last summer was such an exceedingly cold and wet one, there seemed less likelihood than usual that flowers would have formed upon a sort such as this, which is so exceptionally shy-flowering. After all, might not the very moist season of 1879 be such as to suit this variety?—WILLIAM EARLEY, *Ilford.*

PRUNING PEAR-TREES.

AS a practical commentary on the evils of close-pruning pear and other hardy fruit-trees, we find the following letter published in the *Gardener's Magazine* of July 10th, showing the advantages of an opposite course. We have to thank the editor of that publication for the use of the illustration referred to in the text:—



WINTER NELIS PEAR, FIVE YEARS UNPRUNED.

"In consequence of the impression made on me by Mr. Hibberd's lecture on fruit-culture at the Society of Arts on February 9th, 1876, I planted a collection of young trees in the spring of that year; in fact, immediately after hearing the lecture. I set apart for the purpose an open but somewhat sheltered spot, on a good loamy soil, in a western suburb of London, and planted several young healthy trees of thirty-four sorts, comprising pears, plums, and cherries. It was not needful for me to plant apples, as my spacious lawn is surrounded with apple trees, and one old giant renowned for fruitfulness stands all alone near the centre of it. These trees are now in their fifth year, and I send you a photo of one of them, a Winter Nelis Pear. They have been absolutely untouched by the knife during the whole of the time, and in the first two years they caused me some anxiety, in consequence of the long rods they threw out, and that threatened —so I thought—to monopolise the strength of the trees. But I held firm to my purpose, and I am well rewarded. From the first I might have had supplies of fruit, but in the first year I removed all that appeared except on the Louise Bonne of Jersey, which I allowed to ripen a few. In 1877, there was a fair show of fruit, considering the youth of the trees, but most of it fell, and we secured but little. In 1878, there was again a good show, but the frost in May nipped it, and we secured only about a third of the whole crop, which, however, was greater in bulk than we imagined to be possible.

In 1879, the crop was next to nothing, having been crushed by the cold spring and the excessive rain that followed. We have now, 1880, an immense crop, and I am having it well thinned, both to save the trees from exhaustion and to avoid damage as the weight increases. The trees are, with a few exceptions, extremely beautiful in form and proportion; they have, in their own way, mended most of their original irregularities, and the crop of this year will put a stop to their vigorous growth, which is certainly to be desired. The Winter Nelis is a fair example of the growth throughout, and demonstrates that non-pruning promotes fruitfulness, and fruitfulness checks growth; and thus the trees, being left alone, will, I expect, keep themselves pretty well within bounds.—J. E. SAUNDERS."

HARDY ORNAMENTAL ANNUALS.

AMONGST the many occupants of the flower-garden, the class of hardy and half-hardy annuals may be specially recommended to the notice of those who desire to utilise the beauty and variety to be imparted to their gardens and pleasure-grounds by the use of distinct types of ornamental plants. This has been well illustrated during the past summer by the exhibitions of annual flowers made by the Messrs. Carter and Co., at the gardens of the Royal Botanic and Royal Horticultural Societies.

The first special merit attaching to annuals is that they are within reach of everybody, since, for a comparatively small outlay, an abundant variety may be secured by any one who cares to grow them. A second recommendation is that the annuals are a hardy race, that need little or no coddling—at least, there are amongst them a large number which need but the simplest course of treatment. Thirdly, they afford a wide choice of colours, some of them furnishing hues of the most brilliant character. Fourthly, they can be cleared away at once when the bloom is over, to make way for their successors, since, of course, seed-saving in a tidily-kept garden is not to be thought of. And finally, though the blooming season may be brief, as compared with many of the bedding plants, they at least last as long in flower as the average number of bulbs or herbaceous plants, and can be much more easily brought under control, so as to furnish a succession of blossom. These are good qualities, which should secure for them a greater degree of popularity than at the present time they enjoy.

It may, perhaps, be urged that in the case of public gardens the necessity for a continuous display has led to their rejection, and the same objection might possibly be taken to their use in private establishments as materials for furnishing formal or geometrical gardens; but even here their introduction might be considered an advantage, in the eyes of those who object to the glare of a whole series of beds full of bright blossoms, since it would be comparatively easy to adopt a design which would admit of a well-balanced set of the beds being devoted to a succession of annuals, the first crop of which would possibly be quite coeval with the earliest summer bedding, and the second crop, while growing, would tone down the full summer blaze. This method of including a design within a design, we hold to be the most perfect of all arrangements for flower gardens, since it admits of introducing the different materials adopted for successive effects in winter, spring, summer, and autumn, in the same parterre; and though the successional pictures produced may be less gorgeous, the element of variety is constantly coming in, to add to the interest of the display. But irrespective of this, there are in all gardens, public and private, isolated or outlying places where annuals would not affect the symmetry of the arrangements, but where the variety they would impart would be most welcome; and there are also the mixed borders, to which they could be freely and very advantageously introduced.

As to the available materials, there are many perfectly hardy annuals of which three crops of flowers might be obtained during the season, by having recourse to sowing the seeds in autumn, in early spring, and later on in the spring months; while a little extra feeding, which is now so easily supplied by means of one or other of the many excellent concentrated fertilisers now in the market, of which Clay's, Jackman's, Gyde's, Stephens's, and the Flor-vitæ, are familiar examples, would supply all that would be required to support the successive crops, even if they were confined to the same plots, which possibly they need not be, in all cases. Of those kinds which would not en-

dure the winter, early and late spring sowings may be made with every prospect of success; and if the aid of preparatory pot-culture were here and there called in, the result might as surely be counted on as in the case of ordinary bedding subjects.

The extent of the available materials is very much beyond what we shall have space to refer to. To commence with the dwarf-growing, mass-flowering sorts—some of which may be sown in autumn in the reserve garden, slightly protected if the winter is severe, and brought into their flowering position with the first open weather of the early months of the year—there are the pink Silene pendula, and the rosy Saponaria calabrica; the azure Nemophila insignis, and many other sorts which present pretty variations in colour; the purplish Collinsia grandiflora, the paler-hued C. bicolor, and the blue and white C. verna, the last needing to be sown as soon as the seed ripens to ensure its germination; the brilliant crimson Linum grandiflorum, and the scarcely less brilliant Viscaria cardinalis; the simple but charming many-hued Virginian Stock; the taller lavender and rosy-tinted Leptosiphons, androsaceus and densiflorus, and the dwarfer, exquisite, deep rose and golden-orange L. roseus and aureus. There is, besides these, the Tagetes signata pumila, which when true is dense-growing, and lifts its golden-yellow blossoms just clear of its elegant foliage in long succession; there is the lovely Phlox Drummondii, of which the tints are numerous and extremely varied, and of which the self crimson variety is one of the richest-coloured flowers of the summer garden; there is the elegant dwarf blue and white Lupinus nanus, and other handsome kinds of taller growth; and there is the ever fresh and refreshing Mignonette, a welcome guest in every flower border, even though it may sometimes prove a little encroaching.

There are others of somewhat taller stature, which equally deserve a place in the garden of choice flowers, and which are for the most part equally amenable to treatment which will ensure a good succession of blossoms through a prolonged season. Delphinium Consolida is one of these, being of branching habit, with flowers of a brilliant blue, and of various other colours; also the double-flowered forms of D. Ajacis, with their hyacinth-like spikes also of various hues, which are both distinct and effective. Centaurea Cyanus, the Blue Cornbottle, is another most exquisite flower for the border, and also for cutting. Malope grandiflora, with its large, crimson, malvaceous flowers, is very telling. Several of the Lupines, *e.g.* Lupinus Hartwegii and Cruikshanksii, are bright floriferous plants of very free growth, and from their branching habit, they continue for a considerable period in bloom. Some of the Godetias are good effective annuals, especially G. Whitneyi, with its rose-crimson spotted flowers; and a selection from it called Lady Albemarle, with flowers of a glowing magenta-crimson. The new form of Calendula officinalis, called Meteor, is a pretty thing, the flowers being nicely striped; and a good strain of the old double deep-orange form of the same plant is very showy. The species of Calliopsis, of which it is, perhaps, not possible to count on more than one crop annually, are, nevertheless, very telling indeed, especially some of the finer forms of C. bicolor (Coreopsis tinctoria), and the large-flowered but dwarfer species, C. Drummondii and C. coronata.

In the half-hardy group, there are of Asters and Stocks alone an almost endless series, of which the choicer imported seeds may generally be depended on to produce something good. Some, as Balsams, Globe Amaranthus, and Coxcombs, and such things as Schizanthus and Salpiglossis, make admirable pot-plants. Beyond the above, there are all those perennials, which may be treated and flowered as annuals by the aid of a little judiciously applied heat in spring, amongst which we may instance Antirrhinums, Petunias, Mimuluses, Verbenas, and the Dianthuses of the Heddewigii and laciniatus types, the latter producing flowers which are simply gorgeous in their colouring, and which should never be omitted, as they require very little help in spring to be in full bloom in good time during the summer months.

Such of the foregoing as may be selected for the earliest spring-flowering should be sown at once.—T. Moore.

SUBURBAN GARDENING.

SEPTEMBER will bring in its rewards, the August month having been full of beneficence for the gardener, for a most welcome spell of dry weather happened just when it was much needed, and when, moreover, we were all beginning to fear a repetition of the wet summer of 1879.

Kitchen Garden.—The *Potato* crop is one that is causing much anxiety to the gardener. The dry weather has helped to assuage his fears, and he is enabled to get up his crops of the early sorts in good condition. It is satisfactory to know that in many cases, notwithstanding the prevalence of the disease, the early Potatos are generally satisfactory both in crop and quality, and the dry weather has materially checked the spread of the disease. We think it is a mistake to lift *main-crop Potatos*, before they are fully ripe; and there is the danger that many tubers will become diseased after the crop is lifted. *Late Potatos*, such as *Magnum Bonum* and *Champion*, have made a great growth, but up to the time of writ-

ing there is scarcely any sign of tubers being formed. Some *Cabbage* should be sown early in the month for spring use; the *Non-pariel*, under whatever new name it may be offered, and the *Enfield Market* are the best. The *Colewort* is an excellent early spring vegetable, and as soon as possible some seed should be sown to come in late in the winter and onwards. *Green-curled Endive* should be sown at the same time, and *Lisbon Onions* also; some *Prickly Spinach* for winter, and some *Early Snowball Turnips* once in three weeks or so. It will soon be time to harvest *Onions*, and they need to be well dried before they are stored away. Those who are fond of *Radishes* for winter salads can sow some of the *Black Spanish* or *Californian Mammoth*. *Celery* must be looked after as to earthing-up as required.

Fruit Garden. — Many villa gardeners are complaining of the presence of American blight on their fruit-trees, and are naturally anxious to know how to get rid of it. The best thing to do is to clean it off with a hard brush. We have known a mixture of paraffine and water used, but without great care there is danger to the young growths from the use of it. Spirit of turpentine has been recommended, but that also is injurious to the bark of the trees. "About the last week of this month," remarks a successful fruit cultivator, "and the beginning of next, go over the pyramid, espalier, and wall *Apples* and *Pears*, and remove all the superabundant wood that will have to be cut out at the winter pruning, as this will tend to develope the buds that are left, and cause them to throw out blossom-buds or incipient spurs."

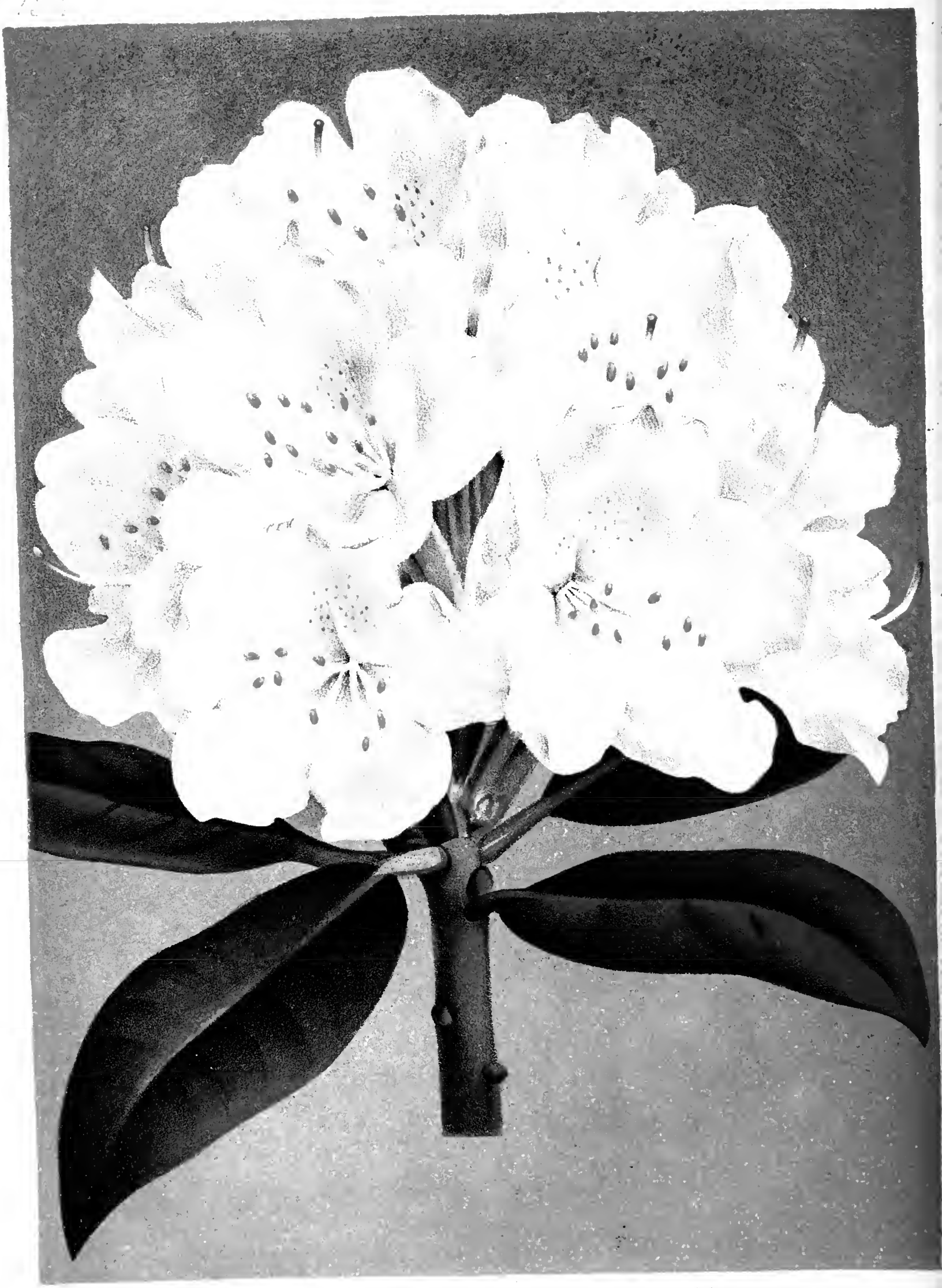
Flower Garden.—This department should now be at its gayest, as there is a wealth of subjects with which to make a summer display. There are *Asters*, *Pentstemons*, *Phlox Drummondii*, *Zinnias*, *Verbenas*, *Antirrhinums*, *Dianthus*, and many more fine annuals and biennials, that, in addition to making a pretty display, are so well suited to cut from. Some of the dwarf bouquet *Dahlias* should be in every garden. Now is the time to keep the beds and borders tidy, by removing decaying foliage and giving the soil a top-dressing. This will be all the more necessary, as the dry weather is likely to last. *Hollyhocks* and tall-growing *Dahlias* must be staked. The former are again showing the disease, and the best thing to be done is to keep the plants growing as vigorously as possible. This is a good time of the year for clipping *Box edgings*, and all hedges, excepting those of Laurel and Holly.

Cold Frames.—*Auriculas* in pots need to be frequently looked over, the decaying leaves removed, the surface-soil stirred, and green-fly brushed from the leaves. All spring-flowering *Bulbous plants* in pots that have lost their foliage will be benefited by top-dressing and water as required. *Cyclamens* in frames must be kept well shaded from the sun, and sprinkled occasionally over-head in dry weather. As *Gloxinias* and *Achimenes* go out of flower, they can be placed in the frame. Clumps of *Christmas Roses* that have made a good summer growth may now be lifted, divided, and potted up for early flowering in the greenhouse.

Greenhouse.—There should now be no lack of flowering plants, and to keep them watered and clean and tidy is the principal work of the gardener. As plants go out of bloom, they can be placed out of doors, under the shade of a hedge, but kept watered; any that are not worth preserving can be thrown away. Where the more delicate kinds of *Ericas* and *New Holland plants* are grown, it is best to keep them in a cold frame, as a matter of precaution, but the lights may be altogether removed as frequently as possible. Air should be given freely at night, under any circumstances. The young plants of *Primulas*, *Calceolarias*, and *Cinerarias* must be well looked after, and kept growing on for winter. *Berried Solanums* and *Chrysanthemums* will be coming on for autumn; the former should be kept comfortable, and watered with manure-water occasionally, to enable them to set their berries. *Chrysanthemums* in pots will now need plenty of water overhead, and at their roots, in order to be as vigorous and healthy as possible. Those who have the command of heat should pot up a few early white *Roman Hyacinths*, to grow on for flowering in November and December. Forcing plants, such as *Deutzia, Kalmia*, *Azalea*, *Rhododendron*, &c., should be looked after, and prepared for moving into the forcing-house by-and-by.—SUBURBANUS.

PROPAGATING DOUBLE PRIMULAS.

MANY persons experience difficulty in their attempts to propagate the double-flowered varieties of the Chinese Primula. Mr. Gilbert, of Burghley, who has been successful in raising several very fine new varieties, appears to be more successful. The plan adopted by him is to ripen the cuttings thoroughly, by keeping the plants short of water for some time previous to their being taken off—not, however, to the extent of causing them to flag. Each cutting is taken off with a heel, and potted separately in a thumb-pot, in a compost of very sandy loam. They are then plunged in a close hand-glass, some charcoal being sprinkled amongst the pots, to absorb the moisture that is certain to rise. No water is given as long as the foliage shows no signs of flagging, and when this does occur, they get very little. The glass is shaded from



RHODODENDRON HYBRIDE BOULE DE NEIGE

the sun until roots are formed, which, on the average, is in about six weeks from the time of putting in the cuttings. When treated in this way, nine out of every ten cuttings put in may be expected to grow. When the young plants get well rooted, they must be potted on into larger pots. The compost best suited for them at this stage is sandy loam, with some rotten manure added, and also a liberal proportion of small nodules of charcoal. To keep the plants in vigour, no flowers should be allowed to be produced after the last week in March. If the remaining flowers are removed at that time, and the plants are treated to a rich surface-dressing, they will each produce a good many cuttings by May, when they should be taken off and treated in the manner briefly sketched above.—T. M.

RHODODENDRON BOULE DE NEIGE.

[PLATE 522.]

THIS variety, which is said to be a cross between *Rhododendron Catesbæi* and *Azalea liliiflora*, attracted much notice at the Paris Exhibition of 1878, where it was represented — so we read — by 500 plants, covered with flowers. M. Carrière describes it in the *Revue Horticole* as "a dwarf and early-flowering variety, with large trusses of fine white flowers, that fully justify the name 'Boule de Neige,' which has been given to it." Besides being very floriferous, it is said to be a small shrub, compact in habit, and therefore suitable for being employed for forcing. Being perfectly hardy, it may be used in the open ground, to surround groups of varieties with coloured flowers. M. Carrière, however, adds that its habit of flowering at the beginning of May exposes its blossoms to injury from spring frosts, in situations where these have to be dreaded.

It is further stated of this variety, which was raised by M. Oudin, of Lisieux, that flower-buds are formed by it with such facility that grafts of one year old frequently produce them; and that in the rainy seasons, when buds are formed with difficulty on other varieties, this is always abundantly provided with them. M. Oudin adds that the rough winter of 1879-80 has fully tested its hardiness, since it has borne the excessive cold in the north and the east of France; and in the environs of Paris, in Belgium and in Germany has preserved the freshness of its foliage.—M.

NATIONAL CARNATION AND PICOTEE SOCIETY.

SOUTHERN SECTION.

THE blooming season of the Carnation and Picotee—those sweetest and for town gardens most accommodating of summer flowers — has come and gone. How different from the Southern Show of last year! Then, even with the aid of extra heat, it was only possible to hold the Show on August 12th; now, with all the available means of retarding them, they were at their best by July 20th, just a week before the Show. The consequence was that the display was not so good as it might have been, for the difference of date was not enough to let in the northern growers; and, taking it on the whole, it was not so good as that of last year, as the growers can always show better on a rising than a fading bloom. Nevertheless, there were many good flowers exhibited, and few bad ones. Our esteemed and veteran friend, Mr. Dodwell, found his flowers much past their best, and had to cut nearly all side-blooms. The southern champion trade grower, Mr. Turner, too, notwithstanding that he showed some magnificent Picotees, had not hit the day with his Carnations, which were past their best, although he exhibited some superior well-flowered plants in pots. Mr. Douglas, another of the principal southern exhibitors, was rather better than last year, though most of his flowers were side-blooms. The class awards were as follows:—

CARNATIONS.

Class A. 24 blooms, 12 dissimilar.—1st, E. S. Dodwell, Esq., 11 Chatham Terrace, Larkhall Rise, Clapham, with Ben Simonite, S.F.; Rifleman, C.B. (two blooms); Thomas Moore, C.B.; John Ball, S.F. (two blooms); Robert Lord, S.B.; William Murray, C.B. (two blooms); John Keet, R.F.; R. Holiday, C.B. (two blooms); J. D. Hextall, C.B.; A. Medhurst, S.B.; Seedling, C.B.; Admiral Curzon, S.B. (two blooms); Florence Nightingale, P.F.; Seeding, S.F.; a scarlet-flake sport from Admiral Curzon; Squire Meynell, P.F.; Dr. Masters, P.P.B.; George Rudd, S.B.; and Unexpected, P.P.B. 2nd, Mr. James Douglas, gr. to F. Whitbourn, Esq., Loxford Hall, Ilford, with Isaac Wilkinson, C.B.; Earl of Stamford, P.F. (two blooms); Campanini, S.B.; John Keet, R.F.; Falconbridge, P.P.B.; Dreadnought, S.B.; Lord Lewisham, S.B.; Juno, P.F.; Admiral Curzon, S.B.; Sibyl, R.F.

(two blooms); Sarah Payne, P.P.B.; J. D. Hextall, C.B. (two blooms); Crimson Banner (Simonite), C.B.; Mayor of Nottingham, P.F.; Sportsman, S.F.; Unexpected, P.P.B.; Albion's Pride, C.B.; Mars, S.B.; Florence Nightingale, P.F.; Clipper, S.F.; and John Simonite, C.B. 3rd, Mr. Turner, with Mary Ann, R.F.; Ajax, P.F.; Jessica, R.F.; Albert Chancellor, C.B.; President, P.F.; Sibyl, R.F.; Rifleman, C.B. (two blooms); James Carter, R.F.; Flirt, S.F.; James Taylor, P.P.B.; William IV., S.F. (two blooms); Florence Nightingale, P.F. (two blooms); Princess Beatrice, P.P.B.; Thomas Moore, C.B.; Faust, S.F.; Figaro, S.B.; Admiral Curzon, S.B. (two blooms); and Lady Peel, P.F. 4th prize withheld. 5th, Mr. H. Hooper, Bath.

Class B. 12 blooms, dissimilar (amateurs only).—1st, E. S. Dodwell, Esq., with Master Fred (Hewitt), C.B.; Robert Lord, S.B.; Squire Llewelyn, P.P.B.; John Keet, R.F.; Admiral Curzon, S.B., a lovely bloom, which subsequently was proclaimed the premier; Sarah Payne, P.F. sport; John Ball, S.F.; Rifleman, C.B.; Thomas Moore, C.B.; Florence Nightingale, P.F.; and Mrs. Tomes, R.F. 2nd, Mr. Douglas, with William Spoor, S.B.; Earl of Stamford, P.F.; James Taylor, P.P.B.; Sibyl, R.F.; John Keet, R.F.; Sarah Payne, P.P.B.; James Cheetham, C.B.; James Merryweather, P.P.B sport; Sportsman, S.F.; Lord Lewisham, S.B.; Crimson Banner, C.B.; and Mary Ann, R.F. 3rd, Mr. J. Hines, Ipswich, with James Merryweather, R.F.; Eccentric Jack, C.B.; Sarah Payne, P.P.B.; James Douglas, P.F.; Ajax, R.F.; Sibyl, S.F.; Sportsman, S.F.; James Taylor, P.P.B.; Admiral Curzon, S.B.; J. D. Hextall, C.B.; Sir Joseph Paxton, S.B.; and Clipper, S.F. 4th, Mr. J. Matthews, Wandsworth Road, with flowers not named. 5th, Mr. John Buxton, Manor Street, Clapham, with J. Harland, P.P.B.; Clipper, S.F.; Sarah Payne, P.P.B.; John Keet, R.F.; Mercury, S.B.; J. D. Hextall, C.B.; Purity, P.P.B.; Mars, S.B.; Dan Godfrey, S.F.; Albion's Pride, C.B.; Lovely Ann, R.F.; and Eccentric Jack, C.B. 6th, Mr. H. Catley, Bath, with flowers not named.

Class C. 6 blooms, dissimilar (amateurs only).—1st, Mr. A. Medhurst, Priory Road, S.W., with Admiral Curzon, S.B.; Sarah Payne, P.P.B.; Mrs. Tomes, R.F.; Colonel North, P.P.B.; Squire Meynell, P.F.; and John Bayley, S.F. 2nd, Master H. Matthews, Wandsworth Road, S.W., with John Bayley, S.F.; Unexpected, P.P.B.; Sarah Payne, P.P.B.; Admiral Curzon, S.B.; J. D. Hextall, C.B.; and Rifleman, C.B. 3rd, Dr. Abercrombie, Cheltenham, with Rosalind, R.F.; Ajax, P.F.; Florence Nightingale, P.F.; Lord Milton, C.B.; Seedling, S.F.; and Albion's Pride, C.B.

Class D. Single blooms, in classes.—*Scarlet Bizarres:* 1st, Mr. Turner, with Admiral Curzon. 2nd and 3rd, Mr. Dodwell, with Fred; 4th, with Admiral Curzon; and 5th, with Arthur.—*Crimson bizarres:* 1st and 2nd, Mr. Douglas, with Rifleman. 3rd, Mr. Dodwell, with a Seedling. 4th, Mr. Douglas, with Rifleman; and 5th, with Jenny Lind.—*Pink and Purple Bizarres:* 1st and 4th, Mr. Turner. 2nd, Mr. J. Hines; and 3rd, Mr. Douglas, with Sarah Payne. 5th, Mr. Turner, with James Taylor.—*Purple Flakes:* 1st, 2nd, and 3rd, Mr. Douglas, with Earl of Stamford. 4th, Mr. Turner, with Osmond. 5th, Mr. Dodwell, with a Seedling.—*Scarlet Flakes:* 1st, Mr. Turner, with Jupiter. 2nd, Mr. Douglas, with John Bayley. 3rd, Mr. Dodwell, with a Seedling. 4th and 5th, Mr. Douglas, with Sportsman.—*Rose Flakes:* 1st, Mr. Dodwell, with a Seedling. 2nd, Mr. Hooper, with Sibyl. 3rd, Mr. Douglas, with John Keet. 4th, Mr. Dodwell, with a Seedling. 5th, Mr. Douglas, with John Keet.

The *Premier Carnation*, selected from the whole exhibition, a remarkably correct flower of Admiral Curzon, was shown by Mr. E. S. Dodwell.

PICOTEES.

Class E. 24 blooms, 12 dissimilar.—1st, Mr. Turner, Royal Nurseries, Slough, with Her Majesty, L.P.; Dr. Abercrombie, H.R.; Lady Salisbury, L.R.; Constance Heron, H.S.; Clara Penson, L.P.; Baroness Burdett-Coutts, L.P.; Lucy, L.RO.; Zerlina, H.P.; Brunette, H.R.; Lady Carrington, L.RO.; Mrs. Albert Chancellor, H.P.; Princess Mary, L.R.; Lady Boston, L.RO.; Mrs. Payne, M.RO.; J. B. Bryant, H.R.; Royal Visit, H.RO.; Rev. J. B. M. Camm, H.P.; and Louisa, M.RO. 2nd, Mr. Douglas, with Royal Visit, H.RO.; Brunette, H.R.; Mrs. Payne, H.RO.; Mrs. Bower, L.R.; Nymph, L.P.; Zerlina, H.P.; Ethel, M.RO.; Mary, L.P.; J. Smith, H.R.; Estelle, L.RO.; Alliance, H.P.; Jessie, L.P.; J. B. Bryant, H.R.; Princess of Wales, H.R.; Mrs. Douglas, M.P.; Thomas William, L.R.; Edith Dombrain, H.RO.; and Minnie, L.P. 3rd, E. S. Dodwell, Esq., with Tinnie, H.P. seedling; Ethel Daisy, M.RO.; Edith Dombrain, H.RO.; Jessie, L.P.; Royal Visit, H.RO.; Zerlina, H.P.; Miss Gorton, L.RO.; Alliance, H.P.; Mrs. Payne, H.RO.; Mrs. Dodwell, H.R.; Medina, H.P.; Dr. Epps, H.R.; Novelty, bizarre-edged P.; Lizzie Tomes, H.P.; Minnie, L.P.; Morna, H.R.; Ann Lord, L.P.; Fanny Helen, H.RO.; and Mrs. Summers, H.P. 4th, Mr. T. S. Ware, Tottenham, with Mrs. Rayner, H.R.; Beauty of Cheltenham, H.P.; Royal Visit, H.RO.; Rival Purple, H.P.; Mrs. Ingleton, H.P.; Beauty of Plumstead, L.R.; Seedling, L.P.; Red Braes, H.P.; Fanny Helen, H.RO.; Flower of the Day, H.S.; Edith Dombrain, H.RO.; Mrs. Niven, H.P.; Seedling, L.RO.; Chanticleer, H.P.; Mrs. Keynes, L.R.; Thomas William, L.R.; Mrs. Fordham, H.RO.; and Isabel, H.P. 5th, Mr. H. Hooper, with Lord Rosedale, H.R.; Mrs. Fordham, H.RO.; Novelty, bizarre-edged P.; Morning Star, M.S.; J. B. Bryant, H.R.; Malvina, L.RO.; Mary, L.P.; Seedling, L.P.; Isabella, H.RO.; Mrs. Pelley, H.RO.; Estelle, L.RO.; Alliance, H.P.; Grand Duchess, L.P.; Lady Louisa, H.RO.; Mrs Tatton, L.P.; Gaiety, H.R.; Beauty of Bath, L.RO.; Seedling, L.P.; Penelope, H.R.; and Waverley, H.RO.

Class F. 12 blooms, dissimilar (amateurs only).—1st, Mr. Douglas, with Brunette, H.R.; Thomas William, L.R.; Zerlina, H.P.; Rev. F. D. Horner, M.R.; Mrs. Payne, L.RO.; Miss Williams, L.RO.; Mary, L.P.; Edith Dombrain, H.RO.; Norfolk Beauty, H.P.; Nymph, L.P.; Ethel, M.RO.; and Morna, H.R. 2nd, E. S. Dodwell, Esq., with Tinnie, H.P.; Edith Dombrain, H.RO.; Mrs. Payne, H.RO.; Alliance, H.P.; Minnie, L.P.; Mrs. Dodwell, H.R.; Novelty, bizarre-edged P.; Ethel, M.RO.; Mrs. Matthews, H.P.; Lady Louisa, H.RO.; Fanny Helen, H.RO; and Lizzie Tomes, H.P. 3rd, Mr. J. Matthews, with flowers not named. 4th, Mr. J. Hines, with Rev. J. B. M. Camm, H.P.; Mrs. Payne, H.RO.; King of Purples, H.P.; Miss Williams, L.RO.; Seedling, L.R.; Princess of Wales, H.R.; Clara, L.R.; J. B. Bryant, H.R.; Fanny Helen, H.RO.; Mary, L.P.; Alliance, H.P.; and Lady Louisa, H.RO. 5th, Mr. J. Buxton, with Zerlina, H.P.; Ethel, M.RO.; Mrs. Dodwell, H.R.; Edith Dombrain, H.RO.; Victoria, L.RO.; John Smith, H.R.; Thomas William, L.R.; Seedling, L.P.; Miss Horner, M.RO.; Violet Douglas, L.P.; Princess of Wales, H.R.; and Alliance, H.P. 6th, Mr. H. Catley, with flowers not named.

Class G. 6 blooms, dissimilar (amateurs only).—1st, Mr. A. Medhurst, with Edith Dombrain, H.R.; Alliance, H.R.; Mrs. Dodwell, H.R.; Thomas William, L.R.; Zerlina, H.P.; and Miss Lee, M.RO. 2nd, Master Harry Matthews, with Miss Lee, M.RO.; Alice, M.P.; Mary, L.P.; Mrs. Lord, H.RO.; Fanny Helen, H.RO.; and John Smith, H.R. 3rd, Dr. Abercrombie, with Beauty of Cheltenham, L.P.; Victoria, L.RO.; Mrs. Allcroft, L.RO.; Lady Louisa, H.RO. Seedling, H.R.; and Seedling M.R.

Class H. Single blooms in classes:—*Red heavy-edged:* 1st, 2nd, and 4th, Mr. Douglas, with Brunette,

and 3rd with J. B. Bryant. 5th, Mr. Turner, with J. B. Bryant.—*Red, light-edged:* 1st, 2nd, and 3rd, Mr. Douglas, with Thomas William. 4th, Mr. Hooper, with Grand Duchess. 5th, Mr. J. Hines, with Clara.—*Purple, heavy-edged:* 1st, Mr. Douglas, with Zerlina. 2nd, 3rd, and 4th, Mr. Turner, with Mrs. A. Chancellor. 5th, Mr. Dodwell, with a Seedling.—*Purple, light-edged:* 1st and 2nd, Mr. Turner, with Her Majesty; 3rd, with Clara Penson; and 4th, with Baroness Burdett-Coutts. 5th, Mr. Dodwell, with Ann Lord.—*Rose and scarlet, heavy-edged:* 1st, 3rd, and 5th, Mr. Turner, with Mrs. Payne; 2nd, with Royal Visit; and 4th, with Fanny Helen.—*Rose, light-edged:* 1st, Mr. Turnor, with Mrs. Allcroft. 2nd, Mr. Hines, with Mrs. Allcroft. 3rd and 5th, Mr. Hooper, with Beauty of Bath. 4th, Mr. Turner, with Lucy.—*Yellow grounds:* 1st, Mr. Turner, with Miss Abercrombie. 2nd, Mr. Douglas, with Princess Beatrice. 3rd, Mr. Turner, with Lady Biddulph; 4th, with Metoor, and 5th with Lightning.

The *Premier Picotee* was a grand bloom of Baroness Burdett-Coutts, shown by Mr. Turner in his stand of twenty-four.

MISCELLANEOUS: YELLOW-GROUNDS, SELFS, ETC.

Class I. 24 blooms, not less than 12 dissimilar.—1st, Mr. Turner, with Constance, Duke of Connaught, Lady Rosebery, Martial, Elegant, Harry Bertram, Zelinda, Rosa Bonheur, Captain Dalgety, Alice Ann, Mary, Flirt, Mrs. Matthews, Field-Marshal, Phœbus, Gem, Purple Gem, Eurydice, Elysian Beauty, and Cupid. 2nd, Mr. Douglas. 3rd, Mr. H. Hooper. 4th, Mr. T. S. Ware. 5th, Mr. J. Matthews.

Class K. 12 blooms, dissimilar.—1st, E. S. Dodwell, Esq. 2nd, Mr. A. Medhurst. 3rd, Mr. H. Catley. 4th, Dr. Abercrombie.

Class L. 12 specimen plants in pots, dissimilar.—1st, Mr. Turner, with nicely-bloomed examples of Queen of Summer, Louisa, Mrs. A. Chancellor, Lothair, Her Majesty, Lady Boston, Lord Chelmsford, Mrs. Matthews, Mrs. Payne, Miss Small, Juliana, and Rifleman. 2nd, Mr. Douglas, with Prince of Orange, Fanny Helen, Lothair, Falconbridge, Lord Lewisham, Mrs. Niven, Cleopatra, Her Majesty, Brunette, Rifleman, Clipper, and J. B. Bryant.

NOVELTIES.

CARNATIONS: *Scarlet Bizarres.*—Mr. Dodwell exhibited again, as last year, several promising seedlings. Of these *Robert Lord* is the best, though the highest honours fell to *Fred*, which has a good smooth petal, very pure white, and is well marked. *Arthur Medhurst*, as shown, is a larger flower, very bright in the scarlet, but not so pure white; and Robert Lord is a very distinct and most desirable variety. Each of these was awarded a First-class Certificate. The 1st prize was awarded to Fred, and the 2nd to Arthur Medhurst, as the best seedlings in this class.

Crimson Bizarres were also good. Mr. B. Simonito had *Crimson Banner*, a very nicely-coloured flower, from Warrior, crossed with Lord Milton, which gained the 1st prize. *Master Fred* (Hewitt), exhibited by Mr. Dodwell, was also very distinct, and had a good petal, the markings broad and well defined; it took the 2nd prize in this class. Each received a First-class Certificate. Another fine flower shown in this class was *Thomas Moore*, very richly coloured, both the purple and crimson being bright; it is evidently raised from Albion's Pride.

Pink and Purple Bizarres are still scarce, and the one placed highest on the list would by some fanciers be placed in the crimsons; it is named *Squire Llewelyn*, and was raised by Mr. Dodwell from Albion's Pride, is rather like that flower, but much superior in width of petal; it received, and well deserved, a First-class Certificate. *Princess Beatrice* is a light, chaste flower, sent by Mr. Turner; this received the 2nd prize as the best seedling, the 1st prize going to Squire Llewelyn.

The new *Purple Flakes*, as shown, were not worthy of notice, as compared with the old varieties. Mr. Dodwell received the 1st prize for a seedling, *Thomas Bower*; and Mr. Douglas the 2nd for a sport, *Freedom*.

Scarlet Flakes were good, two varieties being selected for First-class Certificates: *Figaro* (Abercrombie), exhibited by Mr. Turner, which has beautifully rounded, well-marked petals; and *John Ball* (Dodwell) a promising flower, but, as shown, rather lacking pureness, though the petals are well formed and the markings good. Figaro and John Ball gained the seedling prizes in the order of their names. Mr. Dodwell exhibited a distinct sport from Admiral Curzon, which he thinks better than either, but it was not so as shown.

Rose Flakes were not so numerous, but Mr. Turner exhibited one named Jessica; it was a very good flower, but thought by the judges to be too much like Sibyl. This gained the 1st prize as a seedling, and another, named Mrs. Matthews, from Mr. Dodwell, the 2nd.

PICOTEES: *Red-edges* yielded no good seedling.

Purple-edges—Baroness Burdett-Coutts, received the 1st prize, and Clara Penson the 2nd in the light-edged class, both from Mr. Turner; they were certificated last year. In the heavy-edged class, Mrs. Chancellor, which has been exhibited before, was again shown very fine by Mr. Turner; it gained the 1st prize in this class; Tinnio, from Mr. Dodwell, was 2nd; this last is a very promising full flower, though rather rough as shown.

Rose-edges.—In light rose-edges Mr. Dodwell obtained both the prizes, the 1st with Miss Gorton, a promising flower which may come of a brighter colour in the north; and the 2nd with Ethel Daisy. In the heavy-edged class only one flower was shown, but it is a good one, and was much better than when exhibited last year; its name is Constance Herou (Turner); there are only three decent flowers of this colour—Juliana, Rosy Queen, and Obadiah, and it is sufficient to say this is better than either; Mr. Turner received a first-class certificate, and the 1st prize for it, as a seedling.

Selfs and Yellows.—Neither in the class for yellow Picotees, nor in that of the Selfs, were any new flowers shown of sufficient merit to receive any distinguishing mark.

The judges for the open classes, twenty-four blooms, miscellaneous, and plants in pots, were Mr. Moore, Mr. Gorton, and Mr. John Fraser; for the amateurs, Mr. Charles Turner, Mr. John Ball, and Mr. George Rudd; for the single specimens, Mr. B. Simonite and Mr. Kirtland, whose awards obtained universal approbation.

NORTHERN SECTION.

THE exhibition of the Northern Section of the Society was held in the Botanical Garden, Old Trafford, Manchester, on August 14th, and was a great success. By common opinion, it was the finest exhibition yet held by the Society in the North, and when

the difficulties created by the abnormal character of 1879, and the unpropitious influences of July and early August for the development of flowers are taken into account, the display did great credit to the several contributors, and was a splendid example of what may be effected with the simplest means, when accompanied with the watchful, patient perseverance and skill characterising the possessor and sustainer of the genuine floral fire. As is generally the case, the character of the season was marked in the productions of most of the contributors, and while some had brought flowers from a waning bloom, others had caught the very day.

CARNATIONS.

Class A. 12 blooms, dissimilar.—1st, Richard Gorton, Esq., The Woodlands, Gildabrook, Eccles, with William Skirving, C.B.; James Cheetham, S.F.; Earl of Wilton, P.F.; Seedling, R.F.; Seedling, R.F.; Seedling, C.B.; Admiral Curzon, S.B.; Rifleman, C.B., ex. ex.; Seedling, C.B., especially fine; Seedling, R.F., very rich; Seedling, C.B.; and Seedling, R.F.—a fine stand of admirably grown, well balanced, and well contrasted flowers. 2nd, Mr. George Rudd, Undercliffe, near Bradford, with Mars, S.B.; Sibyl, R.F.; Dan Godfrey, S.F.; Lord Milton, C.B.; Lord Napier, S.B.; Admiral Curzon, S.B.; James Taylor, P.P.B., and five seedlings—a well-grown collection, and might have taken first place, but that the hand of the dresser had been somewhat too heavy on one or two of the flowers. 3rd, Mr. B. Simonite, Rough Bank, Sheffield, with Mayor of Nottingham, P.F.; Albion's Pride, C.B.; Sibyl, R.F.; Sportsman, S.F.; Seedling, S.B.; Seedling, S.B.; James Douglas, P.F.; James Taylor, P.P.B.; Joseph Crossland, S.B.; Seedling, S.B.; Mrs. Battersby, S.F.; and Seedling, S.B.—a stand of large, well-grown flowers, but, unfortunately, waning in their beauty. 4th, Mr. John Beswick, Middleton. 5th, Mr. E. Booth, Moberley. 6th, Mr. Jon. Booth, Failsworth. This was a fine class, the competition being very close, and well-sustained even to the end.

Class C. 12 blooms, 9 dissimilar.—1st, Mr. Thomas Mellor, Ashton-under-Lyne, with Sibyl, R.F.; Jas. Douglas, P.F.; Crista-galli, R.F.; James Taylor, P.P.B.; Sarah Payne, P.P.B.; Admiral Curzon, S.B.; Dan Godfrey, S.F.; Sibyl, R.F.; Ivanhoe, P.P.B.; Juno, R.F.; Rifleman, C.B.; Lord Rancliffe, S.B. 2nd, Mr. William Taylor, Middleton, with Crista-galli, R.F.; William IV., S.F.; James Taylor, P.P.B.; Crista-galli, R.F.; Lovely Ann, R.F.; Lady Peel, R.F.; Admiral Curzon, S.B.; Lord Milton, C.B.; Admiral Curzon, S.B.; Clipper, S.F.; James Merryweather, R.F.; and Annihilator, S.F. 3rd, Mr. John Fletcher, Low Moor, Bradford, with Mars, S.B. (two); Sibyl, R.F.; Lord Napier, S.B. (two); Juno, P.F.; Dan Godfrey, S.F.; and five seedlings. 4th, Mr. James Sharp, with Garibaldi, S.B.; President, P.F. (two); Mars, S.B.; Sibyl, R.F. (two); Eccentric Jack, C.B.; Unexpected, P.P.B.; Jas. Merryweather, C.B.; Jas. Merryweather, R.F.; Admiral Curzon, S.B.; and Seedling. 5th, Mr. Joseph Chadwick, Dukinfield. 6th, Mr. Wm. Slack, Chesterfield.

Class E. 6 blooms, dissimilar.—1st, Samuel Barlow, Esq., Stakehill House, Castleton, Manchester, with Sportsman, S.F.; James Taylor, P.P.B.; J. D. Hextall, C.B.; Jas. Merryweather, R.F.; Squire Meynell, P.F.; and Admiral Curzon, S.B.—a fine stand, well grown, and well set up, and though without competitors, quite worthy the 1st prize awarded.

Class G. Single blooms, in classes.—*Scarlet Bizarres.*—1st and 4th, Mr. John Beswick, with Admiral Curzon. 2nd, Mr. John Fletcher, with Mars. 3rd, Mr. T. Mellor, with Admiral Curzon. 5th, Mr. B. Simonite, with Seedling. 6th, Mr. Wm. Taylor, with Admiral Curzon.—*Crimson Bizarres.*—1st, 2nd, and 3rd, Mr. Hewitt, with Master Fred. 4th, Mr. Jon. Booth, with Black Diamond. 5th, Mr. Jos. Chadwick, with Lord Milton. 6th, Mr. John Fletcher, with Seedling.—*Pink and Purple Bizarres.*—1st, Mr. John Beswick, with Falconbridge. 2nd, 5th, and 6th, Mr. W. M. Hewitt, with Sir Garnet Wolseley. 3rd, Mr. Thos. Mellor, with Falconbridge. 4th, Mr. W. Taylor, with Falconbridge.—*Scarlet Flakes.*—1st, Mr. John Booth, with Clipper; 2nd, Mr. Ben Simonite, with Clipper; 3rd, Mr. H. Taylor, with Clipper. 4th, Mr. Jas. Sharp, with Curzon sport. 5th, Mr. Robt. Lord, with Clipper. 6th, Mr. Wm. Taylor, with William IV.—*Purple Flakes.*—1st, 2nd, 3rd, 4th, and 6th, Mr. Robt. Lord, with Dr. Foster. 5th, Mr. John Beswick, with Mayor of Nottingham.—*Rose Flakes.*—1st, Mr. John Beswick, with Jas. Merryweather. 2nd, Mr. G. Rudd, with Seedling. 3rd, Mr. R. Lord, with Sibyl; and 4th, with Mrs. Dodwell. 5th, Mr. John Fletcher, with Sibyl. 6th, Mr. R. Gorton, with Crista-galli.

The *Premier Carnation* selected from the whole exhibition was Master Fred, C.B., exhibited by Mr. W. M. Hewitt.

PICOTEES.

Class B. 12 blooms, dissimilar.—1st, Mr. John Beswick, Middleton, with Miss Wood, L.RO.; Lord Valentia, H.R.; Miss Horner, H.RO.; Mary, L.P.; Zerlina, H.P.; Mrs. Allcroft, L.RO.; Ann Lord, L.P.; Mrs. Lord, H.RO.; Minnie, L.P.; Edith Dombrain, H.RO.; Violet Douglas, L.R.; and Mrs. Harland. 2nd, Mr. Jonathan Booth, Failsworth, Manchester, with J. B. Bryant, H.R.; Ethel, M.RO.; Mrs. Bower, L.R.; Brunette, H.R.; Zerlina, H.P.; Master Norman, H.R.; Mary, L.P.; Miss Lee, M.RO.; Edith Dombrain, H.R.; Minnie, L.P.; Mrs. Allcroft, L.RO.; and Medina, H.P. 3rd, Mr. E. Booth, Moberley, with Brunette, H.R.; Mary, L.P.; Miss Wood, L.RO.; Zerlina, H.P.; Mrs. Summers, H.P.; Mrs. Allcroft, L.RO.; John Smith, H.R.; Minnie, L.P.; Miss Horner, M.RO.; Wm. Summers, M.R.; Mrs. Lord, H.RO.; and Medina, H.P. 4th, Mr. James Sharp, Perry Bar, near Birmingham, with John Smith, H.R.; Mrs. Payne, H.RO.; Mrs. Niven, H.P.; Royal Visit, H.RO.; Mary, L.P.; Minnie, L.P.; and six seedlings. 5th, Mr. George Rudd. 6th, Mr. B. Simonite.

Class D. 12 blooms, 9 dissimilar.—1st, Mr. Thomas Mellor, Ashton-under-Lyne, with Ann Lord, L.P.; Norfolk Beauty, H.P.; Mary, L.P. (two), Mrs. Lord, H.RO.; Miss Wood, L.RO.; Violet Douglas, L.P.; Miss Horner, M.RO.; Master Norman, H.R.; Rosy Queen, H.RO.; J. B. Bryant, H.R.; and Bertha, L.RO. 2nd, Richard Gorton, Esq., Eccles, with J. B. Bryant, H.R.; Mary, L.P. (two); Mrs. Nicholl, M.RO. (two); Allianee, H.P.; Lady Louisa, H.RO.; Seedling, L.P. (two); Purity, H.RO.; Zerlina, H.P.; and Mrs. Hanaford, L.P. 3rd, Mr. William Taylor, Middleton, with Seedlings (four); Mrs. Lord, H.RO.; J. B. Bryant, H.R.; Mary, L.P.; Mrs. Allcroft, L.RO.; Ann Lord, L.P. (two); Wm. Summers, M.R.; and Miss Wood, L.RO. 4th, Mr. Joseph Chadwick, Dukinfield. 5th, Mr. John Fletcher, Low Moor, Bradford.

Class F. 6 blooms, dissimilar.—1st, Samuel Barlow, Esq., with Alice, M.P.; Fanny Helen, H.RO.; Master Norman, H.R.; Ann Lord, L.P.; Mary, L.P.; and Edith Dombrain, H.RO.—like the Carnations from the same contributor, these were well-grown and well-selected flowers. 2nd, Mr. Wm. Slack, Chesterfield, with Mary, L.P.; Her Majesty, L.P.; Mrs. Auckland; Mrs. Payne, H.RO.; Miss Williams, L.RO.; and J. B. Bryant, H.R. 3rd, Mr. Sharp, Perry Bar, Birmingham.

Class G. Single blooms in classes.—*Red, heavy-edged:* 1st and 6th, Mr. Jon. Booth, with J. B. Bryant and Brunette. 2nd, 3rd, and 5th, Mr. John Beswick, with Lord Valentia. 4th, Mr. G. Rudd, with Master Norman.—*Red, light-edged:* 1st, Mr. Ben. Simonite, with Seedling. 2nd and 5th, Mr. Robert Lord, with Clara. 3rd, Mr. John Beswick, with Violet Douglas. 4th and 6th, Mr. T. Mellor, with Violet Douglas.—*Purple, heavy-edged:* 1st, Mr. Jon. Booth, with Zerlina. 2nd, Mr. Jas. Chadwick, with Alliance. 3rd, Mr. B. Simonite, with Zerlina. 4th, Mr. B. Simonite, with Mrs. Niven. 5th and 6th, Mr. J. Chadwick, with Miss Chadwick.—*Purple, light-edged:* 1st, Mr. T. Mellor, with Ann Lord. 2nd, Mr. John Beswick, with Minnie. 3rd, Mr. R. Gorton, with Minnie. 4th, Mr. Jon. Booth, with Minnie. 5th, Mr. John Beswick, with Minnie. 6th, Mr. B. Simonite, with Mary.—*Rose, heavy-edged:* 1st, 2nd, 3rd, and 4th, Mr. Robert Lord, with Miss Horner. 5th, Mr. John Beswick, with Miss Horner. 6th, Mr. Wm. Slack, with Mrs. Payne.—*Rose, light-edged:* 1st, 2nd, 4th, and 5th, Mr. Robert Lord, with Miss Wood. 3rd, Mr. John Beswick, with Miss Wood. 6th, Mr. Jon. Booth, with Mrs. Allcroft.

The *Premier Picotee* selected from the whole exhibition, was Miss Horner, exhibited by Mr. R. Lord.

Novelties.

The exhibitions of the Society, both North and South, are influencing in a large degree the cultivation of these flowers. This is manifest in the number of good seedlings being brought forward, which is correspondingly great. In the South, the Rev. Mr. Fellowes and Dr. Abercrombie have long been at work; and in the North, Mr. Hewitt, Mr. Simonite, and Mr. Gorton respectively have originated varieties of the highest character and greatest merit. Mr. Gorton, in his stand of twelve dissimilar Carnations, which took the 1st place, had four seedling Rose Flakes and three Crimson or Pink and Purple Bizarres respectively, remarkable for high character, quality, and beauty of development. One only was named —William Skirving—after the late father of Mrs. Gorton, a gentleman so long and honourably associated with floriculture, and is worthy of the respected name it bears. Each of the others, as may be imagined from the position obtained, in the face of severe competition, was of the highest order of merit.

Mr. Simonite brought forward three Scarlet Bizarres, one, in the style of Curzon, especially promising. Were Mr. Simonite's flowers not subject to the deteriorating influence of a Sheffield atmosphere, he must have reaped, long ere this, a modest competency from the sale of the fine varieties his skill and unconquerable patience have successively raised; but, unhappily, again and again fine varieties have succumbed to these baleful influences, and thus his reward has been snatched from his hand, and a wide circle of his floral brethren have lost a never-ending gratification. We counsel Mr. Simonite in the future, so soon as he has originated a fine variety, to place the whole stock in hands and places where the destructive atmosphere of Sheffield has no power.

Mr. W. M. Hewitt, of Chesterfield, brought two seedlings, Master Fred, a Crimson Bizarre, more highly coloured than any C.B. we have hitherto seen, and of the highest excellence in every property. This was selected as the premier Carnation of the exhibition, and deserved the honour, though it had very worthy competitors. As will be seen in the list of awards, the three blooms shown obtained 1st, 2nd, and 3rd places in the class for single specimens, where only Mr. Hewitt could exhibit. E. S. Dodwell, another variety from the same raiser, is also of great excellence, something of the style of J. D. Hextall, though quite dissimilar, and worthy a place alongside that grand old variety.

Various other good and promising new flowers were produced, but the above were the most remarkable.

Picotees relatively scarcely sustained the great excellence of the Carnations, but this is to be taken as relative only, and because the excellence of the Carnations was so marked. Seedlings also were less numerous. In Mr. Gorton's stand in Class D we noticed a very pure light-edged purple of a distinct character, which we thought highly of, and for which we predict a high place even in this richly provided class. Mr. Sharp, from Birmingham, had several flowers very promising in character, but more development was needed before any confident opinion on their merits could be pronounced.

Miscellaneous.

Special Prizes. 12 selfs or fancies, including yellow grounds.—For these prizes five competitors appeared. R. Gorton, Esq., was placed 1st, and Samuel Barlow, Esq, 2nd, each having flowers of great merit.

From the fact that the Society (Northern division) attaches no names to non-winning stands, we can give none of the other competitors. This is a practice which, in the interests of exhibitors and public alike, we recommend the Society speedily to correct.

The exhibition was materially aided by contributions of cut-flowers, Roses, Gladioli, Orchids, Lilies, Ericas, Ixoras, &c., from the leading nurserymen of the district, and was admirably relieved by a copious use of Ferns and foliage plants, tastefully disposed by the Curator, Mr. Findlay.—E. S. D.

HARDY BUSH FRUITS.

OWING to the great scarcity of *Tree Fruits* this year, we naturally turn our attention to and think more of our hardy prolific *Bush Fruits*,—Gooseberries, Currants, Raspberries, and Strawberries. In most years, these are never failing crops, and, moreover, they are easily propagated, raised, and cultivated. The soil that is not suitable for Strawberries may be so for Currants, and so on with the others. Black Currants, for instance, will thrive well in very heavy soil on north and east aspects, and I have seen excellent crops of Gooseberries on poor gravelly soils, especially of the Yellow Sulphur, which is a variety not half enough grown, and which in many gardens is never seen. The fact is, no variety will beat it for usefulness, as it bears great crops of yellow luscious fruit; and if renewed every ten or a dozen years, which all bush fruits should be, especially Gooseberries and Currants, it amply repays the cultivator. Where any extent of bush-fruit cultivation

exists, there you will always see, or should see, a renewal of more or fewer bushes every year, old and worn-out beds being burnt up, and the soil trenched and cropped with vegetables.

I think it was Mr. Forsyth who, some years ago, advocated making hedges with Gooseberry-bushes, and no doubt in many places this may be put into practice very advantageously. Possibly, however, seedling plants would be the best for this object, as they may be raised easily; for they come up in thousands under the bushes, after a prolific year, from the fruit that has been half-eaten and spoiled by birds. So with Black Currants.

Certain it is that too much attention cannot be given to those homely come-at-able fruits in this northern climate, where tree-fruits, with few exceptions, give such poor returns, and in face of our great American imports—Apples more especially. The only Apple that has fruited this year round about here is Lord Suffield, and old Keswick Codlin, apparently one of its parents. I think Warrington and Sulphur Gooseberries, Raby Castle Red Currants, and Lee's Prolific Black Currant, also the Northumberland Fillbasket Raspberry, might be planted in much greater quantities than they are to be seen at present.—K., *Tweedside*.

ACHIMENES LONGIFLORA.

THE *Achimenes longiflora* was, according to Paxton, introduced to this country in 1841 from Guatemala, and is one of those beautiful plants that are not affected by the length of time they have been in our gardens, for it is as much prized now by cultivators as when it was first introduced. Its fine robust form and beautiful large violet-blue flowers, which are borne in succession over a long period of time, render it one of the most useful plants we have for the decoration of the stove or the warm greenhouse during the summer months.

It is easy of cultivation, and is well adapted for growing in pots or baskets. It should be potted in a mixture of good turfy loam and peat, with a sprinkling of silver-sand and manure. The pots or pans should be well drained, so as to admit of a copious supply of water being given, and to allow it to pass off readily. When the plants go to rest, the scaly tubers should not be allowed to get quite dry, as under such treatment many of the smaller ones perish during the winter.—G. EYLES.

ACHIMENES LONGIFLORA.

THE SUNDEW.

THIS charming little rosy pet is about this time at its best, throwing up its heads of flower on footstalks about the length and width of a stocking-needle; it makes, indeed, a modest display of some three to five flower-buds—nothing very attractive, as one would naturally have expected from the quaint and highly-coloured leaf. The *Drosera* is able of its own strength to flower and seed, and thereby to propagate its species, leaving no mystery whatever about its habits. To the unprejudiced observer, like the "primrose by the river's brim," a *Drosera* it is to him, and could be nothing more, or if it were anything more, surely it might be manifested among the many specimens now before me. Nature seems to be satisfied with the normal amount of root, stem, leaf, flower, and fruit, and what more should we look for—and what, indeed, should we find if we persevered in the search? Here we come face to face with a string of unanswered questions; and, first, is this miserably small plant guilty of the carnivorous deeds laid to its charge? I have no intention of reviving a controversy which seemed to settle the matter with arguments piled one upon another; but it hath been truly said by Hudibras that

> "He who complies against his will,
> Is of the same opinion still;"

and I see nothing in the contour of the living plant to justify its claim to be considered carnivorous. I have shown that the plant can

perfect seed, and stands in no need of private shambles; and if we admit that a very small insect might get entangled in the liquor of the *Drosera*, and die in the struggle, it would not alter the case, for a slice off the leg of a midge would be far too large a joint for such a plant to make away with. We may see that its mail-clad leaves may be for its defence in time of need, just as we see the bee carry a sting, and the serpent a fang, which are not used for winning their food. Dr. Lindley stated that the number of plants that were of no service to man was very great; so we are sometimes at a loss to find out what service minute subjects render to us, leaving ancient herbals out of the question. Therefore, although we may differ on good grounds, there may yet be some truth on both sides. Some beautiful theories were propounded to the Scottish clergy, and were rejected for want of proof. So the "height of fine language" goes for little more than Cobbett's phrase,—mere "hardness of mouth."

Surely, any subject that contains all that is needful to propagate its species should get credit for the same; and every botanist knows that this test is the normal one,—the rule, with only a very few exceptions. Our native *Drosera* is a golden button on the robe of Flora; the exotic *Droseras* are still more elaborate. But we should confuse the subject, unless we confine it to the denizen of the bogs of our moors and commons, where the school-children may hunt it up when they go out for their summer holidays.—A. Forsyth.

GARDEN GOSSIP.

THE Belgian National Horticultural Exhibition, part of a greater Exhibition held to commemorate the jubilee of Belgian independence, was opened on July 20th, and occupied a portion of the general exhibition building and of the surrounding garden. The profusion of noble Palms, Ferns, Cycads, glorious Aroids, and such-like, produced a fine effect, but as a whole it lacked colour. The first procedure was to elect the international juries, of whom Dr. Regel was named President, and Dr. Masters General Secretary. The first class, which struck the key-note of the exhibition, consisted of a collection of stove or greenhouse plants introduced into Belgium since 1830 (the Liberation year) by the exhibitor or his "ascendants." M. Linden was the only exhibitor, and amply merited the 1st prize, which was awarded to him. The collection comprised eighty-five examples—Marantas, Aroids, Bromeliads, Palms, and Ferns—of which may be mentioned as samples Eucharis amazonica, Pteris tricolor, Cocos Weddelliana, Dichorisandra musaica, and Anthurium Andréanum. For a group of 100 species and varieties of greenhouse plants in or out of flower, M. Linden also obtained the 1st prize. In M. Van Houtte's group was a plant of Cardwellia sublimis, in bloom—a plant not often seen in flower, but, as shown, not very effective. M. Jacob-Makoy showed, among other things, Aralia amboinensis, with large circular palmated leaves, the leaflets stalked obovate acuminate, dark shining green — an effective and ornamental plant. Much of the interest of the show centred in the New Plants. Amongst these, M. Linden showed Myodocarpus fraxinifolius, an arborescent Araliad from New Caledonia, with dark-green Ash-like leaves; Geissois racemosa, from New Caledonia, with large palmate leaves, having stalked, oblanceolate serrate segments, and large Magnolialike intrapetiolar stipules; Colocasia neoguincensis, with hastate leaves, which are green, sprinkled with white spots; Amorphophallus Peyri, from the Seychelles, an Aroid with stiff, cylindric, erect leaf-stalks, creamy-pink in colour, and marked with thin, close, longitudinal, blackish lines: the blade of the leaf palmate, with narrow lanceolate-acuminate, entire dark-green segments; Pothos aurea, a creeping plant, with fleshy cordate-ovate leaves blotched with yellow; Dieffenbachia Leopoldii, with deep green velvety leaves, traversed by a central white stripe; Dracæna Lindeni, a variety with lanceolate spreading leaves of a yellow colour, banded lengthwise with stripes of green; Aralia gomma, a remarkable and pretty Araliad from New Caledonia, having the brownish purple-spotted stem of so many of its allies, and the pinnately-lobed leaves cut up into unequal lobes, segments, and teeth, in a manner not easy to describe, the effect produced being that of coarse lace; Aralia regina, with palmate leaves, cut into long linear drooping segments, of a dark olive-green colour; Caraguata cardinalis, a Bromeliad, with yellowish-green outer, and orange-scarlet inner, leaves; Aspidium Germinii, with crested pinnæ; and Adiantum celebense, a species with lanceolate pinnules. Mr. Jacob-Makoy showed Marattia Moorei, a species with purple stems and gracefully curved much-lobed fronds, with rather broad toothed segments. Among M. Linden's collection of Orchids was a fine specimen of Vanda Lowii, perhaps the most remarkable Orchid in the exhibition.

— The Prize offered at the Oxford Rose Society's Show on July 6th, for six of Mr. Bennett's Pedigree Roses, was taken by Mr. G. Prince, who staged *Duchess of Connaught*, a distinct silvery rose, with bright salmon centre, grand form, large and richly scented; *Hon. George Bancroft*, bright rosy-crimson shaded purple, a large flower of the Lord Macaulay type, fine form, first-rate; *Duke of Connaught*, long large buds of deep velvety crimson, edged with red, altogether a good exhibition rose; *Jean Sisley*, fine form, full, outside rosy-lilac, pink centre, holds together well; *Beauty of Stapleford*, after the character of Alba rosea, but stouter, petals large, nicely reflexed, outer range pinkish-rose, shading off to a deep rose in the centre; and *Pearl*, smaller than the above, but a perfect gem, colour flesh-white. These flowers attracted considerable attention, the general opinion being that the "Hybrid Teas" will become very popular among exhibiting rosarians.

— At Chiswick, the Dianthus Heddewigii stood out on a south border during the past severe winter, passing safely through the ordeal, and coming early into bloom. It would not be difficult to have these pretty and useful Dian-

thuses in flower nearly all the year round, by sowing some seed early in spring, to bloom in July and August; sowing again in May, to flower on plants grown in the open ground, and grown on in pots; and by sowing in July and August, to raise a batch of plants to stand in the open ground through the winter, and bloom in early summer. The Heddewigii type is decidedly the showiest, the flowers being larger, and showing so much variety in colour; but the chinensis type is well worthy of being grown also.

— Of the hardy perennial DELPHINIUMS, which furnish some of our handsomest, hardy blue flowers, the following are desirable kinds: —*Nobilissimum*, rich pale blue, shot in the centre with a reddish-puce; this has long, very symmetrical and handsome spikes of bloom; *Exquisite*, cobalt-blue, suffused with rosy-lilac; *Imperialis*, rosy-lilac, tipped with bright blue, the centre of the flowers white, very fine; *Pulcherrimum*, bronzy-blue, orange and white centre; and *Victory*, violet, striped with reddish-lilac, white centre.

— At the Crystal Palace Show, on July 3rd, the new roses were fairly represented. Mr. C. Turner showed *Mrs. Harry Turner*, a promising flower, of a deep velvety crimson; *Hon. George Bancroft*, large, of good form, and of a pleasing pink colour; *Duchess of Connaught*, a promising rose, similar in colour to La France; *A. K. Williams*, one of the finest high-coloured roses in commeree; *Madame Alex. Bernaix*, a fine tea-scented variety, of a pleasing flesh-colour; *Charles Darwin*, maroon-crimson, small, but of good shape; *Penelope Mayo*, a good rose of the Marie Baumann type; *Madame Emma Ali*, pale pink; *Mrs. Laxton*, a fine dark flower; *Madame Lambard*, a beautiful tea-scented variety, the flowers of good form, rich creamy-yellow, the petals margined with rose; and *Richard Laxton*, dark in colour and of excellent quality. Messrs. Paul and Son showed their splendid new hybrid perpetual, the *Duke of Teck*; also a new rose, not in commeree, named *R. W. G. Baker*, a hybrid perpetual, the flowers of which are large, somewhat globular, the outer petals large and spreading, the colour bright red, changing with age to rosy-red.

— The hardy hybrid RHODODENDRON SALVINI, sent out by Mr. Maurice Young, of Milford, is highly spoken of. The flowers are of a rosy purplish-lake, intensely spotted all over with chocolate; the foliage is smooth and ovate in shape, and the habit compact. Its chief characteristic is, however, the freedom with which it sets its blooms. That it is perfectly hardy both in wood and bud is established by the fact that it has passed perfectly unharmed through the past severe winter.

— At the Brighton Show, Mr. Rutland exhibited some remarkably large STRAWBERRIES from Goodwood Gardens, which created quite a sensation. Eight of the berries weighed 1 lb. 1 oz.; one measured 3¾ in. across it. They were part of a very abundant crop, the result of deep cultivation.

— The Peruvian MANETTIA MICANS is one of the most charming of stove climbers of slender habit which have been introduced of late years. It has neat light-green foliage, and leafy panicles of long-stalked scarlet tubular flowers. It was introduced by the Messrs. Veitch, through their collector, Mr. Pearce, who found it at Muna, at an elevation of between 3,000 ft. and 4,000 ft.

— According to Dr. Ernst, the VENEZUELAN BOX-WOOD is exported from Puerto Cabello to Hamburg. In Venezuela it is called Amarilla yema de huevo, *i.e.*, yolk-coloured, because of its colour. It is the produce of an apocynaceous tree, *Aspidosperma Vargasii*, and is similar in structure, and in the fineness of its grain, to the wood of the true Box-tree.

— One of the good old border flowers is the CAMPANULA PERSICIFOLIA ALBO-PLENA. That it may also be grown in pots with success has been forcibly demonstrated in the Swanley Nurseries, the flowers being of immense value in a cut state for bouquets and decorative purposes. The flowers are about the size of a florin, perfectly double, of exquisite form, and pure white. When first expanded the centre is tinged with green, but as they become fully developed they are of the purest white throughout, and then admissible in the choicest bouquet; they also possess the advantage of having stalks so long and slender as to render mounting quite unnecessary.

— It appears that ANTHRACITE COAL is now extensively used by Mr. B. S. Williams, of Holloway, who prefers it to coke, because it is more powerful, and, therefore, really more economical. This fuel produces the best results when a small bright thin fire is kept in the furnace, distributed fairly over the bars, the combustion being then more complete than when the furnace is choked up with a bulk of fuel—a mistake often made by inexperienced stokers. Of course, when making up the fires for the last time at night, it is requisite to add a considerable quantity of fuel.

— The new AZALEA SOUVENIR DU COMTE DE GOMER is one of the most brilliantly-coloured kinds yet raised, and a very distinct and beautiful variety. The flowers are a bright Indian-red, that known as "cardinal" colour, and measure fully three inches across, being symmetrical in form, perfectly single, and of good substance. This Azalea will make a capital decorative kind, and one especially adapted for exhibition purposes.

In Memoriam.

— Mr. ABRAHAM STANSFIELD died of apoplexy at his residence, Vale Cottage, Todmorden, on August 15th, at the age of 78 years. Mr. Stansfield was in early life a hand-loom weaver, and afterwards became gardener to Mr. Ramsbotham. About 1844 he commenced business as a nurseryman, in which, associated with his sons, he acquired reputation as a discoverer and cultivator of Ferns. Mr. Stansfield possessed many natural gifts, amongst them a taste for botany, which led to a close fellowship with the late Mr. Nowell, another self-taught man, who won for himself an honourable position as a bryologist. Mr. Stansfield had been President of the Todmorden Botanical Society, from the time of its foundation in 1852.

J. L. Macfarlane del.

Chromo P Stroobant. Chent

Fig Brown Turkey.

BROWN TURKEY FIG.

[PLATE 523.]

ALTHOUGH by no means new, this fine variety, which is sometimes called *Lee's Perpetual*, is still the best all-round Fig in cultivation. Like the Black Hambro in the Grape department, no sooner is a Fig-house or a Fig-wall decided upon, than so many places are at once told off for Brown Turkey. For forcing we have nothing to surpass, if we have anything to equal it, as it is early, handsome, very prolific, not liable to "drop," and of first-rate quality; indeed, in many forcing places, where a steady supply of Figs worth eating must be had, all other kinds have given way to it. At this place, my early pot trees, now approaching twenty years of age, although too large for removal or re-potting, never fail to give an abundance of fine fruit from the 10th of April until the beginning of September, when they are starved into a state of rest. The particular tree which produced the fruit here depicted has taken possession of a rough limestone wall, to which its roots cling like those of orchids. Amongst these we pack pieces of turfy loam, and feed them with liquid manure, and the produce is enormous. My object in supplying the whole shoot containing the ripe fruit and a number of small ones, was to show the fertile character of this excellent variety.

On the open wall, it is quite as hardy as the Brunswick and Ischias; and being a moderate grower, and much richer than the former, good gardeners and proprietors who know how to appreciate the best, will always make Brown Turkey their sheet-anchor. — W. COLEMAN, *Eastnor Castle Gardens.*

[To these appreciative remarks from Mr. Coleman, to whom we are indebted for the fine sample, which Mr. Macfarlane has very faithfully rendered in the accompanying figure, we add the brief description given in Dr. Hogg's *Fruit Manual*:—"Fruit large and pyriform; skin brownish-red, covered with blue bloom; flesh red and very luscious. Tree very prolific, hardy, and one of the best for outdoor culture as a standard. Ripe in August and September." Like numerous other really good things, it rejoices in a long list of synonyms, of which that which is now most widely known is Lee's Perpetual.—T. MOORE.]

ORCHARD-HOUSE NOTES.

UNDER the supposition that I may claim my annual sheet in the FLORIST AND POMOLOGIST as the medium of reporting the season's doing in the Orchard-house, I will detail a change in its management which has much increased its general usefulness. The late Mr. Rivers' interesting and clever little book, *The Orchard-house*, introduced the subject of fruit cultivation under glass so familiarly, that at once I became his disciple, and, without deviation, followed all his directions. Still, I failed to realise all his promises. Much of the fruit dropped during the stoning process, and the produce of the standard-trees was deficient in flavour. Last summer I had hardly a fruit worth a friend's acceptance. Last spring I saw advertised, *Pearson on the Orchard-house.* Its perusal showed a general agreement with Mr. Rivers, but a decidedly opposite opinion on one point. On the 71st page of *The Orchard-house*, Mr. Rivers advocates such entire freedom of air after the 1st of July as to recommend the "nailing back" of the shutters, that "the men calling themselves gardeners" may not close the house in the afternoon. Till this season I have implicitly followed these directions; but my patience has been tried, and my faith in Orchard-houses weakened, by the disappointments just narrated. The trees evidently did not like exposure to the afternoon draughts, and the very cold, early mornings of our capricious summers; the copper-coloured aphis kept appearing where the lowest temperature prevailed, and red-spider by his destructive presence changed everything to that peculiar rust which all fruit-growers so easily recognise. On turning to Pearson, I read:—"As the temperature increases, syringe at four o'clock, and shut the house while warm. Why should you lose the advantage of the heat that the house has acquired, by giving air—all night, as recommended by some?" I must not encroach by further transcript, but the book (published at 171, Fleet Street) argues the point well. I at

once determined to give the system a trial, and directly the young fruit was safe, I syringed daily at four o'clock, and closed the front sashes, leaving the back shutters open an hour longer. A very satisfactory change was soon apparent. The dark foliage and increased size of the leaves gave promise of what I have realised—a large crop of full-flavoured fruit, which ripened in the regular succession, as described in the *Catalogues*, Mr. Rivers' excellent *Early York Peach* and *Advance Nectarine* forming the vanguard, followed by the mid-seasons, and the rear brought up by that empress of nectarines, *Victoria*, which yielded its last fruit on Sunday, the 19th, and *Lord Palmerston Peach*, now just ripening. This never used to be, for sudden sunshine used to ripen early and late together, and strew the floor with immature fruit. My trees are now taking their rest, and giving promise of better things still in the coming year. Rivers' *Goshawk Peach* is very excellent.—G. D.

VINES AND VINE-CULTURE.

CHAP. XVIII.—THE VARIETIES OF GRAPES.

(*Continued.*)

THE descriptions of the varieties of Grapes included in our Synoptical Table are here continued from page 66.

BLACK JULY (7).—A round black Sweetwater Grape.—*Synonyms:* July, Early Black July, De la Madeleine, &c.

Vine.—Very free and vigorous in growth, and an abundant bearer.

Fruit.—*Bunches* rather long and loose, and sometimes not very well set. *Berries* small, round. *Skin* rather thick, deep purple, with a fine bloom. *Flesh* sweet and juicy, not rich, and of no particular character.

Cultural Notes.—Very suitable for planting against a wall in the open air, where it ripens very freely.

Season.—First early.

Merits.—Valuable only on account of its earliness.

BLACK LISBON.—A *synonym* of the Alicante: which see.

BLACK MONUKKA (2).—An oval black Sweetwater Grape.

Vine.—*Growth* remarkably strong and robust, requiring considerable space. *Leaves* large, rugose, with a reddish tinge; the leaf-stalks deep red. A somewhat shy fruiter, young plants seldom cropping well.

Fruit.—*Bunches* very large, frequently measuring 24 in. to 26 in. in length, and broadly shouldered, but of a remarkably regular tapering form, and weighing from 3 lb. to 5 lb. *Berries* small, long-ovate, inclining to be conical, or in shape like an acorn, measuring $\frac{7}{8}$ in. in length and $\frac{3}{8}$ in. in diameter. It cannot be said to set well, although it is very regular, and the berries are all uniform; yet there are no perfect seeds, only one—or at most two—half-formed, and these being soft, like the flesh, are, as well as the skins, eaten with it. *Skin* thin, adhering to the pulp, which is firm, fleshy, not melting, yet very tender, and full of juice. In colour it approaches black when well ripened, but is more frequently half-grizzly, and with a thin coating of bloom.

History, &c.—The Black Monukka is a grape supposed to be of Indian origin. It was introduced by the late Mr. Johnson, gardener at Hampton Court, and was by him sent to the Royal Horticultural Society, and planted in the Great Conservatory at Chiswick, where it may be seen. It has been from thence distributed, but is not much cultivated in this country.

Cultural Notes.—Ripens freely under the same treatment as Black Hamburgh, and fruits most freely on young rods from established plants. It requires very little thinning. Some years ago I made some interesting experiments in hybridizing this grape with the Black Hamburgh, and succeeded in fruiting fifteen plants, all of singular yet widely different character, but none worthy of cultivation.

Season.—Mid-season.

Merits.—One of the most pleasant-flavoured and agreeable grapes to the palate that is grown, and useful to cut up for sweetmeats. But it can only be recommended for cultivation as an extra sort where plenty of means are at command.

BLACK MOROCCO (76).—An oval, black Vinous Grape.—*Synonyms:* Ansley's Large Oval, Morocco, Black Muscadel, Horsforth's Seedling, Kempsey Alicante.

Vine.—*Growth* strong and robust. *Leaves* large, rugose, much cut, with reddish venations and foot-stalks, dying off reddish. A very shy cropper.

Fruit.—*Bunches* large, from 12 in. to 15 in. long, on very stout foot-stalks, with strong, irregular shoulders. *Berries* long ovate, very large, but generally very badly set; indeed, this is one of the worst setting grapes grown. *Skin* thick, reddish-brown, becoming nearly black when well ripened, but always paler round the stalk, which is very stout. *Flesh* very firm, and when well ripened, very rich and piquant in flavour, and extremely pleasant.

History, &c.—This is a very old grape, to be met with in many old gardens; but is never cultivated to any extent. Some years ago it gained considerable notoriety at Kempsey through its fine cultivation, and was for a time considered distinct, and so received the name of Kempsey Alicante.

Cultural Notes.—Requires a considerable amount of heat, and artificial impregnation of the flowers, to set it well; also a strong heat to ripen the fruit.

Season.—Late.

Merits.—One of the most beautiful of late grapes when well grown, but its uncertain character renders it scarcely worthy of cultivation.

BLACK MUSCADINE (8).—A round black Sweetwater Grape.—*Synonyms:* Chasselas noir, Black Chasselas, Chasselas de Fontainebleau rouge hâtif.

Vine.—*Growth* free and vigorous, and very fruitful.

Fruit.—*Bunches* of medium sizes, rather close and compact, well set. *Berries* small, round. *Skin* thin, deep purplish black, with a thin bloom. *Flesh* firm, yet juicy and sweet, resembling the Royal Muscadine; very pleasant.

Cultural Notes.—Will succeed against a wall in

the open air in good seasons, but is much improved in flavour by being grown in a vinery in heat.

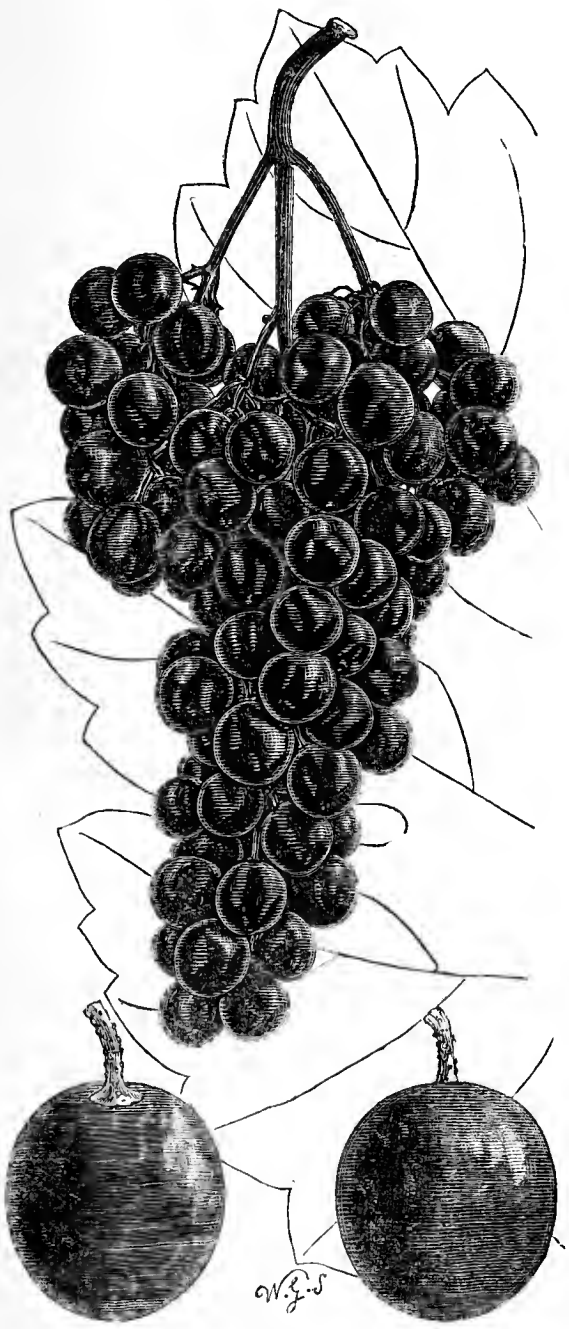
Season.—Early.

Merits.—Second-rate.

BLACK MUSCAT OF ALEXANDRIA.—A synonym of Muscat Hamburgh: which see.

BLACK PORTUGAL.—A synonym of Alicante: which see.

BLACK PRINCE (3).—An oval black Sweetwater Grape.—*Synonyms:* Pocock's Damascus, Cambridge Botanic Garden, Boston.



Vine.—Very free and vigorous constitution, and very fruitful. *Leaves* roundish, not much cut, dying off purplish in autumn.

Fruit.—*Bunches* very long, frequently 18 in. to 20 in., or 24 in., with a long stalk, tapering very regularly from the shoulders downwards to the point; sometimes almost cylindrical in shape. *Berries* medium-sized ovate, always well set. *Skin* thick, very dark purplish-black in colour, with a thick bloom. *Flesh* dark, juicy, and sweet, but generally with a slight astringency, which is not very much relished.

History, &c.—A very old variety to be found in most old collections of Grapes, although I have never met with it in Continental collections. It is seldom planted now.

Cultural Notes.—One of the freest-fruiting and most easily cultivated Grapes in existence, ripening, under the same treatment, a little in advance of Black Hamburgh, and always well coloured, even when not well ripened. It requires to be used soon after ripening, as when allowed to hang, the berries begin to shrivel. The late Mr. Hill, of Keele Hall gardens, was one of the most successful cultivators and exhibitors of this Grape. He had it grafted on Black Hamburgh. It is one of the best black Grapes for the open air.

Season.—Early.

Merits.—Extremely handsome in appearance, and valuable on this account, as well as for its free-fruiting properties, but in regard to flavour, far inferior to Black Hamburgh. It can only be classed as a second-rate sort.

BLACK ST. PETER'S.—A synonym of Alicante: which see.

BLACK SPANISH.—A synonym of Alicante: which see.

BLACK TOKAY.—A synonym of Alicante: which see.

BLACK TRIPOLI.—A synonym of Black Hamburgh: which see.

BOSTON.—A synonym of Black Prince: which see.

BOWOOD MUSCAT.—A synonym of Muscat of Alexandria: which see.

—A. F. BARRON.

THE TULIP SEASON.

SELECTIONS FOR PLANTING.

THE season of 1880, although the bloom was somewhat late, was, on the whole, a favourable one for the Tulip. The bulbs ripened well, and have lifted well, being unusually large, firm, and heavy: full of promise for next year's bloom. Among the numerous exhibitions may be noted those of the principal midland counties—the Wakefield, the South-East Lancashire, the Northern Counties, and the Royal National, the two last held in Manchester. Each of these exhibitions was above the average. The Northern Counties exhibition, held on June 4th, was perhaps the best of the year, for the quantity, the quality, and the variety of the blooms, and also for the number of new and rare kinds staged.

The month of October being the time for arranging the boxes, *i.e.*, beds for 1881, a word in season may be welcome to the intending exhibitor of next year, as to what varieties he ought to grow.

Of the old, sterling, well-proved, rectified

varieties he should have—and most of these can now be had at very reasonable prices—the following :—

Bizarres.—Sir Joseph Paxton, Masterpiece, Commander, Demosthenes, Dr. Hardy, Orion, Ajax, George Hayward, Sulphur, Richard Yates, Prince of Wales, and Merit.

Byblœmens.—Bessie, Adonis, Talisman, Walker's Duchess of Sutherland, Violet Aimable, Martin's 101.

Roses.—Heroine, Modesty, Industry, Aglaia, Charmer, Mabel, Mrs. Lomax,—these three latter are one variety, a very fine one too,—Mrs. Lea, Sarah Headly, Madame St. Arnaud, Celestial.

In the class of Breeders, he should get :—

Bizarres. — Dr. Hardy, Ariosto, Orion, Sir J. Paxton, Richard Yates, Storer's No. 4.

Byblœmens. — Glory of Stakehill, Alice Gray, Talisman, Ashmole's 112, Hepworth's 96/63, Adonis, Martin's 117.

Roses.—Mrs. Barlow, Lady Grosvenor, Lady May, Annie McGregor, Queen of England, Lord Derby, Mabel.

If, in addition to the above, he can secure a bulb or an offset of each or any of the following, he will be well pleased. Although now rare, or in few hands, and well held, they have proved their quality and constancy.

Bizarres.—William Wilson (Hardy), Garibaldi (Ashmole), Target (Whittaker).

Byblœmens.—Majestic, Music (Jackson), Norah Darling (Lea), Friar Tuck (Slater), Nimbus (Hardy).

Roses.—Annie Lea (Lea), Nanny Gibson (Hepworth), Lucretia (Slater), Annie McGregor (Martin).

As Seedlings usually bloom for the first time and for several seasons in the breeder state, the number of fine varieties shown is legion, but the varieties named above will hold their own for some time, although Seedlings of exceptional merit are found in the very front rank every year.—S. Barlow, *Stakehill*.

ARNEBIA ECHIOIDES.

TO the Borage family we are indebted for a number of charming plants, admirably adapted for the decoration of the hardy flower garden and herbaceous borders. The vigour and beauty of the great Italian Alkanet is familiar to all, and loses nothing by its familiarity. The drooping golden drops of the Taurian Onosma is, perhaps, less familiar, and still less so is the Arnebia, upon which I purpose offering a few remarks. I am the more induced to do so from the fact that, though I have grown it for a number of years, I find I have never done it justice till now. Being rare in cultivation and difficult to obtain, it has been almost invariably submitted to the process of coddling in a pot, under which conditions it has dragged out a miserable existence, rarely producing flowers.

Before offering a brief description of the plant, I may state the conditions under which the favourable and, I must say, wholly unexpected change in its development has taken place. Cultivated in a pot for some six years, it produced annually four leaves about 4 in. long, and once made an attempt at a spike of flowers. I last year planted it in the bed allotted to the Borage family, in our new Botanical arrangement. It grew vigorously, the leaves reaching a development treble the size, and forming a dense tuft of well developed foliage. So vigorous, in fact, was its growth, that I dreaded the result of the severe winter. This spring I found it all right and sound, with a woody root-stock nearly an inch in diameter, crowned with a mass of buds. The latter part of March produced, besides a mass of leaves, no less than 17 spikes of flowers, about 15 in. high, each one carrying its scorpioid arrangement of at least a dozen flowers. Nor did some 10 degrees of frost affect it to the slightest extent. In the early part of June a second set of flower-stems were developed, fewer in number, but larger. At the present time (September) another set is in bloom, while an evident succession is just cropping up from the root-crown—that promises a further extension that will possibly form a floral chain, binding the spring and autumn in one continuous wreath.

What, then, is the appearance of the plant? I have already alluded to its stature and habit of growth, so need say no more on those points. The flowers are about half-an-inch in diameter, lobed into five rounded segments, and somewhat funnel-shaped; their colour is a lovely canary-yellow, but they possess a special characteristic that is, in my floral experience, unique, and belongs to this plant alone. On the first day that the flowers open, there are at the mouth of the tube of the corolla five spots of intense blackness, the second day, these spots almost disappear, and the third day, they have vanished altogether. Where have the black blotches gone to, and why have they gone? are questions which cannot be answered; but the aspect of the flowers, as presented by dozens in the three stages of development, is singular in the extreme, and gives a special interest to this plant.

I have omitted to mention that the Arnebia is of Caucasian origin, and has but one congener, a native of the Himalayas. It seeds very sparingly, three seeds representing our entire harvest this year; and as the whole of the shoots originate from a short woody root-stock, propagation by division is impossible; nor, indeed, can cuttings be readily obtained. Perhaps, it might be increased by root-cuttings; but I strongly suspect that few who possess the plant, and have seen its floral beauty, as we have had it during this summer, would dare to attempt such a suicidal operation. I ought to add that our herbaceous borders are upon a well-drained tenacious clay, and each bed has a depth of 18 in. of fresh top-spit loam from old pasture-land, so that, barring a little wire-worm, which was not nearly so destructive as I expected, our large collection of herbaceous plants (numbering nearly 7,000 species) has presented a picture of growth and vigour such as I never saw before.—Jas. C. Niven, *Botanic Garden, Hull.*

PELARGONIUM TRICOLOR.

THIS plant, which has been also called *Phymatanthus tricolor*, is really a floral gem, but it is now very seldom met with. It is a diminutive plant, a good bush not exceeding a foot in height; it has elegantly shaped lanceolate leaves, which are inciso-lobate at the edges, and it has trusses of small flowers, the two upper petals of which are of a blood-crimson, each with a black boss or wart at its base, and the three lower petals are of the purest white. When well grown and well bloomed, it is a charming little plant.

Being, however, a diminutive plant, it is also a delicate-rooting plant, and hence is more healthy and more permanent when grown in a peaty rather than a loamy soil. The truth is, that in a loamy soil moisture hangs too much about the roots in winter, and they rot—as happens with many other soft-wooded greenhouse plants, whose sudden demise sometimes creates surprise on the part of the grower. In all such cases we should advise potting, for the winter season at least, in soil in which peat-earth predominated, and with drainage made thoroughly effective; and in the case of the Pelargonium in question, this precaution, with judicious care in the application of water, would bring the plant safely through the winter, and result in the production of specimens which would assuredly need only to be seen to be admired. The plant does not in any case grow large enough to require a very large pot, and it is propagated by cuttings of half-ripened shoots planted in sandy peat.—T. Moore.

THE CULTURE OF WALL FRUITS.

No. XXI.—The Plum *(Continued)*.

MULCHING the surface of newly-planted trees, or those which have been lifted and replanted in the way of root-pruning, I consider to be an indispensable operation, and one which is very superior to the plan of mixing manure with the compost in which the trees are planted, and for this reason. The influence of the atmosphere working upon the manurial substances used for the purpose, reduces them to a condition which is very suitable for stimulating purposes, because, being presented to the roots in a very gradual manner, and their properties being changed, as it were, by the action of the sun and air, they are far more likely to produce a healthy and fruitful growth, instead of that strong and luxuriant one which often follows upon the use of a compost overcharged with stimulating substances. It was a strong conviction of the importance and real utility of the operation that induced me in my last chapter to recommend that the surface should be well mulched after lifting and replanting. I have only to add on that part of the subject, that the manure should be simply spread on the surface, and allowed to disintegrate; and also, since to derive the greatest benefit from it, it should be fully ex-

posed for many months, it is not desirable that the borders should be cropped nearer than three feet from the collar.

I must now return to the system of training, with the view of observing that, by following out the horizontal method, and by confining the culture on walls to the most approved varieties for dessert purposes, a very choice collection may be grown on a comparatively small space. We have trees at this place which have now been in bearing 50 years, and they occupy no more space now than they have done for the last 40 years at least, nor is there any difficulty found in keeping them either within bounds, or well supplied with wood, as when properly fed at the surface by stimulating substances, they invariably throw out a strong growth all up the centre stem, so that when the horizontal branches become exhausted or barren, there will be no difficulty in supplying the vacancy with a younger growth.

The process of training such trees is very simple, but must be carried on gradually, as any attempt to lay in too much wood in one season in order to cover space, will only result in the production of barren, unfurnished branches. The centre and main shoots must therefore be rigorously shortened every season, in order to induce every eye which is left to break into growth, which would not be the case if they were left too long. The object is to secure a plentiful supply of fruitful spurs from the first. Thus, supposing a maiden tree to be planted in October, having one long, strong shoot, let it be cut back by the end of March, so that there may be room for the development of two shoots on each side and a continuation of the centre shoot. The training-out of the side-shoots should be commenced early—say, when they are six inches long—and if they are stiff and stout, they must be brought to the horizontal position gradually, a little at a time, to avoid breakage. The centre shoot will of course be trained upright, in order to form the future main stem. When the whole of the shoots are well established, the remaining ones should all be removed with a sharp knife, to avoid laceration of the future centre stem.

With regard to distances, it may be laid down as a guide that the two lower shoots should not be less than one foot from the ground, and the distance between the main radiating side-branches may be from six inches as a minimum to eight inches as a maximum distance. The first season, the shoots retained should be allowed free development, in order to encourage the formation of roots. The principal care required will be to keep them securely fastened to the wall, and clear from vermin of all sorts. The pruning in the next year will be the foundation of all the future pruning requisite. The side-shoots must be shortened to one foot for the lower tier, and nine inches for the upper tiers, and the centre shoot to one foot, or thereabouts, so as to afford room for the training-out of two more side-shoots, as well as carrying on the centre as before. If the eyes on the side-shoots of the first year break freely, they will require to be thinned out by removing at first all foreright shoots, and afterwards any ill-placed ones; the remainder should be left to grow on until they have from four to six perfectly developed leaves, when they should at once be stopped. These leaves should be carefully preserved, and any future attempt at growth be finally stopped. The centre shoot will have to be treated in exactly the same way as in the previous year, retaining only the centre and four side-shoots, as before advised.

We may thus conclude that the foundation of the future tree is now laid, and by following out the same process year after year, a perfectly furnished tree will in time be established, which may be confined to the same space for many years, and yet kept in health and fruit-bearing strength by a judicious course of treatment, the salient points of which are to equalise the growth by a constant attention to finger and thumb pruning, to strenuously avoid over-croping, which is the sure forerunner of constitutional debility, and to apply surface-dressings of compost and manurial matters at intervals, when the trees indicate weakness of growth.

I have observed that the cultivation of Plums on walls should be principally confined to dessert varieties, but this must be taken with a slight reservation, since in most establishments Plums for kitchen purposes are greatly in request long before they can be ready on pyramids or standards. It will be well, therefore, that a portion of the walls

should be devoted to a few of the earliest varieties, which are calculated to fill up a good interval before the general crop comes in from the open quarters. For example, in this present season, 1880, we commenced to gather Jaune Hative, or the White Primordian, a most excellent kitchen plum, on July 15, after which time we had a constant supply from it, and from Rivers' Early Prolific, Précooce de Tours, and Early Orleans, which carried us well on to the supply from the open quarters, about August 20th.—JOHN COX, *Redleaf.*

DAVALLIA MARIESII.

THIS name has been provisionally adopted for a pretty dwarf evergreen *Davallia,* grown by Messrs. Veitch and Sons, and found in Japan by their enterprising collector, Mr. Maries. It very closely resembles, in its running rhizomes, and in the form and mode of division of its fronds, the well-known and beautiful *D. bullata;* only that species is deciduous, while the present plant is evergreen, keeping quite fresh and green even in a cold pit during the winter months. The Messrs. Veitch describe it as "a very elegant Japanese fern, of dwarf habit and free growth, sent to us by our collector, Mr. Maries, after whom it is named. It has a creeping rhizome about a quarter of an inch thick, covered with ash-brown scales. The stipes are numerous, slender, erect, about 4 in. high, and support a spreading triangular tripinnate frond, about 6 in. long and half as broad at the base, the ultimate pinnæ of which are very finely cut. The fertile fronds are bright green, and the sterile ones of a deeper shade.

"As a basket-fern for the conservatory and greenhouse, *D. Mariesii* is one of the best. Its flexuose rhizomes spread freely in all directions, and its numerous fronds thence present an

enduring globose mass of verdure. Grown in a pan, this pretty fern is also very effective and distinct."

It was awarded first-class certificates both by the Royal Horticultural Society and the Royal Botanic Society in the early part of 1879.—T. MOORE.

SUBURBAN GARDENING.

OCTOBER is a busy month for gardeners. Its predecessor, with its dry and rainless weather, has been of wonderful service alike to the horticulturist and agriculturist—they have harvested their various crops in the best possible condition, though some, owing to the prevalence of wet at the beginning of the summer, are not so good as could have been wished for. The weather has been pleasant enough to make the out-door garden thoroughly enjoyable, and it is with the most agreeable sensations that the year goes downward to decay, with graceful step and in a rejoicing spirit.

Kitchen Garden.—The gardener has been waiting to get his crops planted out, but it must be done speedily, using the watering-can to give the plants a fair start. Of the planted-out crops that have got into growth, those that are on dry soils will be greatly benefited by the free use of the hoe, for it is no secret that a loose soil is better at a time of drought than a hard, solid one. Every part of the Kitchen Garden ought to be clean and neat, and as crops go off bearing, they should be removed. Some *Turnip* seed should be sown at intervals; if the soil is too dry on the surface generally for it to grow much, there will come a time when some will vegetate; but where rain has fallen many of the seeds will come, no doubt. It has been a fine season for getting up *Potatos*, and the crops are on the whole good, and not so much diseased as was at one time feared; the tubers lift very clean, and in good condition for stowing away. *Celery* needs some attention, and a fine old gardener recommends that previous to earthing-up, all the fading side-leaves should be pulled away, and search made for a maggot that is apt to infest the plants at this season of the year. The *Onion* crop should be pulled, and laid on the ground to dry before storing the bulbs away. Those who lay in a stock of *Dried Herbs* for winter consumption should now cut them when they are quite dry, and put them aside till a wet day affords leisure to tie them up and bunch them.

Fruit Garden.—*Wall Trees*, owing to the dry weather, are not making the late summer growth they did in 1879, but it will be well to look over the trees and remove any superfluous shoots. *Apples* and *Pears* should be gathered while the weather is fine, and when the fruit is quite dry, and stored away for future use. Villa gardeners should make note of the *Stirling Castle Apple*, a very fine free-bearing culinary variety, that bears large fruit on quite small trees; *Small's Admirable* and *Lord Suffield* are two others well deserving attention when planting-time comes round. A villa gardener who contemplates planting *Apples* and *Pears* should, before doing so, take the advice of some good fruit cultivator who knows well the characters of the several varieties. Planting may be commenced at the end of the month, and in doing this the roots of the trees should be well spread out, and fine soil placed over them, but not trodden down, for the autumn rains will consolidate it. It is not too late to plant *Strawberries*, nor to dig about and clean the plants in fruiting beds. Old *Raspberry* canes should be cut away.

Flower Garden.—Except that the beds and borders are suffering from the dry weather, which has its effect on strong-growing plants like *Dahlias*, *Hollyhocks*, &c., the occupants of the beds are very gay indeed, and autumn, with its time of decay, appears to be far away in the distance. But there is no knowing how soon frost may come and spoil all. Any tender plants that it is desirable to keep through the winter should be lifted and potted; and also cuttings of any taken where increase is necessary. To keep the garden neat, and as tidy as possible, and so prolong the summer beauty, should be constantly aimed at. Any beds that are cleared should be dug and got ready for planting with *Bulbs* and *Spring-flowering plants*. Cuttings in frames and under hand-glasses need a good deal of attention, giving air in fine weather, removing decaying leaves, and stirring the surface soil.

Cold Frames.—These will now be invaluable for *Mignonette* in pots, *Neapolitan Violets*, *Bulbs* in pots, and many other subjects that can be housed here. Many things that have been kept in pots during the summer should be repotted; in some cases top-dressing will be sufficient, removing some of the sour soil on the top, and adding some good rich potting compost. Whatever plants may occupy the cold frame, care should be taken to get them as well matured as possible, keeping them tolerably dry, and giving them an abundance of air, and in this way a great variety of things can be wintered in safety.

Greenhouse.—It is now time to look up all plants that have been placed in the open air for the purpose of assisting in developing the buds, and to house them after the pots have been cleaned, worms looked for and removed, and fresh soil placed on the surface. The tenderer plants should have the warmest and most protected parts of the house, the hardiest subjects the more ex-

C T Rosenberg del

Picotees: 1, Minnie. 2, Estelle.

posed. Plenty of air should be given night and day so long as the weather proves mild; in fact, the weather must be of a very unusual character at this season of the year to require that the house should be closed altogether. *Azaleas* and *Camellias* may now be potted, if they require it, as their blooms will be fairly set. Potting these too early is sometimes attended with bad results.

Such soft-wooded plants as *Zonal Pelargoniums*, *Fuchsias*, &c., will still be gay, so long as fine weather lasts; and if a little fire-heat can be applied as the nights become colder, their beauty will be materially prolonged. Those who have cold houses must hope for genial weather, so that the summer may fade away into autumn in the softest and most pleasant manner possible.—SUBURBANUS.

AURICULAS AS BORDER PLANTS, AND FOR CUTTING.

IT has often surprised me that Auriculas are so little grown in a wholesale sort of way for the purpose indicated above. The Auricula is perfectly hardy; and though it is, of course, very successfully grown in pots, yet to see its full value as a decorative plant, it must be grown out of doors in considerable masses.

We have here a north border under one of the kitchen garden walls, wholly devoted to Auriculas. Many of the plants have produced over a dozen trusses each. The leaves are large, and as fine as or only secondary in beauty to the flowers; and the perfume seemed that of the sweetest primroses, with a liberal dash of violet and valley lily added to it. In early morning and dewy eve the perfume was as pleasing as that of Stephanotis, or Gardenia.

The plants have been in their present position about three years. They have flowered finely every season; but last winter being so severe, we were somewhat doubtful about them. We have had no such winter here since that of 1859-60. As the Auricula had always stood other winters, and looked well during frosts of 37 degrees, they were left to battle with it without a shred of protection. The result is that not one is lost, the plants are in robust health, and last spring produced the finest head of blossom I have ever seen on Auriculas. They are planted in the common soil of the garden, sharpened up a bit with some road-sand, and slightly enriched with a little well-decomposed old hot-bed manure, three-fourths of which was originally leaves, the other fourth being long horse-dung. We top-dressed up to the collars in the late spring-time, with a compost of the same manure reduced to mould. This simple process served all the purposes of in-layering, in much less time. Each shoot at once proceeded to root in the soil at its base, so that by the time the plants had finished flowering, each shoot had become an independent plant. Thus the units of Auriculas become tens; the tens, hundreds; and the hundreds, thousands. We shall want several hundreds this autumn to renew or extend our old plantations, and form a new border twenty-four yards long.

We find no plants so popular and none more prized in rooms than the Auricula, not even excepting Stephanotis and Gardenia. Every one admires its rich, soft beauty, so infinitely varied in tint, tone, and finish of colouring. The perfume is also of the sweetest, richer and fuller than that of any other members of the primrose family, and reminding one of a sort of trinity of odours, composed of valley lilies, primroses, and violets. Hardly any pleasure within the entire range of horticulture can prove more rich and satisfying than that of brooding over an Auricula bed or border at early morn or dewy eve, inhaling their fragrance, and marking their infinite variety of flower and foliage. For real enjoyment, give me these simple border Auriculas, rather than the choicest selections of Dusty Millers, &c., many of which are miffy, and nearly all of which are apt at times to run their regular lacings into confusion vexatious to the florist. The commoner sorts are vigorous as cabbages, and neither snow, wind, nor rain, nor any weather, can mar their rich beauty, nor rob them of their sweet fragrance. —D. T. FISH, *Hardwicke*.

CHOICE PICOTEES.

[PLATE 524.]

THE subjects of the accompanying plate speak for themselves. MINNIE (Fig. 1) is a light-edged purple Picotee, raised by Mr. Robert Lord, of Todmorden; and ESTELLE (Fig. 2) is a light-rose Picotee, raised by the Rev. Charles Fellowes, of Shotesham Rectory, Norwich. Respecting these flowers, which are now generally known to cultivators of the Picotee, our friend, Mr. Dodwell, writes:—

"*Minnie* is a seedling from Mrs. Stanaford, a light-edged purple, fertilised with pollen from Mrs. Bayley, a variety famous for its high quality and brilliant white ground and colour and fully sustains the high repute of its descent. Mr. Lord, indeed, thinks it the finest of his fine light-edged purples, though popular opinion inclines, I think, to give the first place to Ann Lord. But whether first in

place or holding a place amongst the first, Minnie is of surpassing excellence, and indispensable to every collection affecting to be fine."

"*Estelle* is a full-sized, large flower, with a finely-formed and gently-cupped petal, which from favourable situations, like the Royal Nursery, Slough, I have seen of great excellence; but, unfortunately, the colour is not proof against the dry, hot air of my garden (Clapham), waning until virtually there is none to be perceived before the full growth has been attained; and thus I have been obliged to leave it for such of my fellows as are better placed."

We have to thank Mr. Charles Turner, of the Royal Nursery, Slough, for the flowers represented in our plate.—T. MOORE.

NEW CARNATIONS AND PICOTEES.

THOSE who have any experience in the raising of seedlings are well aware that a judicious selection of parents, and the careful crossing of the selected varieties, furnish the means which should be adopted by all who desire to secure progressive improvement in the novelties they essay to raise. The days of trusting to promiscuous seeding are past. Mr. E. S. Dodwell, the veteran Carnation-grower, of Clapham, has recently given a practical illustration of this fact. It is pretty well known that two or three years since, he again had recourse—rather extensively—to the hybridisation of some of the best flowers in his large collection, and was rewarded with a good harvest of seeds, from which has resulted a still richer harvest of sterling novelties, which are now about to be distributed. We have, therefore, thought that a brief descriptive note of the several flowers would furnish welcome information to growers, and put on permanent record the results of a very successful hit in the direction of raising new varieties. The following are the names, with the numbers from the seedling bed for identification, of Mr. Dodwell's set of seedlings :—

CARNATIONS.

Scarlet Bizarres.

Arthur Medhurst, No. 163.—First-class in every respect, large and full without confusion, and very richly marked with bright colours.

Ben Simonite, No. 166.—A fine variety, large and full without confusion, distinctly marked with very dark maroon on a pure white ground, scarlet pale.

Charles Turner, No. 474.—Smooth, finely formed, petal beautifully marked with rich refined colours on a pure white ground.

Fred, No. 314.—Mr. Dodwell considers this the finest S.B. he has yet seen; has the "Curzon" colours and habit of marking, with a much larger size than that fine old variety.

George, No. 86.—A grand variety, full size, smooth, finely formed, and richly marked with brilliant scarlet and maroon on a pure white ground.

George Rudd, No. 14.—Large bright flower, a seedling from "Curzon," crossed with "Paxton."

Job Matthews, No. 197.—A seedling from "Paxton" crossed with "Curzon," exhibiting the characteristics of the parents in about equal proportions.

John Buxton, No. 302.—Very bright, large, and finely formed, a fine back-row or decorative variety.

John Hines, No. 3.—An improved "True Briton."

Othello, No. 291.—A seedling from "J. D. Hextall," which it follows in habit, shape, and markings, save only that it is an S.B.; very dark maroon on pale scarlet, and a pure white ground.

Robert Lord, No. 1.—Large, fine, smooth, very constant, richly marked with bright scarlet and maroon on a clear white ground; a fair companion to "Curzon."

Wilfred Syms, No. 470.—A beautiful variety, very distinct, full of rich colours on a pure white ground, smooth, and finely formed.

Crimson or Pink and Purple Bizarres.

Dr. Masters, No. 37.—A full-sized flower, well formed, bright and pure.

Rev. F. Tymons, No. 40.—Very smooth, fine substance and form, with rich colours.

Robert, No. 300.—A broad-petalled, large variety, of fine quality, lightly but distinctly marked with rich crimson and purple.

Squire Dodwell, No. 284.—A seedling from "J. D. Hextall;" very bright and smooth, with more white than is generally seen in the parent.

Shirley Hibberd, No. 36.—Full size, well formed, and beautifully marked show-flower.

Stanley Hudson, No. 29.—A flower of medium size, beautiful form, and very distinct markings on a pure white ground.

Thomas Moore, No. 48.—A full-sized, broad-petalled variety, richly marked with deep purple and pale crimson on a pure ground.

W. M. Hewitt, No. 209.—A seedling from "Captain Stott," which it follows in the richness of its colours and markings, but is fuller; a fine variety.

Scarlet Flakes.

A. Holmes, No. 394.—Fine white ground and very definite markings, rich quality; a seedling from "Sportsman."

Bayley Junior, No. 381.—A seedling from "Jno. Bayley," with more white ground than the parent.

John Ball, No. 483.—A seedling from "Clipper," but much larger; an extra fine variety both for the home stage and exhibition-table, of fine form, richly marked, large size, and good quality.

Richard Gorton, No. 276.—An extra variety, fine in form and substance, smooth, and very distinctly marked with bright scarlet on a pure white ground; a seedling from "J. D. Hextall."

Wm. Mellor, No. 384.—Another seedling from "Jno. Bayley," richly marked with deep scarlet, large and finely formed.

Rose Flakes.

Mrs. Anderson, No. 61.—A full-sized, beautifully marked variety, fine white and colour.

Mrs. Home, No. 440.—A seedling from and a greatly improved "Uncle Tom."

Mrs. Tomes, No. 296.—Very fine, smooth, richly marked with a lovely rose, petal broad and finely formed; one of the best.

Picotees.

Red-Edged.

Blanche, No. 526.—A red-edged "Fanny," fine for cutting.

Hilda, No. 466.—Heavy-edged, large and full, much in the style of "Wm. Summers;" fine for cutting.

Purple-Edged.

Constance, No. 449.—A full flower of fine quality, broadly margined with rich purple on a pure white ground.

Edith, No. 450.—Heavy edge, bright and pure, medium size, fine for cutting.

Lizzie Tomes, No. 476.—The finest heavy-edged purple Mr. Dodwell has yet bloomed, fine in form and of large size; it is beautifully marked with a solid edge of deep plum-purple on a white ground, of the richest quality.

Tinnie, No. 451.—A narrow-edged heavy, in the way of, but very distinct from "Zerlina;" described by Mr. Lord, when he saw it opened into bloom, as "a fair rival of 'Zerlina.'"

Rose-Edged.

Daisy, No. 547.—A seedling from "Fanny Helen," but much fuller than that variety; smooth, finely formed, and beautifully margined with a light rose.

Julia, No. 489.—A light wire-edged rose; a seedling from "Ethel;" very bright, and of full size.

Fancies.

Oberon.—Rich scarlet and maroon, fine in form, smooth, and of the highest quality, the finest of its class.

Titania.—Pure white ground, flecked and striped with delicate rose, exquisite for its chaste ground and winsome character.

From amongst these novelties the growers of Carnations and Picotees may make a selection that will greatly strengthen their chances on the exhibition-table.—T. Moore.

BELLE BAUCE PEACH.

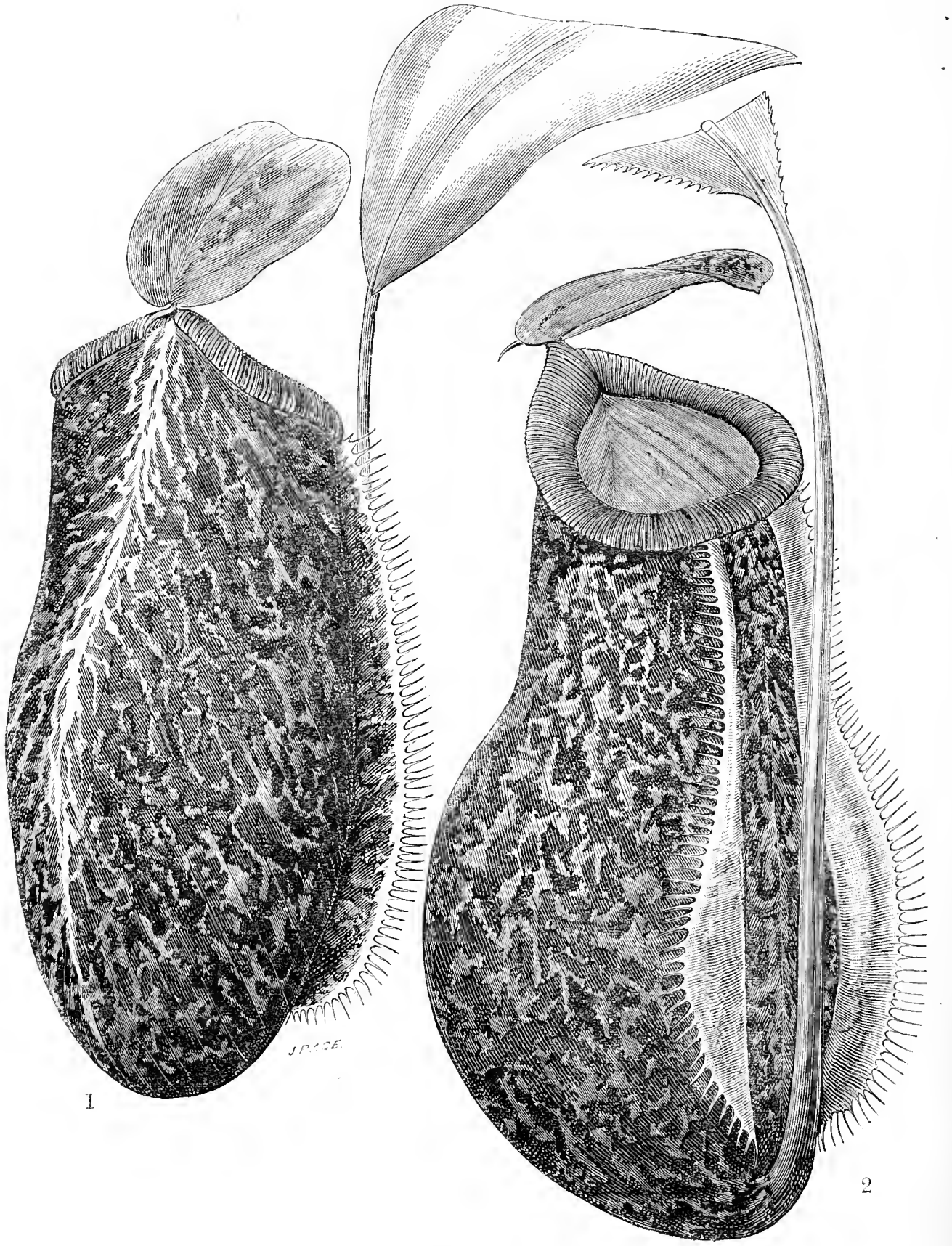
NOW-A-DAYS, when there are so many new kinds of Peaches claiming the favour of the gardening public, it may not be out of place to "hark back," so to speak, and call attention to one of the older varieties that, in my opinion, has claims to more general culture. The variety mentioned above is, according to my observations, not so generally grown as from its merits it deserves. We have grown it here both on walls and under glass, and consider it one of the finest Peaches we have. It has a good constitution, is a free setter, the fruits are of a good size and of a handsome appearance, and it is one of the finest-flavoured Peaches I ever tasted. With us it comes into use about ten days later than Grosse Mignonne, when the two are growing side by side. We have a tree in our second peach-house that has ripened sixteen dozen fine fruits each year for the past two years. It has one drawback to those who have to pack their fruit and send it to a distance,—viz., when the fruit is fully ripe, its flesh is so tender that it is almost impossible to handle it without bruising. To prevent this, we adopt the usual plan of picking the fruit a few days before it is quite ripe. As the best time for procuring whatever peach-trees may be required is now at hand, those of your readers who are desirous of adding to their collections, and have not already got Belle Bauce, will not, I feel sure, regret adding it to their stock. —H. J. Clayton, *Grimston Park Gardens.*

HARDY VARIETIES OF APPLES.

THE difference of constitution manifested by some of the established favourites amongst Apples has been the subject of remark during the past summer. In the orchard of Mr. Lane, of Berkhamstead, which is by no means unfavourably placed, the much-belauded Dumelow's Seedling and the Golden Noble, amongst others, are at this moment to be seen so much crippled by the uncongenial seasons we have recently passed through, that unless a salutary turn takes place, they will hardly recover, and even under the most favourable conditions it will take two or three years or more to enable them to reinstate themselves. This remark does not refer to a stray tree or two, but to whole rows of the same kind, all alike punished. On the other hand, under similar conditions, the Ecklinville Seedling, Prince Albert, Keswick Codlin, and others, have continued to make healthy growth, and are now, considering the season, bearing fair crops of well-swelled fruits, and the excellent variety known as Stone's Apple, or Loddington Seedling, has a highly promising appearance. In Mr. Dancer's fruit garden at Turnham Green, much the same observations have been made; in this case, some few sorts, including those named above as having sustained much serious damage, have been hopelessly crippled; while the Ecklinville Seedling, Stirling Castle, and Keswick Codlin, amongst others, have continued in a healthy productive state. The favourite Lord Suffield appears to be of little use in the soil and climate of Berkhamstead, as the trees make no progress.

The practical inference to be drawn from these facts is that the sorts which in each locality are found to be able to bear up against the unfavourable conditions—of climate especially—should be planted, in preference to those which do not, provided they themselves possess the other

necessary good qualities. The growers of hardy fruits would do well, in reference to this question, to note the facts which the experience of the past year or two may have brought out, both for their own advantage and for the benefit of others. There should, however, in all cases, be sufficient materials brought under observation to warrant a positive opinion being expressed, since the behaviour of a stray tree or two, here and there, does not afford any reliable basis on which a sound judgment could be pronounced.—T. Moore.



1 2

NEW PITCHER-PLANTS.

During the last few years numerous hybrid forms of *Nepenthes* have made their appearance in gardens, and have been welcomed, as being of a much hardier constitution than some of the imported species. Several novelties of this kind have been sent out by Messrs. Veitch and Sons, of Chelsea; and now Mr. B. S. Williams follows with others,

which will equally be welcomed by home growers, since they comprise some well-marked and really handsome kinds. We have to thank Mr. Williams for the use of the accompanying woodcut, representing two of his novelties, which, as we learn, are of American origin.

Nepenthes Outramiana, represented by Fig. 1, is described as a grand pitcher-plant, with pitchers five inches long and of fine form, the ground colour pale yellowish-green, densely spotted with dark blood-red, the markings, in some instances, coalescing, so that they nearly cover the whole surface of the pitcher. The mouth and the interior of the pitcher are also nicely marked. It is a very free grower, and produces its pitchers abundantly. A first-class certificate was awarded to it by the Royal Horticultural Society.

Nepenthes robusta, of which Fig. 2 is an illustration, is said to be a very free-growing hybrid, the result of a cross between *Nepenthes Hookeri* and *Nepenthes Phyllamphora*, with pitchers intermediate between those of the two parents, but having the colour and markings of *N. Hookeri*. The pitchers are very distinct in their outline, being much wider in the lower than in the upper part. This variety has also been awarded a first-class certificate by the Royal Horticultural Society. We shall give the portraits of two other hybrid pitcher-plants at the earliest opportunity.—T. Moore.

THE INTERNATIONAL POTATO EXHIBITION.

THIS show, which has for some few years past been organised by a Committee, which might now well merge itself into a Potato Society, was held at the Crystal Palace on September 22nd and 23rd. It was a thoroughly successful exhibition, some 2,500 dishes being staged by about one hundred exhibitors. The competition was keen, and the exhibits, generally speaking, good; while the arrangements, under the direction of Mr. Head, were of an entirely satisfactory character. Some interesting miscellaneous collections were also shown.

Class A, for 24 varieties, was an open class, in which six prizes were offered, and 16 competitors entered. The 1st prize, of the value of 10 guineas, offered by the Lord Mayor, Sir F. W. Truscott, was awarded to Mr. R. Dean, of Ealing, the varieties shown being:—American Purple, Beauty of Hebron, Blanchard, Bedfont, Prolific, Climax, Cosmopolitan, Covent Garden Perfection, Early Ohio, Early Market, Emerton's Advance, Garibaldi, Grampian, Heather Bell, International, Lord Mayor, Magnum Bonum, Manhattan, Mr. Bresee, Radstock Beauty, Schoolmaster, Snowflake, Triumph, Vicar of Laleham, and White Emperor. This prize was regarded as the blue riband of the show.

Class B, for 18 varieties, was only open to gentlemen's gardens, and 28 collections were staged. The 1st prize, of seven guineas, offered, together with the other five prizes as they class, by Messrs. Sutton and Sons, was won by Mr. W. Crump, gardener to the Duke of Marlborough, at Blenheim, who showed the following varieties in fine condition:—Beauty of Hebron, Bedfont Prolific, Blanchard, Extra Early Vermont, Grampian, International, King of Potatos, Mona's Pride, Porter's Excelsior, Radstock Beauty, Rector of Woodstock, St. Patrick, Schoolmaster, Snowflake, Triumph, Vicar of Laleham, Webb's Surprise, and Woodstock Kidney.

Class C, open, for 12 varieties, brought 27 collections in competition for 5 prizes. The 1st prize, offered by Mr. Alderman Hadley, was awarded to Mr. William Kerr, Dumfries, for Beauty of Hebron, Grampian, Magnum Bonum, Mammoth Pearl, Manhattan, Oneida, Pride of America, Porter's Excelsior, Salmon Kidney, Schoolmaster, Trophy, and Triumph.

Class D, open, for 6 varieties, brought 39 collections, in competition for 5 prizes. The 1st prize, offered by Messrs. H. and F. Sharpe, Wisbech, was also won by Mr. W. Kerr, who staged—Grampian, Pride of America, Porter's Excelsior, Schoolmaster, Trophy, and Vicar of Laleham.

Class E, open, for 4 varieties, two white and two coloured, had 28 competitors. The 1st prize, offered by P. MacKinlay, Esq., was taken by Mr. F. Miller, gardener to J. Friend, Esq., Margate, who showed Blanchard, Vicar of Laleham, Jackson's Improved, and Yorkshire Hero.

Class F, open, was for 4 new varieties not sold previous to 1879, which brought 12 competitors, the 1st prize, offered by Messrs. Hooper and Co., was also won by Mr. F. Miller, who showed Beauty of Kent, Pride of America, Vicar of Laleham, and Woodstock Kidney.

Class G, open, was for 1 round and 1 kidney variety; 29 lots were staged. The prizes were given by Amies' Manure Co., and the 1st awarded to Mr. W. Kerr, for Schoolmaster and Pride of America; Mr. J. Miller, 2nd, with Blanchard and Magnum Bonum; Mr. J. Reed, 3rd, with Climax and Magnum Bonum; and Mr. R. Dean, 4th, with Blanchard and International.

Single Dishes, open.—Any White Round, 24 entries: 1st, Mr. W. Kerr, with Schoolmaster; 2nd, Mr. R. West, with Schoolmaster; 3rd, Mr. J. B. Hall, with Schoolmaster. Any Coloured Round, 29 entries:—1st, Mr. R. Dean, with Vicar of Laleham; 2nd, Mr. F. Miller, with Red Emperor; 3rd, Mr. R. Ironside, with Grampian. Any White Kidney, 26 entries:—1st, Mr. J. Caunce, with International; 2nd, Mr. J. Miller, with Myatt's Prolific Ashleaf; 3rd, Mr. R. Ironside, with International. Any Coloured Kidney, 25 entries:—1st, Mr. R. Dean, with Mr. Bresee; 2nd, Mr. J. Caunce, with Fenn's Bountiful; 3rd, Mr. C. Osman, with Fenn's Bountiful. Any New Variety, 21 entries:—1st, Mr. P. McKinlay, with Wormleighton Seedling, a white kidney, raised from Belgian Kidney crossed with Early Rose; 2nd, Mr. R. Dean, with Lord Mayor, a flattish white second early, of fine quality, and a free cropper, raised from Early Rose crossed with Early Market; 3rd, Mr. C. Ross, Newbury, with Dux, a round seedling from Victoria. Dish of Suttons' Magnum Bonum, 53 entries:—1st, Mr. W. Kerr; 2nd, Mr. J. Lye; 3rd, Mr. W. Ellington. Dish of Schoolmaster, 21 entries:—1st, Mr. W. Kerr; 2nd, Messrs. Lott and Hart; 3rd, Mr. H. Gibbs. Dish of Woodstock Kidney, 13 entries:—1st, Mr. C. W. Howard; 2nd, Mr. H. Gibbs; 3rd, Messrs. Lott and Hart.

WINTER-FLOWERING
BOUVARDIAS.

THE manner in which these plants are managed by the great market-growers, some of whom produce as many as 40,000 of these plants annually, is quite a marvel. The whole course of treatment is systematised, and such a thing as failure is unknown. The plan adopted is something like the following:—

The plants are raised from cuttings of the young shoots, the plants to produce which are, about the end of the year, treated to a period of dry rest, as is often done with Fuchsias, after which the points of the shoots are removed, the soil moistened, and the plants placed in a genial heat. They soon push out fresh growth, and by February furnish a full crop of cuttings, which are at once taken off and struck in the brisk temperature of a propagating pit or frame. As soon as they are rooted, they are potted singly into 3-in. pots, and kept in a temperature of about 70°, the young shoots being stopped as required. By April they are ready to shift into 5-in. pots, in which they are to flower, and are kept growing on in the same temperature until half their growth is made, after which in the summer they are plunged out-of-doors, and left there till September, when they are again removed to the houses. The plants are then subjected to a degree of heat varying with the particular time at which they are required to be in flower, the bloom being finest and most abundant in a temperature of 70°. For late winter blooming, a portion of the plants are kept cool till a later period.

The varieties most extensively grown are, of reds:—Hogarth, Elegans, a brighter sport from Hogarth, and Flammea, bright pink. Of whites:—Vreelandii, Candidissima, Jasminiflora, and Humboldtii corymbiflora, the latter being kept to furnish the latest flowers in spring.—M.

GARDEN GOSSIP.

DURING the present month of October, the following FUNGUS FORAYS, as they are called—that is to say, meetings held by eryptogamists and others in seareh of fungi—are announeed to take plaee. On October 2nd, the members of the Epping Forest Club intend to explore the distriet of High Beeeh in seareh of fungi, rare and common. The party will be accompanied by Dr. Cooke, Mr. Worthington Smith, and Mr. English; and in the evening the finds will be discussed and eommented upon at the "Foresters' Arms," near the spot explored.—On October 7th, the Hereford meeting is appointed to take plaee, when the grounds and park of Holme Laeey will be explored. The following papers are to be read:—"Mushroom Sauee," by Dr. Cooke; "The New Selerotium Disease of Irish Potatos," by Dr. Bull; "The British Hypomyees," by Mr. C. B. Plowright; "Spirulina oseillarioides," by the Rev. John E. Vize; "Notes on Thelephora Lyeii," by Dr. Cooke; "Note on Spore Diffusion of the Larger Elvellaeei," by Mr. C. B. Plowright; and "The Luminosity of Fungi," by Mr. William Phillips. MM. Maxime Cornu and Rose have promised to eome from Paris to attend this meeting.—On Oetober 11th and 12th there will be a fungus foray at Coed Coeh, Denbighshire, under the general direetion of Mrs. Lloyd Wynne and the Rev. M. J. Berkeley.

— IT is announced by the ROYAL HORTICULTURAL SOCIETY that the dates fixed for the meetings of the Fruit and Floral Committees, exhibitions, and evening fête, in 1881, are the following, namely:—Tuesdays: January 11th, February 8th, Mareh 8th and 22nd, April 12th and 26th, May 10th and 24th, June 14th and 28th, July 12th and 26th, August 9th and 23rd, September 13th, Oetober 11th, November 8th, and Deeember 13th. On these oeeasions eertifieates will be awarded to deserving new fruits, vegetables, plants, and flowers; and medals, supplied by the Davis Fund, will be awarded for specially meritorious productions. The great summer show will open on Friday, June 3rd, and be eontinued on the 4th, 6th, and 7th. The Rose and Pelargonium Soeiety's Show on June 28th and 29th. The exhibition of British Beekeepers' Asso-eiation, from July 26th to August 1st. The Artisans' and Cottagers' Show on Monday, August 1st. The evening fête on Tuesday, June 28th.

— IT is announced that the PROVINCIAL SHOW of the NATIONAL ROSE SOCIETY for 1881 will be held at Sheffield, by invitation of the Sheffield Botanic Society, in the course of the month of July.

— THE PELARGONIUM SOCIETY will hold its annual exhibition for 1881 on June 28th and 29th. The schedule of prizes, which has been reeently issued, does not materially differ from that of last year, exeept in the inerease of the prizos for spceimen plants. Copies ean be obtained from tho Hon. Seeretary, Mr. Shirley Hibberd, 15 Brownswood Park, Finsbury Park, N.

— IT is proposed to hold an INTERNATIONAL FRUIT SHOW at Edinburgh in September, 1882, under the auspices of the Royal Caledonian Hortieultural Soeiety. We trust the good work may be as suceessfully carried out as the other shows of a similar kind held in Edinburgh have been. We understand that there is a very general feeling of satisfaetion that this deeision has been arrived at, and, as there is ample time to make preparations, no doubt the aim of the promoters will be aehieved.

— IN a recent note in the *Gardeners' Chronicle*, Mr. Croucher points out that IMPORTED AGAVES are subject to very unexpected MUTATIONS. When first imported they aro very various in tho development of their foliage and

spines: some short in the leaf, with strong spines; others longer, with much less spine development; some with very flat leaves; others concave, with a very thick base. Under Agave horrida we get the large flat-leaved forms, called A. Regelii; small concave forms, called A. De Smetiana; moderate-sized plants, with broad concave foliage, representing A. horrida, and some pigmy forms. In four or five years, if liberally treated, these gradually change their characters, and take the ordinary form of A. horrida. In those called A. Roezlii or A. Gilbeyi, we get, in the first, a very strong thick-leaved plant, about 2½ feet through; and in the second, a very sturdy plant, 1 foot through; but the short one has grown long, and the large plants (especially some) have narrowed and elongated, until the characters of the species A. univittata—of which he believes they are forms—are seen peeping out. The same thing occurs in the Agaves called Kerchovei and Beaucarnei: the foliage lengthens, and the spines grow less vigorous, until the old A. heteracantha appears. A few years ago, he adds, I thought we were getting a quantity of new species of these noble plants, but now I look upon such as A. Verschaffeltii, Leopoldii, Saundersii, Scolymus, cochleata, &c., as seedling forms of A. amœna. The same is true of forms of which univittata is the type, as well as of heteracantha. The only plants that I look upon as new are A. Victoriæ Reginæ, A. Bessereriana, A. utahensis, A. Peacockii, and A. Seemanni; A. Parreyi is so much like a compact applanata that I suspect it. There are some good distinct varieties in each section, but with time we shall find that these will grow out on flowering, and we shall never see the like again, except they be reimported. Peculiar climatic conditions have produced them, but give them the original conditions of the parent and we shall get reversion. This I have found to be the case with Agaves and with Cacti, more than any other set of plants.

— At Chevening Park the Walks and Drives are kept clear of weeds by the careful distribution of Arsenic, prepared in the following way:—3 lb. of arsenic is boiled up in 3 gallons of water, and to this 7 gallons of water are added when cold. Thus weakened, the quantity is capable of covering a distance of 90 feet. The walks average about 9 feet wide, and being of considerable extent, a zinc cistern, made to run on three wheels, is used, with a spreader in the back part of it—in fact, a miniature watering-cart—for the purpose of scattering the liquid. The walks receive this dressing annually, the sides being hand-watered with watering pots.

— The Capital beds of Carrots at Alnwick, long, crisp, and tender, recently induced a visitor to enquire how the crop was managed, since in old garden ground Carrots are so liable to the attacks of insects and other pests that their cultivation has in many places been abandoned. "I am aware of that," said Mr. Ingram, and then in these few words he revealed the secret of his success:—"Trench in autumn. Trench deep, and lay the manure at the bottom of the trench. In spring rake down, lay on an inch of wood ashes, and dig them lightly in."

— Writing of Choice Peas, Mr. Gilbert, of Burghley, says:—"I think *Criterion* still among the best; *G. F. Wilson* is also a grand Pea; and *Marvel* with me this year is indeed a marvel—4 ft. high, and literally podded from top to bottom. Among new Peas not yet out, *John Bull* stands prominent—4 ft. high; well-filled pods of a delicious flavour are among its chief characteristics. *Reading Trumpet*, which I have grown this season, is a white marrow of great excellence. I had almost forgotten *Stratagem*, which is the gem of Messrs. Carter's three."

— The Tydæas are valuable decorative indoor-plants during the autumn and winter. Mr. J. Fraser has the variety named Robert le Diable in profuse bloom, presenting a very gay appearance. It is of easy cultivation, and sure-flowering, so much so that spring-struck cuttings when grown quickly may be had in flower during late summer and autumn of the same year. The flowers are of a rich crimson velvet, densely spotted with black, and spring from the axils of the leaves, so as to form a dense and most effective pyramid; it is also showy by gaslight, and therefore most valuable as a table-plant. After the plants have ceased flowering, they should be placed on a shelf in the greenhouse, ranging in temperature from 45° to 50°, watering them moderately, but never allowing them to become too dry.

— For the autumn flower garden, the Rudbeckia Neumanni is, perhaps, scarcely excelled by any of our hardy perennials. It is equally adapted for planting in lines or in masses, and is a fine decorative subject, either in the flower border or the flower vase. It grows about 2 ft. high, is of erect habit, requires no staking or tying, and has large bright golden orange-yellow flowers, with a black disc. It has been suggested that a few beds of these in some of our London parks during the autumn would be a relief to the eye, after the formal appearance of the ordinary bedding.

— In the opinion of Mr. Harrison Weir, the Shanking of Grapes proceeds from a fungus, which lights on the stem of the bunch. In a note published in the *Journal of Horticulture* he describes this as at first a tiny speck, which quickly grows, and when it has surrounded the stem cuts off all nutrition from the fruit below, and shrivels the stem so that it dies, the upper part remaining in full health and vigour, and the fruit growing and ripening as before. If it were from the roots being defective, as some say, Mr. Weir argues that the whole bunch would go, which it does not. Stop mildew or fungus in your house, and there will be no shanking. This is easily verified by looking out sharply for the first appearance of the spot of fungus and watching its progress; the tissues above the shanked part will be found healthy and sound, which could not be if the damage came from the root, nor in that case would the simple plan of cutting off the part that has shanked be of any avail, which it undoubtedly is. The best remedy for shanking, he says, is sulphur on the pipes; but it must be dealt with gently.

— Mr. T. F. Rivers states that the Early Louise Peach was one of the first early seedlings raised at Sawbridgeworth, and a great advance in early maturity was marked by its advent; it has not been claimed as a fruit of the first water, and it does not rival the Noblesse in flavour; but half a peach is better than none, and if in a cool orchard-house the season of ripening can be extended by a month, then there is something gained. He has the Early Louise growing as an untrained standard, as a trellis-tree, and as a pot-

tree; in each and all these conditions the fruit is fair-sized, very juicy, and good. The Rev. T. C. Bréhant also writes:—"As to Early Louise, there is no doubt whatever in my mind that it is the best very early Peach we have. It is prolific, well-developed and coloured, and of good flavour, and is much esteemed on the Continent as such already. Early Rivers, but for the defect of the stone cracking—when the fruit ceases to ripen and insects creep into the stone—would certainly be the best, much resembling, as it does, a fine Noblesse.

— WRITING of the culture of ORANGE TREES IN POTS, Mr. Douglas remarks that a high temperature must be kept up in the house where the fruit is ripening, as the fruit ripened in a greenhouse temperature is quite unfit to eat. It is only by attention to keeping up the necessary temperature that fine-sized, full-flavoured fruit can be obtained.

— THE *Garden* states that the *Arundo mauritanica*, or Mediterranean Reed, has for some time past been very attractive in the Water-lily House at Kew. Its huge feathery plumes, 2 ft. in length, and from 8 in. to 10 in. in breadth, produced on stems nearly 12 ft. high, and clothed with handsome broad glaucous foliage, have a very graceful appearance. For a warm greenhouse of sufficient size to admit of its full development, and where also it can obtain abundant moisture at the roots, there are few subjects more desirable. It is stated that when planted in the open air in rather a dry soil, its leaves acquire an elegant variegation, but when placed again under liberal treatment, the foliage reverts to its original character.

— THERE are certain laws, or usages, or fashions, which govern the construction of BOUQUETS. A Bridal Bouquet is invariably wholly composed of white flowers—fragrant Gardenias, white Roses, the sweetly-scented wax-like Stephanotis, Jasmine, Lapageria alba, Eucharis, Lily of the Valley, Roman Hyacinths, White Cloves, Pinks that have no dash of colour in the snowy petals, Orange blossoms, Bouvardias, double Chinese Primulas, chaste Orchids, &c., are the leading subjects made use of. Birthday Bouquets are composed of white and pink blossoms, or such as have pale tones. Ball-room Bouquets depend on the *mode* and colour of my lady's dress; as a general rule the bouquet should match the dress, and this necessitates confidence between my lady, or her *modiste*, and the artist who constructs the bouquet; sometimes it is deemed necessary to have the bouquets in harmony with the hangings or prevailing decorations of the ball-room, and occasionally it happens that bouquets of a peculiar kind of flower or particular hue of colour are indispensable.

— AS a hardy orchid to be looked up, the cultivators of these plants should make a note of ORCHIS LATIFOLIA BARTONI, a magnificent variety of Orchis latifolia found by the Hon. Mrs. Barton, of Straffan, during a botanical ramble in the county Sligo. The plant has this season been flowering well in the Glasnevin Botanic Garden.

— WE are informed that as a recognition of Mr. G. NEILSON TUCKER'S valuable services as Manager and Secretary of Amies' Chemical Manure Company, that gentleman has been elected Managing Director of that company.

In Memoriam.

— MR. JOHN READ, formerly of Market Rasen, and latterly of Lincoln, died recently, at the age of 73. He was born at Great Grimsby in 1809, became widely known as a florist, and a cultivator of Tulips, Auriculas, Polyanthuses, Ranunculuses, &c., after he had settled in business as a brewer at Market Rasen, and was also a frequent contributor, under the signature of "Dera," to the floral publications. Of late years he turned his attention to raising seedling Auriculas, crossing with great care and judgment, and always with a view of securing definite results, keeping a faithful record of all his crosses. He was the raiser of Dr. Horner, The Czar, and Sultan, grey-edges, and Cleopatra and Aeme, white-edges, some, if not all of which, were distributed by Mr. J. Booth, of Failsworth, Manchester.

— MR. ROBERT RONALDS, of the High Street, Brentford, an old and very much respected townsman of the county town of Middlesex and a highly-respected nurseryman, died a few weeks since, at the advanced age of 81. The nursery business carried on by Hugh Ronalds and Sons at one time had a European reputation as one of the very best fruit nurseries in the kingdom. After the death of their father, some fifty or sixty years since, the business was carried on by John and Robert Ronalds, of whom the gentleman just deceased was the survivor. In addition to being large cultivators of fruit-trees, &c., the Messrs. Ronalds grew a select collection of bulbous plants, and devoted a portion of their attention to seed-growing, the nursery being famous for its strains of Asters, Stocks, &c., and for the newest and choicest hardy and half-hardy annuals. It is recorded that a former Duke of Devonshire, struck with the beauty of a bed of late Tulips in Messrs. Ronalds' nursery, offered the large sum of £500 for it, which offer was accepted.

— DR. HANSTEIN, Professor of Botany and Director of the Botanic Gardens at Bonn, died on August 27th. He was chiefly known as a physiologist, but the garden under his charge was one of the most interesting of the smaller Continental gardens. The collection of hardy herbaceous plants, while strictly systematic, was yet arranged with more eye to effect than is usual in botanic gardens generally.

— HERR F. B. KRAMER, the well-known Orchid-grower, died on August 28th, in his 76th year. The late Herr Kramer lived for more than forty years, as the faithful and trusted head-gardener to Senator Jenisch, an excellent Hamburgh patrician, and a great lover of horticulture and the fine arts, at his beautiful park of Klein Flottbeek, near the picturesque village of Blankenese, on the Elbe. Senator Jenisch, by his will, showed that he felt pride both in his garden and in his gardener, for he ordered the garden to be kept up, with Herr Kramer as its head, and his eldest son, Francis Kramer, as his assistant.

— MR. DANIEL URQUHART, of the late firm of Messrs. Wm. Urquhart and Sons, nurserymen and seedsmen, Dundee, died at The Hollies, Broughty Ferry, on August 30th.

W. H. Fitch. del.

Chromo. P. Strobant. Chent.

Castilleja indivisa.

CASTILLEJA INDIVISA.

[PLATE 525.]

THE family of Scrophulariads furnishes to our gardens few more striking plants than the *Castilleja indivisa*. Certainly, among the annual members of the Order it stands unrivalled. The genus is probably but little known to the present generation of horticulturists, though to many of the older ones the name, at least, of *C. coccinea*—a species temporarily under cultivation about thirty years since—may, perhaps, be familiar. From their close relationship to several parasitical genera of the same family, there were grounds for fearing that the absence of such ornamental plants from our gardens could only be due to the same cause as that which practically excludes the handsome *Gerardias* from cultivation—their being root-parasites, like the *Orobanches* or Broom-rapes of the Old World. So far, however, as the species under consideration is concerned, experience has happily proved that these fears are entirely groundless, and it may be confidently affirmed that to the horticulturist of average skill, the cultivation of *Castilleja indivisa* will present no difficulty whatever.

As in the case of some other interesting favourites—notably, the well-known *Poinsettia pulcherrima*, *Euphorbia splendens*, and *Salvia Horminum*—the attractions of the plant are due less to the beauty of the flowers, properly so called, than to the highly-coloured bracts or floral leaves, which accompany these, and which are of a brilliant crimson-scarlet, varying slightly in intensity and shade, but always most effective in their *ensemble*. The plant grows to a height of from one to one and a half feet, being erect in habit, with rigid, purplish stems, more or less branched, with alternate strap-shaped strongly-nerved foliage, mostly entire, but often more or less pinnatifid, with linear acute lobes. The flowers are arranged in a dense terminal leafy spike, each flower being accompanied by a large ovate or obovate, mostly entire, strongly three-nerved bract, the lower half of which is of an agreeable green colour, the rest of the leaf being of a brilliant red. The flowers themselves, though less conspicuously coloured, being of a yellowish tint, are not without claims to attention, both calyx and corolla being of an unusually flattened tubular form, the former being cleft at the margin, above and below, and including the tube of the corolla, the upper lip of which projects considerably, and by its form suggests that of a fish's head. The green calyx is not unfrequently margined with bright red.

The readers of the *Florist* will, however, probably feel greater interest in learning the details of its culture, than in the peculiar botanical features of this handsome plant. Its general treatment is that of the half-hardy annuals. But to obtain well-grown specimens, certain precautions are essential, which, however, are equally so with most other plants of the same class. The great point to be guarded against is the tendency the plant sometimes shows to throw up its flower-stem prematurely, before the root and crown have attained sufficient strength. The seed, therefore, which is very small, must be thinly sown in light soil, in gentle heat or a warm greenhouse; and the seedlings should be early transplanted, either singly into small pots, or two or three into one of larger size. If this is carefully effected, and the young plants kept near the glass, at common greenhouse temperature, a robust growth may be readily obtained. The *time* of sowing is not unimportant. It is not desirable to sow very early, as the seedlings would remain too long under glass, and probably show flower-stems before planting out.

It cannot be too strongly pointed out that the *Castilleja indivisa* is emphatically a plant for the *open air*. Under glass it will, perhaps, produce larger specimens, but the colouration of the bracts assumes a tawny hue, which is far less pleasing than that exhibited by the plant when fully exposed to the sun and air, in a rich and sandy soil. But beyond the diluting effect of shade upon the rich colour of the flower bracts, there is no difficulty in the pot-culture of the plant, and as it presents some obvious compensating advantages, doubtless the attempt will be made, and cultivators will compare the results. Whether in pots or the open ground, the soil best suited to its requirements appears to be a sandy loam, fairly enriched with old and well-rotted manure or leaf-mould, but any light mixed compost will serve. Judicious pinching-in may be tried with

some advantage at an *early* stage, but the finest heads are produced in the "unstopped" stems. By successive sowings from early February to the end of March, the plant may easily be had in flower from June to October.

The genus includes some thirty or more species, all American, with the exception of one in Northern Asia, the greater part being found in North America west of the Mississippi, and in the Andes. The present species is a native of Texas, and is probably the finest of the genus, though the *C. coccinea* is but little inferior.—W. THOMPSON, *Ipswich.*

NOTES ON THE AURICULA.

IN November the plants should be all in their winter quarters, having previously been thoroughly cleared from dead and decaying leaves, and, as far as possible, from insect pests. If they have a tuft of stiff short leaves, and no signs of flower trusses, they will be all right for flowering well next season. It is very desirable to attend to the removal of the decaying leaves during the winter, as they are not infrequently the cause of the death of valuable plants.

Slugs are at this time of the year very troublesome. The best plan to destroy them is to scatter quick-lime thickly inside the frames, and then water it well. The lime-water seems to be more destructive than dry lime, which they seem to be able to throw off their backs, and to march off unharmed.

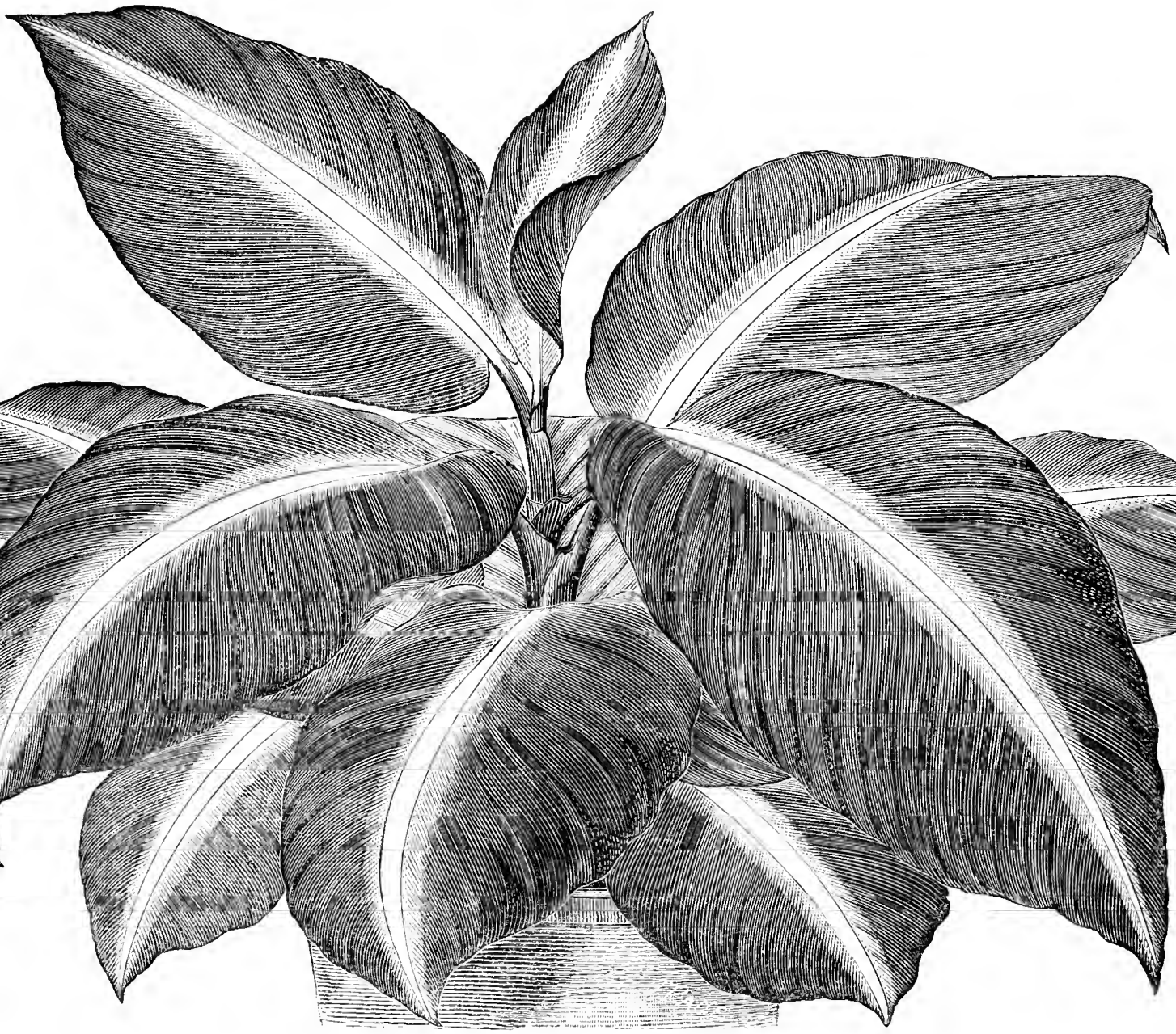
Caterpillars of two kinds, at least, feed upon the leaves of the Auricula, and make ugly marks. It is very necessary to keep a watchful eye over these, as an hour or two may see a valuable plant almost destroyed. Neither frost, lime, lime-water, nor tobacco-smoke seems to do much injury to these.

There is another pest which has been much talked about, and has frightened many growers, viz., the Auricula Aphis (*Trama auriculæ*). It was freely noised abroad that, at least, one collection had been almost annihilated by it, scarcely a vestige remaining where once there had been fine healthy specimens. Many growers were much alarmed, and I know of one, at least, who will not even take his plants home again from exhibitions, in case some specimens of this terrible enemy may have found their way on to them. A little while ago, however, I visited some of the principal Northern growers, and I find that this woolly aphis is not at all uncommon. I saw plants very much covered with it; the insects were sitting thickly round the necks of them, and all down the roots, and we even found them abundant in the drainage; but the most remarkable part of the matter is this, that none of the plants had received any appreciable injury. The growers, as a rule, said,—"We would rather not have it, but we do not think the plants are injured by it." One exceedingly flourishing plant was pointed out to me, and I was told that the roots were thickly infested by it. I noticed one plant flagging in the same collection, showing unmistakably that the roots were out of order—that plant had been doctored for the woolly aphis with fir-tree oil. One grower quaintly remarked that the insect lodged on the plants, but did not board there.

The autumn bloom was the subject of conversation with many of the growers, and no one seemed able to account for it. Some said late potting would prevent it; but this could not be a remedy, as I potted a large portion of our own collection as late as the end of July, and these are showing autumn bloom quite freely. Mr. Horner's collection at Kirkby Malzeard, near Ripon, is in the most satisfactory condition of any I have yet seen. He has not one plant in fifty showing autumn bloom, and he potted almost the whole collection about the end of April and early in May. When at Kirkby I talked over the details of potting with Mr. Horner, and he does not attach any importance to the time of potting. He pots at any time during the summer months, and even as late as September and October, and the plants all do much alike. There is scarcely any plant so accommodating in its nature as the Auricula. I potted on one occasion a number of plants as late as the end of October, and they were the best we had that year. I saw as much autumn bloom in a very cold district near Newcastle-on-Tyne, as on any in the more favoured districts of the South. I fancy the amount of water applied to the roots has more to do with it than anything else. The Auricula even in summer does not require much water; and if it is frequently applied, when the plants do not really need it, they are certain to be forced to bloom before their usual time. In Alpine regions the plants can-

not have much moisture round the roots during the greater portion of the summer and autumn. I find if we want plants to bloom well at the normal time, we must be careful to imitate the natural conditions of temperature and moisture as nearly as possible.

The great value of the Auricula as a town plant is not yet fully recognised, at least, in the South of England. It will grow and flourish where many other flowers will barely exist, and its quaint and beautiful flowers welcome us with their winsome smiles amongst the earliest of the year. It is much to be desired that workmen in the South would take to growing such flowers, as they do in Lancashire. There are plenty of men in the North who will give a guinea for an Auricula, when their wages are not more than that in a week. They take care of their plants, and propagate them, so that many of these small collections represent a considerable sum of money; and it is pleasing to know that it could be realised in every case.—J. Douglas, *Loxford Cottage, Ilford, Essex.*



DIEFFENBACHIA LEOPOLDII.

AMONGST the many forms of *Dieffenbachia* which have been raised from seed, or introduced from various parts of South America, there are none more thoroughly effective than that of which a woodcut from Mr. Bull's *Catalogue* is here introduced, the plant being remarkable for the rich, satiny lustre of the green portion of its leaves, and for the strong contrast presented between this and the ivory-white costa. Mr. Bull himself remarks that it is "a noble South-American stove-plant, of resplendent beauty. The leaves are oblong-ovate, of a rich, deep, lustrous, satiny-green, traversed by a broad and stout

ivory-white rib, which is bordered on each side through its entire length by a whitish band, and shows in strong contrast to the colour of the leaf proper, producing a marvellously fine pictorial effect. It is one of the most handsome of the Dieffenbachias yet introduced, and was one of the twelve new plants with which Mr. Bull gained the first prize at the Royal Horticultural Society's Provincial Show at Preston in 1878, and at the International Horticultural Exhibition held in Ghent the same year.

To have the plant in perfection, it requires liberal culture in a well-ordered plant-stove. In other words, it must have a thoroughly-drained, well-enriched soil, increasing the size of the pot as the roots require it; while it must be grown on in a genial, tropical climate, where it will be abundantly supplied with heat and moisture. The plant was named in compliment to the present King of the Belgians, Leopold II., who is a most enlightened and liberal patron of horticulture.—T. MOORE.

VINES AND VINE-CULTURE.

CHAP. XVIII.—THE VARIETIES OF GRAPES. (*Continued.*)

THE descriptions of the varieties of Grapes included in our Synoptical Table are here continued, from page 147.

BUCKLAND SWEETWATER (20).—A round white Sweetwater Grape.

Vine.—Growth moderately strong and free, tolerably fruitful. *Leaves* similar to Black Hamburgh, dying off a very pale yellow.

Fruit.—Bunches medium-sized, averaging from ¾ lb. to 2 lb. in weight, rather short, with very broad shoulders; always well set. *Berries* large, or above the medium size, round. *Skin* thin, almost transparent, greenish white, but assuming a pale straw-yellow colour when fully ripe, and if allowed to hang for any length of time it frequently becomes almost white, and very different in appearance from freshly-ripened fruit; the skin also becomes thick and tough, as well as the flesh, and the entire character of the grape is altered. *Flesh* thin, soft, juicy, and with a pleasant Sweetwater flavour, but when kept long it becomes almost tasteless.

History, &c.—This is an English seedling grape, raised at Buckland, near Reigate, by a gentleman who brought the seed from the Continent. Cuttings of the seedling plant were given to Messrs. Ivery and Son, nurserymen, Dorking, and one or two other parties. Mr. Ivery grafted it on the Black Hamburgh, and was successful in making it grow. Very singularly, all the others died, even the seedling plant, so that Mr. Ivery held the entire stock, and sent it out to the public about the year 1860. In some respects it resembles the Golden Hamburgh, which was sent out a few years previously, and which it soon displaced, and became the most popular white grape. Excepting the Muscat of Alexandria, there is no white grape so often seen on the exhibition tables.

Cultural Notes.—It succeeds admirably under the same treatment as the Black Hamburgh, for which it forms a handsome companion. In constitution it is not quite so robust as the Black Hamburgh.

Season.—Early or useful for summer.

Merits.—Very showy and handsome, but second-rate in quality.

BURCHARDT'S AMBER CLUSTER.—A synonym of Grove-End Sweetwater: which see.

BURCHARDT'S PRINCE.—A synonym of Aramon: which see.

BUSBY'S GOLDEN HAMBURGH.—A synonym of Golden Hamburgh: which see.

CABRAL (13).—An oval white Sweetwater Grape.

Vine.—Growth strong and robust, the wood somewhat gross, of a pale colour, and very downy around the *buds*, which are very large. *Leaves* large, soft, and covered with down, dying off yellow.

Fruit.—Bunches medium-sized, short, with stout shoulders, generally well-set. *Berries* above the medium size, roundish-oval, on short, very strong, warted foot-stalks. *Skin* thick and rather tough, of a pale yellowish-white colour. *Flesh* firm, juicy, sweet, but not rich.

History, &c.—Grown in the Royal Horticultural Society's Garden, Chiswick, for some time, but not in general cultivation.

Cultural Notes, &c.—Requires heat to set it properly, and also to ripen the fruit thoroughly.

Season.—Mid-season.

Merits.—A fine showy grape, but second-rate in quality.

CALABRIAN RAISIN.—A synonym of Raisin de Calabre: which see.

CAMBRIDGE BOTANIC GARDEN.—A synonym of Black Prince: which see.

CANON HALL MUSCAT (55).—A round white Muscat Grape.

Vine.—Growth very strong and somewhat gross, the wood thick and soft, frequently very badly ripened. *Buds* large. *Leaves* large, pale-green, somewhat flabby, not so deeply lobed as the common Muscat, dying off yellow.

Fruit.—Bunches large, or above the medium size, rather short, often badly set, with broad, strong shoulders, foot-stalks thick and fleshy. *Berries* very large, round, or nearly so. *Skin* thin, pale straw-yellow. *Flesh* firm, juicy, very rich, and with a strong Muscat flavour.

History, &c.—This is a seedling from the Muscat of Alexandria, and very distinct. It was at one time largely cultivated, a vine or two being found in every collection of Grapes, but it is now getting every year more and more scarce.

Cultural Notes.—No Grape perhaps has been the cause of so much trouble to gardeners as the Canon Hall Muscat, through the difficulty experienced in its satisfactory cultivation. In constitution it is very bad, the wood being often soft and pithy, and such as will not ripen; thus many spurs become blank. Again, it is difficult to set, excepting great care is taken to impregnate the berries artificially, and a high temperature is maintained. Some of the largest and finest examples I have seen were grown by Mr. Drewett, at the Denbies, in 1859, the berries measuring from 3½ in. to 4 in. in circumference.

Season.—Late; requires great heat.

Merits.—Remarkably handsome, and of excellent quality, but inferior to Muscat of Alexandria for general purposes.

CATAWBA (98).—A round black American grape, belonging to the species *Vitis Labrusca.* —*Synonyms:* Numerous, but practically unknown in this country.

Vine.—*Growth* very free and vigorous, although not robust, the shoots being long and slender. *Leaves* deep green, rugose, dying off reddish. Very fruitful.

Fruit.—*Bunches* small, short, well set. *Berries* small round. *Skin* thick, reddish at first, but becoming nearly black when fully ripe, and with a very heavy blue bloom. *Flesh* greenish, somewhat glutinous, and with a strong musky perfume, which is known as "foxy;" sweet, but not pleasant.

History.—This is one of the best known varieties of the American grapes, which are peculiar to that country. They are of a character very different from the European section which has sprung from *Vitis vinifera,* and are largely cultivated and esteemed in America as dessert fruit, as well as for wine.

Cultural Notes.—Not cultivated in this country, excepting as a curiosity or ornamental plant. They have the reputation of not being subject to mildew, and have on this account been recommended to be used as stocks for the European grape, with the object of warding off that malady. Having tried this experiment, I am able to pronounce it non-efficient.

Season.—Mid-season; open air.

Merits.—Worthless in this country.

CHAMPION HAMBURGH.—A synonym of Mill Hill Hamburg: which see.

CHAMPION HAMBURGH MUSCAT.—A synonym of Muscat Champion: which see.

CHAPTAL (23).—A round white Sweetwater Grape.

Vine.—*Growth* free and vigorous, the shoots always ripening well. *Leaves* medium-sized, dying off yellow. Very fruitful.

Fruit.—*Bunches* large, or above medium-sized, of a long, tapering form, with generally one large shoulder; always well set. *Berries* medium-sized, round. *Skin* pale straw, nearly transparent. *Flesh* firm, juicy, fairly sweet, and pleasant, but not rich.

History, &c.—This has been grown for a good many years at Chiswick, and at Trentham, by the late Mr. Fleming, where it was much esteemed, but it is not in general cultivation.

Cultural Notes.—Requires much the same treatment as Royal Muscadine, a large-bunched coarse variety of which it greatly resembles.

Season.—Mid-season.

Merits.—Second-rate.

CHARLESWORTH TOKAY.—A synonym of Muscat of Alexandria: which see.

CHASSELAS.—A synonym of Royal Muscadine: which see.

CHASSELAS DE FALLOUX.—A synonym of Chasselas Rose: which see.

CHASSELAS DE FLORENCE (21).—A round white Sweetwater Grape.

Vine.—*Growth* free and vigorous, the shoots slender; but always ripening well, and very fruitful.

Fruit.—*Bunches* long, medium-sized, well set. *Berries* small, or below medium, round. *Skin* thin, transparent, pale straw, or nearly white, with a great portion of them assuming a violet tinge, and some cinnamon-brown. *Flesh* firm, sweet, and very pleasant.

History.—Grown in the Royal Horticultural Society's collection, and received from Messrs. Baumann, of Bölwiller.

Cultural Notes.—Resembling the Royal Muscadine in all respects but the coloration of the berries. It also requires the same treatment.

Season.—Early.

Merits.—Second-rate.

CHASSELAS DE FONTAINEBLEAU.—A synonym of Royal Muscadine: which see.

CHASSELAS DE JERUSALEM.—A synonym of Black Hamburgh: which see.

—A. F. BARRON.

THE GLADIOLUS IN 1880.

THE present season has been very favourable for the well-doing of this popular flower—I say popular from the annually increasing demand for bulbs, and for the cut spikes for the purpose of decoration. It may be truly said that this fine autumn flower has now become naturalised to this climate, upwards of twenty acres of land being devoted here to its culture.

A great deal has been written from time to time on the "disease" and "degeneration" of this flower, and on the unsuitableness of our climate for its cultivation. Firstly, the so-called "disease" is a misnomer—being nothing more or less than exhaustion—and, I believe, has pretty well died out, although so much has been written about it. Secondly, "degeneration," which is now said to be the cause of failure, is equally absurd. The first French hybrids that were raised by Souchet thirty years ago, viz., Mons. Blewit, Mons. Vinchon, and many finer sorts of more recent date, as well as many raised and sent out by myself fifteen years ago, viz., Accius, Julia, Brennus, Lady Bridport, Agrius, and many other grand flowers, are as healthy as they were the first year. Many of these have been finer this year than I have ever before seen them, some attaining the height of six feet. Thirdly, the cause of failure set down to our unfavourable climate is also equally absurd, as it is well known that our culture is more extensive than any on the Continent, and our English-raised sorts surpass in form and substance all others in commerce.

A few hints on the culture of this flower may be interesting to the general readers of

the *Florist and Pomologist*. Our soil is of various characters, in some parts stiff clay, *in others loam on a bed of gravel*. Yet they do well, and are equally vigorous on all. The land is prepared in the autumn by deep ploughing. It is then allowed to remain until it becomes dry enough in the spring to be harrowed and well pulverised. Planting commences about the first week in March. The ground is marked out in beds 4 ft. wide, with 2 ft. paths; the choice sorts are planted in drills from 6 in. to 12 in. apart, and covered from 2 in. to 3 in. deep; the hardy, common sorts are drilled in, and covered over with the plough, in the same way as Potatoes are usually planted. No nostrums are placed round or over the bulbs, as recommended by some. Such treatment is quite unneeded; in fact, I believe it is injurious. The beds should be kept free from weeds during their growth; and when spikes are wanted for exhibition, the ground should be mulched over with half-rotten manure, and the plants well supplied with manure-water in dry weather. About the beginning of October, or when the foliage begins to turn yellow, the corms should be taken up and laid in an airy shed to dry gradually. After the sap has returned to the corms, and the stalks have become dry, they should be severed from the bulbs, the latter being taken to the store-room and laid upon shelves out of the way of frost, until planting time.—JAMES KELWAY, *Gladioli Villa, Langport, Somerset.*

RONDELETIA SPECIOSA MAJOR.

DURING this dull period of the year, when flowers are somewhat scarce, any which are of a brilliant colour are especially valuable for cutting purposes. It is with this fact in view that I would say a few words in reference to the usefulness of the old stove favourite whose name stands at the head, and which is not so common as it ought to be. The plant, indeed, when met with, does not usually present a very luxuriant appearance, the foliage being generally of a rusty hue. It, however, succeeds well in a mixture of two parts fibry peat and one part light turfy loam, with a good sprinkling of silver-sand, and should be potted rather firmly, and afforded good drainage, which is very essential. This *Rondeletia* delights in a good heat and a moist atmosphere when growing, and when in good health produces flowers early in the summer. When this blossoming is over, and the plants have made their growth, they may be stood outdoors in a sheltered position for a few weeks; and if housed in September, they will then produce a second supply of flowers, that will prove useful at the present time (October). They are, like most stove-plants, liable to insect pests, especially the scale; and from the rough, brittle nature of the foliage, they are not tractable plants to clean. The best course is to wash off the scale with a tooth-brush and soapy water, syringing the leaves with clear water, so as to remove all stains of the soap before they become dry.—GEORGE POTTS, Jun., *Epsom.*

TRANSPLANTING TREES AND SHRUBS.

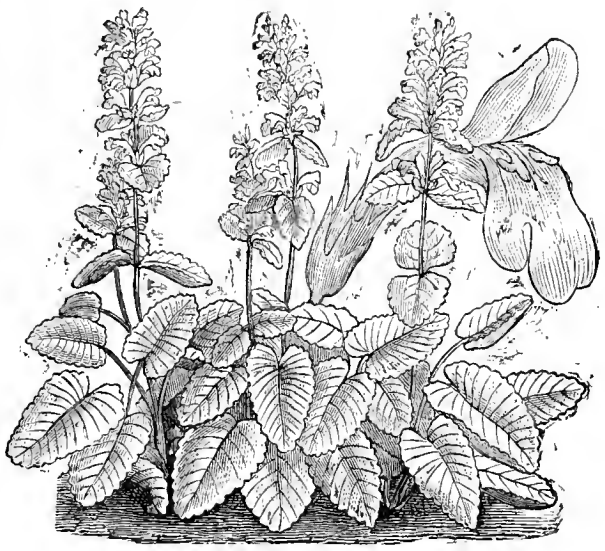
IT is to be regretted that in this department of the garden, the many ornamental subjects introduced during the last half-century are too frequently overlooked by planters and garden artistes. Let us hope that more and more use may be made of them.

As regards the work of transplanting, there can be no doubt that the autumn, shortly after the fall of the leaf, is the best season for all the subjects which have deciduous foliage. Evergreens may be removed at almost any season of the year, if they can be lifted with a ball of earth; but, for difficult subjects, the spring, just as they are pushing into active growth, is no doubt the best time for the operation.

If the soil is at all heavy, the work should be done, if possible, before much rain has fallen. In placing the plant, the roots should always be well separated and surrounded with earth—that is, the earth should envelope the whole of their surface; treading it down, when it is stiff and wet, is, however, prejudicial. In a general way, trees should not be planted so as to bury the neck or collar, as it is called; but in dry, gravelly soils, they may be planted a little deeper than would be advisable if the soil is of a heavy nature.

Where there is any danger of their wind-waving, the trees or shrubs should be securely staked as soon as they are planted, or the waving of the stem will have the effect of drawing the roots from the position in which they were laid out. With all late-planted trees, or

whenever the earth is moderately dry, it is a good plan to give a good watering during the operation, say when about two-thirds of the soil has been replaced over the roots. The object is to settle the earth closely about the ball and the roots, the final treading-up and levelling being effected after the water has thoroughly soaked in. For plantations, and also for shrubberies, the ground should be trenched or broken up two or three feet deep, or as deep as the soil will permit, but the good soil should not be buried under a mass of crude subsoil, but retained nearer the surface, the subsoil in this case being merely broken up and left in the bottom of the trench. In staking newly-planted trees, some protection should be afforded to prevent the tie from cutting into the bark. For trees of moderate size we have found nothing better, or neater, than portions of old india-rubber hose, of sufficient length, split open so as to wrap readily around the stem of the tree.—T. Moore.



STACHYS GRANDIFLORA.

During the months of June and July, this hardy perennial herb is a great ornament of the herbaceous border. It forms, at the base, a compact tuft of its well-marked ovate crenated leaves, and produces flowering stems a foot high, erect and hairy, the floral leaves being sessile and clasping the stem, and very much like the root leaves, only smaller. The latter, that is, the root-leaves, are broadly ovate, obtuse at the apex, crenated at the margin, cordate at the base, and attached by longish foot-stalks. The flowers form several whorls at the upper part of the stem, the whorls each containing from ten to twenty flowers, the individual flowers being large and of a purplish colour, with a longish tube, and a three-lobed lower lip.

The plant is sometimes called *Betonica grandiflora*, since it belongs to the group *Betonica*, which some botanists adopt as a genus. It is a thoroughly hardy plant, being a native of the Caucasus, and also of Siberia, where it is found near the river Terek. It has something the aspect of our wild Betony, *Stachys Betonica*, but is altogether larger and finer. As a dwarf plant of considerable attractions, it should find a place near the front of the select herbaceous border, where it will grow well enough in any good garden soil, thriving best in a sandy loam. It is readily increased by dividing the roots.—T. Moore.

WINTER WATER-CRESSES.

Some pans of Water-Cresses shown at South Kensington in January last, afforded a good illustration of the value of this mode of culture for the supply of the table during winter; for a very slight touch of frost destroys the out-door crop, and there is then no more production outside until the spring returns. These Cresses were shown by Mr. Hibberd, and from his account of the mode of cultivating them, we abstract the leading particulars which are given below:—

The pan system is the best for the supply of winter Cresses for home use, but is unsuitable for commercial purposes. The crop should be grown for the purpose by the insertion of cuttings, in August or early in September. The Cresses shown at South Kensington (January 13th) were six weeks old from the cuttings. They were sufficiently grown to be cut from for the table at four weeks from the cuttings; but they should not be cut until the plant is quite strong and able to bear it, and a small quantity only should be taken from one pan at a time; hence half a dozen pans—much better a dozen—should be grown; and even better than pans are large troughs and boxes, that afford abundant root-room. Mere protection from frost is quite enough in the way of house accommodation, for while the plant is soon killed down by frost, it fares almost as badly under artificial heat. A good brick pit, with a slight service of hot-water piping, answers admirably as a winter Water-cress garden. The pans in question were grown in a light airy

house, occupied with bedding plants; they were all placed in "stands" or water-pans, to keep the Cresses well fed with water; and they were all as near the glass as they could be conveniently placed. The pans were filled with strong loam, mixed with a small allowance of Clay's Fertiliser, and the cuttings consisted of the smallest tops of strong Cresses of out-door growth. As for after-management, none was wanted; they were treated to an occasional shower from the syringe, but would probably have done as well without it.

Although a strong heat is never needed in the ordinary way in the cultivation of this elegant vegetable, it is, nevertheless, possible to force Water-cresses advantageously, as a case in point will show. There was a sudden demand here for a large lot of home-grown Cresses, for a particular purpose. We managed to secure a peck or so of cuttings from our neglected pans, and these were inserted in pans newly prepared, with good fresh loam and Clay's Fertiliser. The pans were put into a moist heat of 70°, and within three days there was a rich growth of about four inches, and we cut a bushel of the loveliest home-grown Cresses ever seen or tasted. After this the plants sprouted weakly, and we made another cut at about eight days from the first, and then threw them away, as worn out. The forcing soon ruins the plant, but in the event of an emergency a temperature of 70° will do wonders.—S. H.

NOTES ON FLORISTS' FLOWERS.

PERHAPS a few gossiping notes on one of our floral pets, the Tulip, may not be uninteresting at the present time, for latterly no one seems to have had much to say about this showy flower, though during the greater part of my time it has figured as one of the most prominently recognised amongst the pets of the florist. During the last twenty years, most of the old staunch growers and fanciers have died off, without leaving others to fill their places. The cases wherein a father has left a son to take up the fancy in earnest are quite exceptional; at present, I can only count two such persons, Mr. Barlow and Mr. Horner, who have both inherited the taste, and are both amongst the most earnest of florists. I wish we could see or hear of a goodly number of young recruits taking up the culture of florists' flowers as a hobby.

I have, on previous occasions, ventured to say a few words respecting the classification of the Tulip. At present, the varieties are classed as Roses, Byblœmens, and Bizarres. The Roses and Byblœmens have their different coloured markings on white grounds, making two white-ground classes, while the Bizarres, which have their equally varied markings on yellow grounds, have been kept as one class. Now, why should we not have two classes on yellow grounds, as well as two classes on white grounds? This is a point for the Royal National Tulip Society to take up. My opinion is that it would be quite as plausible in the one case as in the other. There would be quite as much variation to be found among Bizarres to form two sections, as there is amongst the Byblœmens and Roses. My idea is that we should separate the red-marked flowers with yellow grounds from those which are dark-marked, as we do the red-marked white-grounds—Roses, from the dark-marked ones—the Byblœmens. Then they would be seen as they ought to be seen on the exhibition-tables at the National or other shows.

Whether my views on this matter may be adopted or not, I hope, at least, to see some one take up the subject, and let us have a little friendly discussion thereupon. True, we have now no *Midland Florist*, but we have the *Florist and Pomologist*, and other floral and horticultural publications, which would, no doubt, take up and ventilate this and other subjects in the interests of floriculture, if the florists themselves would but lend their assistance.

One cause of the too frequent lagging behind in these matters of the modern florist, is the falling-off of the country shows. Years ago there were held in at least half-a-dozen towns in Yorkshire, and more than that number in Lancashire, three shows annually—one for the Auricula and Polyanthus, a second for Tulips, &c., and the third for Carnations, Picotees, &c. These shows, together with the friendly meetings held in the intervals, brought florists together frequently, and there was thus always something fresh to be talked about, enough to keep the fanciers on the move. Now, we have none of these shows or meetings. True, we have three so-called National Shows, the Auricula,

J. L. Macfarlane del.

Cherry, Black Tartarian.

P. De Pannemaeker, Chromolith. (Gand)

the Tulip, and the Carnation and Picotee Shows, but they are all held in or near Manchester, and each brings a few individuals together once in twelve months. The Auricula-growers will come a few miles to have a look at the flowers, and go home again without getting much information, or being stimulated to greater exertions. It is much the same with the Tulip-growers; they, indeed, have a dinner, and what may be termed a dinner-hour afterwards, but the time is taken up in settling matters, and arranging about the next year's show; then the members disperse, some of them going back to the show-rooms in order to scrutinise and take notes of the flowers—which it is quite right and proper to do, and which no thorough earnest florist would neglect to do, as it is his one opportunity to satisfy himself about the merits of the flowers, whether old or new. We want more of these local societies to be revived.—JOHN HEPWORTH, *Huddersfield.*

BLACK TARTARIAN CHERRY.

[PLATE 526.]

OUR figure of this excellent and most useful Cherry has been drawn from a remarkably fine sample, which we owe to the kindness of Mr. G. T. Miles, gardener to Lord Carington, at Wycombe Abbey. The appearance of the fruit is not at all exaggerated in the accompanying plate. It is an old variety, having been, according to Hooker, introduced in 1794, by Mr. Ronalds, of Brentford, and like most other good fruits, bears a variety of names, of which the chief are Black Circassian, Black Russian, Ronalds' Large Black Heart, Fraser's Black Tartarian, &c. The fruit is large, and of an obtusely heart-shaped figure; the colour purplish, becoming of a shining black when fully ripe; the stalk is slender, an inch and a half long or upwards; the flesh is purplish, rather tender, with abundant purplish juice, and a rich luscious flavour; the stone is medium-sized. The tree is perfectly hardy, and the fruit ripens on east or west walls about the end of June or in July. We are indebted to Mr. Miles for the following remarks in reference to this fine Cherry:—

The Black Tartarian Cherry is the best of all the choice black varieties with which I am acquainted, and a variety which is indispensable in every garden. It also possesses the merit of being a superior kind for cultivation in glass-houses, and for forcing purposes. The fruits represented in the accompanying plate were produced under the latter conditions. A few remarks upon the subject of cultivation and forcing may with propriety be considered admissible here.

An impression prevails very extensively, even in the minds of many practical men, that the cultivation and forcing of this luscious fruit are attended with considerable difficulty, and so much uncertainty, as to make the matter hardly worth the trouble and expense it involves. Now this is a most erroneous notion, at least I have found it to be so, as after nearly twenty years' practice and experience in the matter, I am convinced that a crop of Cherries is as surely obtainable in this way year by year consecutively, as is one of peaches or nectarines, or any other kind of fruit placed under similar conditions. I have found the Cherry-house here to be a useful adjunct in furnishing a supply of luscious fruit, at a time when fresh fruits are limited in variety, exceedingly scarce, and much required.

Cherry-trees are, of all fruit-trees which are advanced by means of forcing operations, those which require the least heat, and, consequently, are thereby the least expensive. Those who may contemplate their cultivation under these conditions should remember that no stone fruit is more impatient of heat than the Cherry, and the greatest danger of failure would most likely proceed from overheating or want of proper ventilation, or both combined. The house selected for the purpose should, therefore, be so constructed that a free course of fresh air may pass through it, whenever it may be expedient; and in the case of forced trees, it will be so much the better if the sashes are of a moveable kind. The best varieties for forcing comprise Black Tartarian (Circassian), May Duke, and Frogmore, amongst black kinds; and Elton, Governor Wood, Bigarreau, and Bigarreau Napoléon, of the light section.

Good friable loam, with an admixture of road-scrapings, forms the best compost for Cherry-trees. This should be placed about 30 inches thick on a well drained border, with about 16 inches of rubble beneath it. Trees of four or five seasons' growth are the most suitable in size, and most profitable for the purpose. In

planting, let the roots be regularly spread out amongst the soil, at about 10 or 12 inches below the surface. To have ripe Cherries in May, the trees should be started in the preceding December; this, however, would be too early to start in the case of trees which had not become acclimatised to such treatment. A slow and gradual process is absolutely indispensable; 40° at night, and 50° in the daytime by artificial means, should be the range of temperature, until solar influences operate in such a manner as to effect an augmentation of temperature, and whenever this happens, a slight admission of air should be given. The appearance of a Cherry-house, when the trees are in full bloom, is one of the prettiest sights of the forcing season, and the agreeable perfume emanating from the flowers makes it still more enchanting.—G. T. MILES, *Wycombe Abbey.*

THE CELERY CROP.

THE crop of this delicious vegetable is this year unusually fine, and the supply abundant, so that we can indulge in it heartily. Lancashire has long been famous for its Celery; and cultivators have ere now come to high words about choice sorts, their origin and name. It is not, however, the sorts that concern me, but the use of the Celery when fully grown. Some persons prefer the red, and some stand up for the white varieties, and see merits in one that are not in the other.

Celery-seed is used to flavour soups, when better materials cannot be got. In dealing with all the forms of this plant, we must not forget that it is, in its native ditch, a poisonous herb of a dull green colour, and with all the doubtful marks as to its being edible, for it has the umbelliferous character stamped on it, and that requires some certificate of its effect upon the system before we risk it in the pot. In a word, green Celery is not safe, either raw or cooked. Blanched Celery, whether red or white, is a luxury of high standing, but it is well to know the boundary lines, for some well-known friends have been all but poisoned by eating broth in which green Celery in excess had been put to give it flavour—and this after Soyer had been consulted how to make soup for the poor.

Notwithstanding all this, Celery, raw or boiled, is just now in perfection, and, therefore, it is just the time to try its virtues. Some years ago I had to supply Celery for the table, not in its raw state, but boiled and served up with white sauce, and when treated in this way it took double quantity to do the usual work; but nevertheless it counted one as a dish, and did not require that the sticks should be so large or so fine as when it takes the form of a salad herb. The present glut in the market enables me to go in for a supper of celery now and then, cooked like cabbage, and served up with a white sauce, as I was wont to see it done for my betters. We only want to be warned once, and then we avoid umbelliferous plants, and this fine old garden herb, like its family, is not to be trusted in loose hands, for all the green must be cut away. It is an act of kindness to users of celery that Providence has greened the one part and whitened the other, and has given the so-called red a dash of pink by way of finish.

Such is the estimation in which celery is held, that great expense is incurred in order to save it from frost till the time when the Court usually comes to town about February. The large size of the sticks makes it very difficult to get them well under cover, and therefore small-sized ones are more easily managed with thatch and long litter; for although *in situ* it floats in cold water, it is easily damaged by low temperature, as most cultivators have learned to their cost. The loss last season in this quarter was very great. Acres of it in the vicinity of Manchester were rendered useless, just when it had arrived at perfection.—ALEX. FORSYTH, *Salford.*

WILLIAM TILLERY MELON.

THOSE who have not grown the William Tillery Melon in the past season, will do well to grow it in the coming one. I grew of it in the past summer a large two-light frame, heated with a flue, and found it to be very productive, hardy, and of fine flavour, more after the style of the old Beechwood than anything I have tasted. For my own part, I find very little, if any, improvement in the flavour of melons during the last twenty or more years. I have judged various sorts of melons at different shows this season, but I have not met with one fruit that I should like to have been compelled to eat.

My own experience with the William Tillery Melon is, that it is an acquisition. It is no better in flavour than the old Beechwood Melon was, but, to my mind, much like it; but if well done, it will grow to double the size, and it keeps well. The plant is a strong grower, and very hardy. My plants ripened off the crop about the middle of July. The vines were healthy, and after a good trimming-in they started into fresh growth, and ripened off a second crop of very nice fruit. I am told by those that ate them, that they were fine in flavour. The plant being rather hardy and a strong grower, it should have a liberal supply of air, which it got here, and that was, no doubt, the main cause why it was so good in flavour.—WILLIAM CULVERWELL, *Thorpe Perrow.*

MODEL FORM FOR A TULIP.

THIRTY years ago, when meetings and shows were more numerous than now, we had discussions on the various points of merit and demerit in florists' flowers. At that time, we had amongst us learned and earnest men who strove to settle what should be regarded as the best models of the various florists' flowers. The form of the Tulip, in particular, was one of the subjects which led to warm but friendly disputes. Mr. Butler was one of the first to give his opinion, and Mr. Glenny, who was always ready to place himself above everybody else, followed; then came Mr. Slater, and finally Dr. Hardy, all these, as well as others, taking part in the battle of words, the conclusion of which was that Glenny's model was considered to be the best of those propounded by these several writers, providing it could be realised.

Without attempting to discuss the whole of the properties which go to make up a model Tulip, I may remark that the shape was a point most disputed in the discussions I have referred to. Glenny made what was called a bounce, by declaring that the correct shape of cup for a good Tulip, when sufficiently in bloom for the exhibition stage, was just one-half of a hollow ball, and no more. At that time it was rather a difficult matter to find a flower very nearly approaching that standard. Since that time, however, great improvements have been effected in most of our popular flowers, and particularly in the Tulip, both as regards its shape and other properties, so that now flowers can be found which very nearly approach Glenny's standard. Indeed, I do not suppose any one would be able to improve much upon Glenny's model, though it be thirty years old. —J. HEPWORTH, *Huddersfield.*

SUBURBAN GARDENING.

NOVEMBER.—The month of October came in with storms of rain waiting on its advent, and so persistently and heavily did these storms fall, that for days the gardener was practically shut out of his garden. As we write, a substantial change has taken place, and the month, as if desirous of atoning for its wild, wayward character when young, has given place to a soft tenderness, and the days are genial and kindly, and the nights temperate and glorious in the flood of rich moonlight poured on the earth. Now is the time for the gardener to prosecute the necessary autumnal works that shall, as far as possible, leave everything in proper order by winter.

Kitchen Garden.—The work of storing roots is one of those things that should be done in dry weather. *Carrots*, *Beet*, *Parsnips*, *Scorzonera*, &c., if stored away when the weather is suitable for the purpose, are not only likely to keep better, but it is a much pleasanter task to do it then, than during fog and rain. The beds of *Asparagus* should be gone over, and the stems cut away, clearing off the weeds, and adding a mulching of manure. This has been a remarkably good season for *Cauliflowers*, and so long as the weather remains open, they will keep well; but should frost set in, as it sometimes does, early in November, to the destruction of much that is pleasant in the garden, it is well to lift the plants, strip off the outer leaves, and lay the plants by their heels in a cold frame, where they can be kept warm and dry. That most useful vegetable, *Parsley*, should be protected, and *Endive* tied up for blanching. The hoe should be freely used in dry weather, where possible, among growing crops. Now, we impress on the gardener the importance of clearing off all decaying crops, digging, manuring, and trenching vacant ground, sweeping and clearing walks, &c. These are all matters of detail that should be done in any well-regulated garden.

Fruit Garden.—By this time the bulk of the crops are gathered and stored for winter. Where there is space at disposal, it is best to lay out the fruit in single layers on shelves. The leaves have now fallen from the trees, and the *Winter Pruning* may be commenced in the case of standard and pyramid trees that have

grown into size, by cutting away ill-placed and unfruitful branches and large spurs. Pruning is a good deal a matter of suitable weather, and this and nailing should be done when the weather is at all warm and dry. Now, too, is the time to *Plant Fruit-trees*, and it should always be borne in mind that thorough drainage is indispensable to success. It is also recommended that the fruit-tree borders should be elevated a little near to the wall, so as to give a slight slope to the walk. This is most necessary in cases of a close wet subsoil. If the subsoil be open and porous, the border may be kept level, which will be found an advantage in dry weather. In planting fruit-trees, it is very necessary that the roots be spread out properly in the soil, and the same pressed down firmly between them; and should hard frost set in, a little litter thrown on the roots will be a serviceable measure of precaution.

Flower Garden.—The flower-beds have held on gaily up till now, but wet, fog, and slight frosts are telling on them. Those who have in reserve such hardy spring-flowering plants as *Wallflowers*, *Daisies*, *Aubrietias*, *Pansies*, and *Violas*, &c., will now clear their flower-beds, and replant with these useful subjects. Failing these, a few *Dwarf Evergreens* will give the beds a furnished appearance for the winter. *Chrysanthemums* will need protection, if it can be afforded them, especially when grown against walls; a slight covering will keep them in freshness and beauty for some time. The decaying branches of hardy plants should be cut away, and the borders kept clean and neat. Now is a good time to replant such things as *Polyanthuses*, *Daisies*, &c., that have out-grown their nursery-beds. Any permanent border should have a mulching of dung and leaves placed on them; it is a most useful coating for the winter months.

Cold Frames.—These should now be full of subjects for future usefulness. Cuttings of *Bedding plants* must be constantly looked over, the decaying foliage removed, and any rotted parts cut away. As soon as frost threatens, any tender things of this character being wintered should be removed to the greenhouse for safety. All hardy plants can remain in the frames till wanted for greenhouse display. Such bulbs as *Hyacinths*, *Tulips*, *Narcissus*, &c., will be commencing to grow, and if covered with ashes or any refuse, it should be removed, and the pots will be well furnished with roots. *Auriculas*, *Polyanthuses*, and *Hardy Primulas* of all kinds need to be gone over, and their decaying leaves removed, and the surface-soil stirred. Green-fly will be troublesome while the weather is mild, but an occasional fumigation will soon get rid of them. The careful gardener will find many little attentions needed from day to day, and it is the constant discharge of these that have so much to do in promoting success.

Greenhouse.—November is the month of fog and damp, and as it is not advisable to employ artificial heat until absolutely necessary, the plants should be carefully gone over, and any tender ones likely to be injured by damp should be placed in the warmest and driest part of the house. It is of great service to remove the sour surface-soil, and add some that is fresh and sweet; and the pots that have green slime on them should be washed, for where damp clusters, there will the frost be most destructive. In the case of a cold greenhouse, we have brought some half-tender plants through the ordeal of a trying winter in safety by planting the pots and some four inches of the stems of the plants in dry cocoa-fibre; but it is not necessary to resort to this, until there is danger from severe and continued frost. In the case of cold greenhouses, flowers grow less day by day, as the shortening days and cold damp nights succeed each other. Plenty of air should be given when the weather is fine, but only a little, if any, when the reverse happens. Chrysanthemums are coming on to make the house gay, and some manure-water will greatly assist the plants. Any broken or imperfect glass should be replaced, so that the house may be rendered as water-tight as possible for the winter season.—SUBURBANUS.

GARDEN GOSSIP.

SOME of the most interesting gatherings of the autumnal season are the FUNGUS FORAYS, as they are called—that is to say, meetings for the collection, examination, and study of Fungi; and though the present season has not been a very favourable one for the growth of these plants, and consequently the collections formed have been less ample than usual, there has been no lack of the *bonhomie* which has hitherto always characterised these assemblies.—The *Epping Forest Club* had its meeting on October 2nd, at Monk's Woods, amidst drenching storms. Amongst the fungi collected were the edible Hydnum repandum, which was abundant, and in France, according to Dr. Max Cornu, is sold in the markets at 3d. per lb. The edible Boletus was also found in great quantities and of large size, one specimen being 2 ft. 4½ in. in circumference. The edible apricot-coloured Cantharellus cibarius was also abundant. —The *Woolhope Field Club* met at Hereford on October 4th and following days. The foray commenced by an evening soirée on the 4th, excursions for the following days being planned, and mostly carried out notwithstanding the pitiless rains. During an excursion to Holme Lacy in search of fungi to be cooked for the Club dinner, the drizzling rain was braved by some of the members, and a sufficiency was collected of that excellent but generally despised Toadstool, Coprinus comatus* (see figure on page 173); and another fungus allied to the Mushroom, Agaricus hæmorrhoidales, to supply the dinner-table. The number of species seen during the week was very small, and the individuals by no means numerous. Some of the commonest

* This fungus has a very pleasant and delicate taste when stewed, and is also employed for flavouring a delicious soup, which is highly esteemed by the fungus *gourmands*.

species were entirely absent; only one small cluster of Agaricus melleus was seen, and this species is generally so common as to be voted a nuisance. Agaricus fasciculatis and Agaricus sublateritius, almost equally common at other times, were amongst the rarest this season. Very few Hygrophori were found. Lactarius and Russula were the most plentiful. Scarcely a Cortinarius could be found, but Polypori, and especially the large and ligneous species, were more abundant than usual, even in the best of years; Polyporus fraxineus in one instance extending for some yards, and of Polyporus spumeus, the largest specimens ever seen by the oldest Woolhopean were gathered. If to this be added the almost total absence of Coprinus, the principal features which characterised the mycologic flora of 1880 in the neighbourhood of Hereford will be realised. The date for the next foray of the Club was fixed for October 6th, 1881.—On October 9th, some of the Woolhope party arrived at *Coed Coch*, by invitation of Mrs. Lloyd Wynne and Mr. Walker, of Colwyn; and on the 11th and 12th, fungus-hunting excursions were made to the woods about Colwyn and the pinewoods of Coed. Amongst the species collected

COPRINUS COMATUS (from the *Gardener's Chronicle*).

were some new to our Flora, including Agaricus tumidus, A. seminodis, and A. nudipes, the latter being found by Mrs. Wynne. Only one specimen of the rare Hygrophorus Wynniæ was met with, and this excited great interest.—The *Cryptogamic Society of Scotland* held its sixth annual conference on October 17th, at Glasgow, by invitation of the Glasgow Society of Field Naturalists. Various interesting papers were read, including one on the Club-root Fungus, Plasmodiophora brassicæ, by Mr. A. S. Wilson. The exhibition was successful, considering the season. Excursions were made to various places, the most interesting of these being to Cadzow Forest, a portion of which is covered by grand old oaks, the largest measuring 22 ft. 9 in. in circumference at 5 ft. from the ground, and containing 900 cubic feet of timber. Fistulina hepatica, the beefsteak fungus, was found growing on these oaks in great abundance.

— A FINE display of GLADIOLI was made at the Royal Aquarium, Westminster, on October 9th, by Messrs. Kelway and Son, of Langport, the flower-spikes being set up separately in glass or earthenware vases, more or less ornamental, which greatly enhanced the beauty and elegance of the arrangement; these were staged in groups, supported by a variety of large and chastely-designed earthenware vases, and flanked on each side by lines of different-coloured dahlias, placed in tiny glass vases, the harmonious blendings of colour combining to make a very pretty and pleasing picture of autumn flowers, thanks to the artistic taste of Mr. Forsyth Johnson, to whom the arrangement was entrusted. There were no classes or prizes, and consequently the materials could be disposed as best suited the effect. Messrs. Rawlings showed some stands of magnificent dahlias, and numerous pompons in the form of bouqnets. Messrs. Lane and Son exhibited a remarkably fine collection of their superb grapes, to which a gold medal was awarded. Capt. Hobson, manager of the Aqnarinm, showed fine examples of Gros Colman grapes, and some splendid pears and apples, one of the latter weighing $1\frac{3}{4}$ lb. Of vegetables, Messrs. Carter and Co. showed a capital assortment of the different varieties of potatos, cabbages, cauliflowers, beet, carrots, &c.

— THE CACTUS DAHLIA, *D. Yuarezii*, with its splendid crimson purple-shaded flowers, has been remarkably attractive during the past season. In this country it first obtained notice last year, but it appears to have been introduced to the Netherlands from Mexico, in 1872, by Mr. Van der Berg, who first catalogned it in 1874, under the name of *Dahlia Yuarezii*, given to it in honour of Mr. Juarez, then President of Mexico. The name of Cactus Dahlia has been popnlarly applied to it in this country, and it appears that Mr. Van der Berg, in his catalogue of 1874 describes its flowers, when seen at some distance, as resembling those of the Cereus (Cactus) speciosissimus.

— THE third part of the HEREFORDSHIRE POMONA is before us, and is fully equal in interest to those which have preceded it. The introdnctory papers in the present issue are entitled, "The Crab, its Characteristics and Associations," by Edwin Lees, F.L.S.; and "The Orchard and its Products, Cider and Perry," by the Rev. C. H. Bulmer, M.A. The illustrations consist of six plates of Apples, representing twenty-five varieties, and four plates of Pears, representing fifteen varieties. The figures are admirably drawn by Edith E. Bull and Alice B. Ellis, and reflect the highest credit on their artistic skill; whilo the plates are cleverly executed in chromo-lithography by M. Severeyns, of Brussels. The book is thus not only valuable as affording illnstrations of our best hardy frnits, but is admirable as a work of art. In the article on orchard-culture we read:—"The amonnt of phosphoric acid contained in Apples and Pears is shown by analysis to be so considerable, that they have been considered as specially adapted to sedentary men who work with the brain, rather than with their muscles; for phosphorus is thought to be the best brain-food." The following is noted as a good manure for orchard fertilisation:—"Bone-dust, 1 part; pure dissolved bone, 1 part; kainit, 2 parts; and charcoal dust or fine coal ashes, 20 parts, carefully mixed and lightly forked in." The subscription price of 21s. for forty such excellent figures of apples and pears as are here given, should induce all those who are interested in hardy fruits and fruit-culture to become subscribers, since the greater the amonnt of public support, the greater the number of illustrations, as the Woolhope Club, to whom is due our best thanks for the public spirit displayed in the projection of such a work, have no desire to make a profit by its publication. The descriptions are by Dr. Hogg, and are therefore trustworthy.

— THE DISEASE IN PLUM TREES and other stone fruits which results in imparting a milky appearance to the leaves, a condition due to the separation of the cuticle from the cellular tissue of the leaf, has been referred by the Rev. M. J. Berkeley to the action of Fungi. Sections of the stems of affected trees recently examined by him showed the heart-wood to be decayed, tho cause being evident in the plentiful development of the mycelium of Polyporus igniarius, a fungus which is so common and so destructive to Plum trees. With the sections came roots from the side of the tree which was affected with the disease, and also from the unaffected side. In the former the wood of the thicker roots showed that foxy colour which is the sure indication of disease, and often the forerunner of fungus growth, as is well known in the case of Oaks which have been raised from old stumps. The healthy tissue, by contact with the affected part, soon becomes highly diseased, and not in a condition to carry pnre sap, and without healthy sap healthy growth cannot be expected. This affection is very common in Apricots, and occurs also in other members of the same natural order, but it is seldom so obtrusive as to render the destruction of tho tree advisable.

— THE CATERPILLAR OF THE CABBAGE MOTH has this year done great mischief to the Brassicaceous crops. Miss Ormerod suggests as a means of prevention the use of gas-lime, sprinkled in very narrow lines, about as wide as the smallest finger, round the plants, or round groups or small beds of plants, but so placed that it should be certain not to touch the stems. In this way, and also very lightly sprinkled on the earth of a good-sized cabbage-bed, it acted perfectly well as a preservative from attack, the plants being uninjured, and continuing in excellent health. The application was made with gas-lime qnite fresh from the works, and in the case of the sprinkling was jnst enough to show on the ground—perhaps about half a handful to the sqnare yard, certainly not more. When altered by atmospheric action by laying in the heap exposed to air and rain, it proves very serviceable in much larger quantities. On a bed of Cabbages on which a severe attack was beginning, it was thrown

plentifully, between the rows, and also in lines across the bed, so as to stop either caterpillars or slugs straying about, and the result is so satisfactory that since its application only one plant has been lost. It is an excellent manure on much of our villa-garden soil, as the calcareous constituents are just suited to counteract the growth of club, and when duly exposed the other constituents also have their uses. It is impossible to be too careful in using it when fresh, as it would destroy all it touched.

— A USEFUL note on the kinds of APPLES and other hardy fruits which succeed in the climate of Wishaw, Lanarkshire, 460 ft. above the sea-level, the soil stiff, adhesive clay, was contained in a paper by Mr. J. Whitton, Coltness Gardens, read before the Scottish Horticultural Association:—The following sorts of Apples succeed grown as standards:—Stirling Castle, Lord Suffield, Keswick Codlin, Hawthornden, Ecklinville, Irish Peach, Tower of Glamis, Court of Wick, Paradise Pippin, and Aitkin's Seedling; the following in addition to the above on walls—Cellini, Blenheim Orange, King of Pippins, and Nonsuch. Pears on walls: Crawford, Hessle, Jargonelle, Brown Beurré, Marie Louise, and Moorfowl Egg. Plums on walls: Orleans, Victoria, Nectarine, Jefferson, and Coe's Golden Drop; Magnum Bonum and Greengage do not succeed so well. Cherry: the Morello is the only one which does well; Mayduke is the only sweet cherry planted, and that very sparingly. Peaches, Nectarines, and Apricots: grown only under glass. Small fruits are grown much more extensively, and give more satisfaction, heavy crops being the rule, with the exception of the Black Currant, which is sometimes subject to a disease locally known as the "knot" or "bud.

— TWO very good CUCUMBERS of recent introduction, writes Mr. Ward, of Longford Castle, in the *Gardeners' Chronicle*, are *Sutton's Duke of Connaught*, an excellent variety, and *Freeman's Yard Long*, an appropriate name enough, both of which have proved themselves during the present season here very good and prolific varieties, and, in consequence of the fine size and general good appearance of the fruit, and the luxuriant growth of the plants (the leaves being of an enormous size and of a dark rich green), have been very much admired. In order to thoroughly test the merits of the above-named Cucumbers as winter-bearing varieties, he has planted several plants of each this autumn in the early house, with an equal number of Telegraph, and, judging from their present appearance and prolificness, they are likely to prove as good winter-bearing Cucumbers as the latter, with the advantage of the fruit being larger than that of the Telegraph.

— A NEW Damson, BRADLEY'S KING OF THE DAMSONS, is offered for sale, in a circular issued by Messrs R. Bradley and Sons, of Halam, near Southwell, Notts., from which we glean the following particulars respecting it:—"Our ancestors have for three or four generations been raisers of New Fruits, some of which are known and highly esteemed wherever fruit is grown. Following what has now become little less than an inborn principle, our Mr. R. Bradley, some twenty or more years since, resolved to take the Plum tribe in hand. After much patient attention and care, a large number of seedlings have been obtained, many of which are no improvement on their parents, and have been destroyed; but a few, which possess properties of no ordinary nature, have been retained. One amongst these select kinds is a true damson, of surpassing excellence, described in our notes as 'a genuine damson in flavour, juicy, brisk, very sweet and good, about the same size as a medium Violet Plum, or nearly double the size of the largest fruits of the Prune Damson, but not so thin and tapering; skin very fine dark purple, almost black, covered with a dense blue bloom; ripening about a week before the Prune Damson. The tree has a distinct habit of growth; leaves and wood quite smooth; an early and immense bearer.' These notes were made several years since, and have been confirmed by further experience. We have had the fruit cooked in various ways, and in all it is superior to and quite distinct from all others. Several first-rate practical judges of such things have seen and tasted the fruit, and are unanimous in their high opinion of its merits. We had intended to send some of the fruit to an exhibition in London, but either the exhibitions or the damsons have hitherto come at the wrong time; and now the majority of the stock being at our Rainworth Nursery, the lease of which expires next March, we have decided to offer it to the public, rather than be at the expense and trouble of transplanting the trees. We honestly believe that it is highly deserving a place in every garden, but have no wish to represent it as an unheard-of wonder. We pledge our word that it is all that we claim for it, and with that assurance it must stand or fall."

— A VERY pretty white POMPON CHRYSANTHEMUM, SOUVENIR D'UN AMI, grown by Mr. T. S. Ware, appears to be a very free-flowering sort, and likely to be useful both for decorative purposes as a pot-plant, and also for cutting purposes. It was in full bloom about Michaelmas.

— IT is to be regretted that the new edition of PAXTON'S FLOWER GARDEN (Cassell and Co.) should have appeared in its present form. As a book of botanical authority, the plates and descriptions of the original work were freely quoted by writers on botany. Now comes a revised edition, with the numbering of the plates altered, to the utter confusion of past and future references to the work; indeed, plates 1 and 2, the only ones in the number before us, are entirely new subjects. We advise the publishers, even now, before further mischief is done, and while alteration is possible, to change the title of the reissue. If it is to be made up of some old and some new plates, the book will be virtually a new work, and should stand on its own merits. The same remark applies to the woodcuts and descriptions called "Gleanings," wherein the old is at once distinguishable from the new by the absence from the latter of authorities for the names. This, too, if it has to be recast, virtually comes forth as new, and should not be issued as "Paxton's Flower Garden." As to the new plates before us, they are not better than the old, nor are they so good as they might be, being coarsely executed and not correctly coloured. Mr. Baines' text is all very good, so far; and it is not in his line to have experience of the inconveniences to which we have pointed, consequently we may acquit him of the blame, but the publishers should have avoided so glaring a fault. The public should either have had a new title for the revised and renovated materials, which would probably have been the best course, or they should have had a faithful reissue of the work, with only such needful changes and corrections as lapse of time had necessitated, and such as could have been put into the editor's foot-notes. The printing of specific names with a capital initial letter is, moreover, a transgression of the canons of botanical literature.

— MESSRS. VEITCH and SONS are now sending out the superb varieties of IRIS KÆMPFERI introduced by them from Japan, through their collector, Mr. C. Maries. They include several varieties of great size and brilliancy of colour, which have been awarded First-class Certificates at the Royal Horticultural Society's exhibitions during 1879 and 1880. In Japan, as they inform us, *Iris Kæmpferi* is treated as a marsh or half-aquatic plant, but they have grown it most successfully in ordinary well-worked garden soil at their seed grounds, near Slough. It is desirable, however, that the soil be rich, deep, and moist, and when the weather is very dry the plants should be kept well watered. The certificated sorts are:—*Charles Maries*, white, flaked with purplish-red; *Delicata* (duplex), white, veined and marbled with bluish lilac; *Imperial Wonder* (duplex), violet crimson, veined with blue, and bright yellow rayed blotch; *Jersey Belle* (duplex), pure white, with rayed yellow eye; *Magnificence* (duplex), deep rose, suffused with white, petaloid stigmas deep rosy lilac; *Sir Stafford Northcote*, purplish-crimson, mottled, and striped with blue, with bright golden-yellow rayed eye.

— UNDER the name of AGAPANTHUS UMBELLATUS CANDIDUS, Mr. Bull has imported from the Cape a beautiful variety, very different from the white Agapanthus that has hitherto been known. It bears large full-sized umbels of flowers as big as those of the blue kind, the colour being a clear decided white. It will not only be very useful as a decorative plant, coming in towards the latter part of the summer, when good flowers are becoming less plentiful, but the individual blooms, on account of their enduring property, will be most acceptable for bouquets and for other floral arrangements.

— A NEW MAPLE, *Acer platanoides aureo-variegatum Buntzleri*, a new and handsome variegated variety of the Norway Maple, is figured and described in the Berlin *Monatsschrift*. The leaves are elegantly variegated with golden-yellow and dark green, some parts of the surface being mottled with the two colours, whilst in others one-half of a lobe is yellow and the other half green. It is in the hands of the raiser, Mr. Buntzel, nurseryman, in Nieder-Schoenweide. The stock, consisting of grafted plants, was so much injured by the severe frosts of May, 1880, that it will not be sent out at present.

— THE GRISSLY BOURJASSOTTE FIG is considered by a writer in the *Journal of Horticulture* as the most delicious of figs. A small tree trained upon a south wall had this year a full crop of fruit, almost as abundant as the Brown Turkey, and infinitely superior to it in flavour. The fruit is handsome, of medium size, of a curious colour termed chocolate in the *Fruit Manual*, very soft and apt to shrivel slightly, but not to crack as it ripens. It is so rich as almost to clog the palate with its sweetness. The tree is moderately vigorous, somewhat apt to lose a few inches of the tips of the leading shoots by frost, but in other respects quite hardy.

— WE understand that the RICHMOND HORTICULTURAL SOCIETY will hold its Second Annual Autumn Exhibition of *Chrysanthemums, Fruit*, &c., at the Castle Hotel, Richmond, on Tuesday and Wednesday, November 23rd and 24th, 1880, and that schedules will shortly be issued.

— A WRITER in the *Garden* suggests the layering of LAPAGERIAS, as a means of getting more wood and flowers. About a year ago, he layered a two-year-old and four young plants in a bed made in a small house. The shoots were mostly weak, but all were layered their whole length in parallel lines, pegged about every six inches. A number of the buds soon broke, and over seventy shoots of all sizes have been trained up the roof like pot vines, some fourteen of them ranging from 10 ft. to 14 ft.; most of the strong ones have developed two or more shoots, so that a very good growth has been obtained, more than would have been produced by any other mode of culture. A number of shoots push from all parts of the plant soon after layering, but all the joints do not break at the same time. The half-buried leaves live, however, and push the following year, or sooner. A second break has just now begun to push from the plants, and the growths are stronger than the first. When the plants have done flowering, the shoots will be laid down again in the autumn beside the old ones. In this way, the Lapagerias may be grown like weeds, with exceedingly little attention.

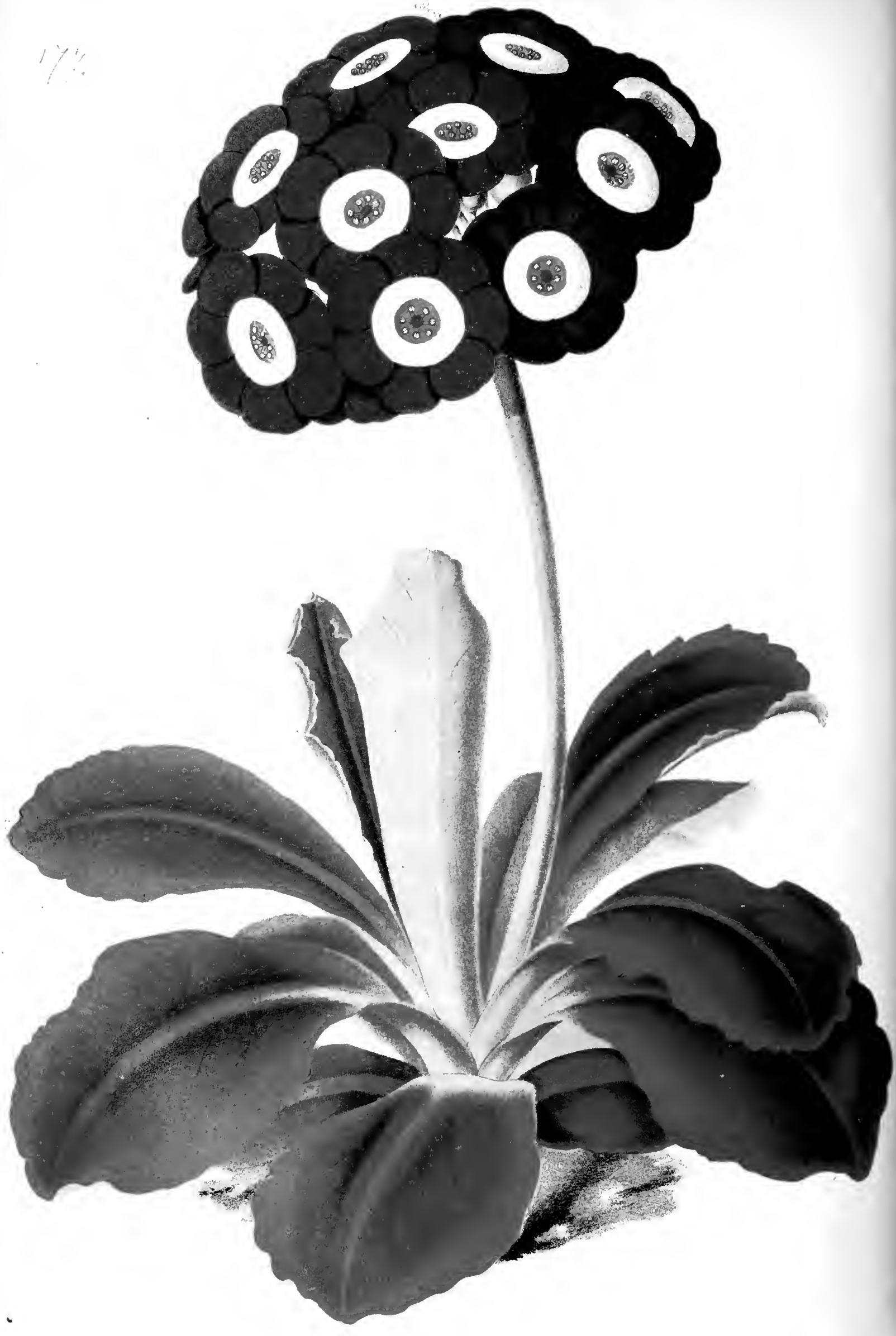
In Memoriam.

— MR. ARTHUR VEITCH, of the firm of Messrs. James Veitch and Sons, died on September 25th, at his residence in Chelsea, after a short illness, and at the early age of 37, leaving a widow and several children to mourn their irreparable loss. He was not originally intended for the nursery business, having passed some years in the office of Messrs. Rothschild, but on the death of his father and his elder brother, he became one of the partners in the firm, and by his energy and ability speedily became a most valuable adjunct in the supervision and management of this immense establishment. In his private life he was greatly respected, no less on account of his kind and genial disposition, than for his unceasing efforts for the material and moral welfare of those about him.

— MR. ALEXANDER DICKSON, SEN., of the Newtownards Nurseries, died on October 11th, aged 78. He was born near Hawthornden, and apprenticed to the gardening business at Dalhousie Castle, and removed thence to the Comely Bank Nurseries, Edinburgh, where he remained for several years. He subsequently removed to Ireland, to take charge of the gardens at Greyabbey, Down; and in 1836 founded the Newtownards Nurseries, which, in his hands and those of his sons, have acquired a well-earned fame.

— MR. THOMAS BUNYARD died on October 17th, after a few days' illness, at the advanced age of 76. For many years he was head of the firm of Messrs. Thomas Bunyard and Sons, nurserymen, at Maidstone, and was very widely respected.

— MR. JOHN MANNINGTON, of Uckfield, died some two months since, at the great age or 93. He was an ardent raiser of seedling fruits up to the time of his death. Mannington's Pearmain Apple was raised by his grandfather, but was first noticed by him, and when the original tree was on the point of extinction, was preserved by his securing grafts from it. He has raised several excellent Pears of hardy constitution, now in the hands of Messrs. Paul and Son, of Waltham Cross.



J. L. Macfarlane del.

Chromo. P. Stroobant. Chent.

Auricula Horner's Heroine.

AURICULA HORNER'S HEROINE.

[PLATE 527.]

FOR the opportunity of figuring this charming novelty, we are indebted to the kindness of the Rev. F. D. Horner, by whom it was exhibited at the National Auricula Society's show at South Kensington in 1880, when it won by acclamation not only a First-class Certificate, but also the first prize as a seedling Self. The ground-colour is remarkably rich and velvety, a deep umber-brown, and the contrast of this with the pure white paste is remarkably striking and effective. Besides all this, the flower is of the highest quality as to its properties, being smooth on the surface, even at the edge, and well proportioned in the several parts of tube, paste, and ground-colour. The portrait was taken on the show day by Mr. Macfarlane, with very marked success, but the rich velvety lustre of the surface of the flower has overtaxed the powers of the lithographic press, for "who can paint like Nature?" We are pleased to be able to add in this place Mr. Horner's remarks on the origin and properties of his appropriately named novelty.—T. M.

"HEROINE" is a seedling from a plant of *Campbell's Pizarro*, that in 1877 bore four or five pods, some crossed with *Turner's Chas. Perry*, and others with *Kaye's Topsy*. These three were selected for parents because of their perfect outline as florist flowers, in which form is the first consideration. Colours can always be worked up to, but no colour shows to its best upon defective form. The Auriculas in question all possess the "rose-leaf" petal that is an essential property in a perfect "Self;" and though Perry's tube is pale, and Topsy's pips frequently uneven in their size, yet I trusted to the rich tube of Pizarro, its supremely broad, round paste, and its bold, equal pips, to correct the weak points of the other two, whose part it was to give variety in colour. I therefore confided to Pizarro the maternity of the seed, and was not disappointed.

"Heroine," of course, was not the only child, neither is she the only beauty. "Ringdove" and "Beatrice" are deep violet and blue from the influence of "Topsy" and "Chas. Perry;" while "Heroine," "Dido," "Atlantis," "Brown Bess," and others are variations on the rich brown ground-colour of "Pizarro," and each of them, moreover, is rose-leaved.

I may here say that "Heroine's" maiden bloom of 1879 was distinctly darker than the flower exhibited in London in 1880, and I had marked her as an exceedingly rich dark Self. Since, however, in 1879 all my Pizarros were out of colour, so that, in fact, I could not show them, I think "Heroine" may have not yet been seen in her true complexion.

Referring to the plate, the plant is to the very life in size, style, carriage, and colour of foliage, and habit of bloom, and her twelve large even pips stand exactly as they were. The winter foliage is very distinct from this, consisting of a few plain-edged, short broad leathery leaves of greyish-green; and it might be interesting in a portrait of the Auricula, if a side-sketch of this distinctive feature could be given also; as sometimes in figuring a ripe fruit, a spur of the blossom and young leaves is added to further identify the variety.

With "Heroine' every property, in most perfect roundness, flatness, and smoothness of petal; density, breadth, and circularity of paste; substance, colour, and form of tube, and proportion of the ground-colour to the paste, I have little hope of raising a better Self. It is a bonny face, full of life and sweet expression, and other seedlings of her class will be only other colours arrayed on "Heroine's" form. Her progeny as yet is small, and the youngest could be covered with a split-pea.

Still, the picture needs a word to paint it, where the reflection from the lithographic stones cannot mirror every feature back. This I write in confidence that neither the accuracy of THE FLORIST will be impeached, nor the reputation of its artists suffer, by what is meant only in helpful explanation, and not in carping criticism.

One touch will suffice. Nature's velvet textures are beyond the power of the pencil to reproduce in all their living depth and softness; and for this reason, the colour of the flower in the plate looks thin. There is the groundwork of it, but not the silky velvet that makes the living flower so soft and rich. The artist's original picture comes more near to Nature, but I do not think a better likeness could be given by the process that must be employed in publication.—FRANCIS D. HORNER, *Kirkby Malzeard, Ripon.*

DEGENERATION AND DISEASE IN THE GLADIOLUS.

I WAS much pleased to read Mr. Kelway's article on the Gladiolus at p. 165. The renowned Langport grower has evidently hit upon the right way to manage this fine autumn flower. It is, however, news to many of us that it does equally well in stiff clay and in loam over gravel; the system of planting, too, is of the most primitive description. Altogether, Mr. Kelway's remarks ought to encourage every one who possesses a garden to go in for the culture of this flower.

I have grown the Gladiolus for many years, and my experience with it is rather different from that of Mr. Kelway. He believes neither in disease nor degeneration. Now, if neither the one nor the other has been experienced at Langport, it does not follow that other growers have had no experience with them. I know many growers of this flower, and most of them know too well what degeneration is. When I used to grow for exhibition, I found it necessary to order a collection of French-grown bulbs every year, though at the same time I had plenty of the same varieties grown in our own garden the previous year. The home-grown bulbs looked healthy enough, but when planted in the same beds and under the same conditions as the Continental bulbs, the difference at blooming-time was very perceptible, our own stock being weakly in growth, with the leaves of a much paler green than the others. Indeed, I never expected to cut an exhibition spike from a Gladiolus, after it had once flowered in our own garden. It was because of this, that I threw away all the seedlings that I obtained first-class certificates for in London. I am certain that it is a mistake to give certificates for single spikes of Gladioli, and would suggest that three spikes of any variety should be staged, before a certificate was awarded. I had a letter last week from a grower in the North, and in it he says:—"You are quite right about the degeneration of the Gladiolus. I cannot get exhibition spikes from my bulbs, after they have been once grown in this country." So much for degeneration.

Then as to disease, that, too, is well known; the bulbs turn black, and die outright. This disease has been looked into by scientific men, and decided to be caused by some fungus. How can such a thing be "a misnomer?" Are typhoid fever or the potato disease misnomers? Mr. Kelway refers to nostrums to be placed under and over the bulbs. Who recommended them? I place clean sand under and over the bulbs, and fill up the drills with pure rotten yellow loam, for if I did not do this, I should lose many more than I do. The only person whom I ever knew to recommend nostrums for the Gladiolus is Mr. Kelway himself, in the form of his Gladiolus manure. I should not have noticed these points in Mr. Kelway's letter, if it had not called in question what I had previously written on this subject, and been apparently written with that object. If not, will Mr. Kelway say what are the nostrums he refers to, and who recommends them? Sand and loam are not nostrums. Patent manure, the composition of which is kept a secret, is what I understand to be a nostrum.

A correspondent in a contemporary has also attacked me on the question of disease and degeneration. He says Mr. Kelway has stated that all roots increase in size in proportion to the quantity of foliage, "*whether they are lifted or not.*" That is, you lift a bulb from the ground, taking it with its leaves, and laying the plant out to dry. The bulbs will then increase in size, the same as if they were still in the ground. Is this so?—J. DOUGLAS, *Ilford.*

VINES AND VINE-CULTURE.

CHAP. XVIII.—THE VARIETIES OF GRAPES.

(*Continued.*)

THE descriptions of the varieties of Grapes included in our Synoptical Table are here continued, from page 165.

CHASSELAS MUSQUÉ (62).—A round white Muscat Grape.—*Synonyms:* Chasselas Musqué de Nantes, Cranford Muscat, Eugenien Frontignan, Josling's St. Alban's, Muscat Muscadine, Muscat Fleur d'Oranger, Muscat Regnier, Muscat Orange du Portugal, Primavis Muscat.

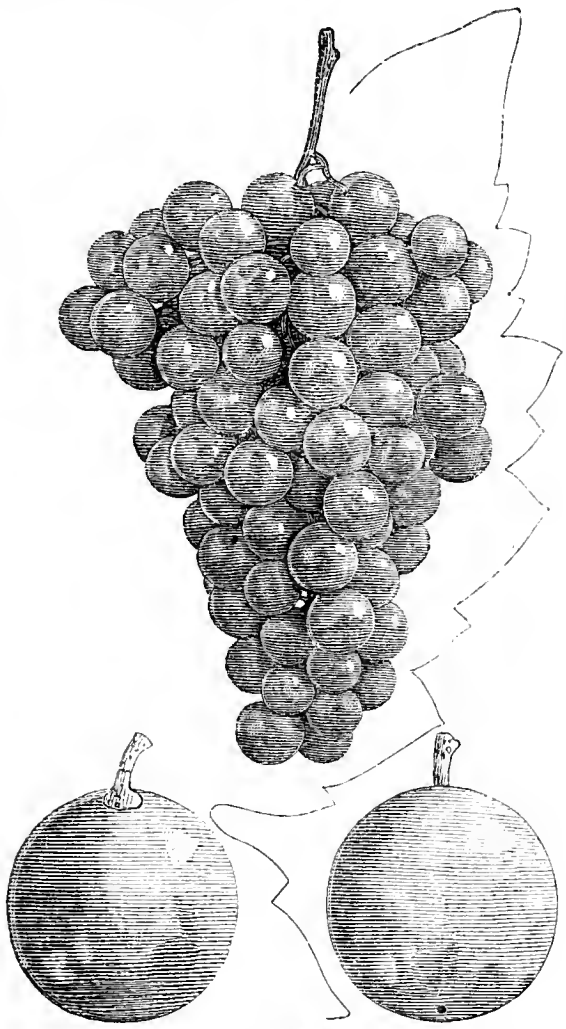
Vine.—Growth moderately robust and free; the shoots occasionally being very strong; free fruiting. *Leaves* rather small, roundish, or but slightly lobed, ripening off rather early, of a very pale yellow colour.

Fruit.—Bunches medium-sized, tapering, on rather long, but strong foot-stalks, and well shouldered; generally well set. *Berries* small, round, pale greenish white, changing to amber, and frequently with a tinge of russet when fully ripe. *Skin* thin, and very subject to crack, just as it is approaching maturity, so that before being fully ripe three parts of the berries have to be cut out, and the bunch is a mere skeleton.

Flesh.—Very firm, almost crisp; pale straw-coloured, very rich and sparkling in flavour, and with a strong muscat aroma.

History, &c.—This is an old grape, which has been long cultivated in this country, and also on the Continent, under a multitude of synonyms. It re-

produces itself with tolerable correctness from seed and the raisers are apt, for a time, to believe in some improvement, hence the number of synonyms. In 1845, it appeared as Josling's St. Alban's, and was described in the *Gardeners' Chronicle*, and subsequently in the *Journal of the Horticultural Society*, by Mr. R. Thompson, as a new and excellent grape, greatly superior to the Frontignans, and hence obtained immense popularity.



CHASSELAS MUSQUÉ.

Cultural Notes.—Apart from its liability to crack, this Grape requires no special cultivation. It succeeds well in pots, and ripens well in the ordinary vinery. To prevent cracking, it is recommended to be grown in a rather poor inside border, so that little water may reach the roots whilst the berries are swelling and ripening. Ringing and notching the shoots just below the bunch, and even the stalks of the bunch itself, have also been recommended.

Season.—Early.

Merits.—First-rate as to quality, but generally unsatisfactory.

CHASSELAS MUSQUÉ DE NANTES.—A synonym of Chasselas Musqué: which see.

CHASSELAS PANACHÉ. — A synonym of Aleppo: which see.

CHASSELAS ROSE (37).—A round red Sweetwater Grape. — *Synonyms:* Chasselas Rose de Falloux, Chasselas Rose Jalabert, Chasselas Rouge, Chasselas Rouge Royal, Chasselas Violet, Red Chasselas.

Vine.—Growth very free and vigorous, producing fine, well-ripened wood; exceedingly fruitful.

Fruit.—Bunches medium-sized, always well set. *Berries* small round. *Skin* thin, transparent, of a very clear rosy red, when well ripened and very pretty. *Flesh* firm and juicy, with a very pleasant Sweetwater flavour. This is, in all respects, except colour, similar to Royal Muscadine.

History, &c.—Received from M. André Leroy, of Angers, and cultivated at Chiswick for a good many years.

Cultural Notes. — Succeeds admirably as an orchard-house or cool greenhouse grape, ripening somewhat more freely than the Royal Muscadine.

Season.—Early.

Merits.—Very desirable to cultivate as a pleasing contrast amongst black and white varieties.

CHASSELAS ROSE DE FALLOUX.—A synonym of Chasselas Rose: which see.

CHASSELAS ROSE JALABERT.—A synonym of Chasselas Rose: which see.

CHASSELAS ROUGE.—A synonym of Chasselas Rose: which see.

CHASSELAS ROUGE ROYAL.—A synonym of Chasselas Rose: which see.

CHASSELAS VIOLET.—A synonym of Chasselas Rose: which see.

CHAVOUSH (87).—An oval white Vinous Grape.

Vine.—Growth strong and vigorous, producing thick, rank shoots; moderately fruitful. *Leaves* large, dying off pale yellow.

Fruit.—Bunches large, long, loosely shouldered, and altogether thinly set. *Berries* long and large. *Skin* thick, pale greenish-yellow, sometimes very dull and sickly. *Flesh*, when well ripened, sweet and pleasant, and very firm, adhering; but generally it is rather squashy and tasteless.

History, &c.—Introduced from Turkey, about 15 years ago, with very great recommendations, as being the favourite grape of the Sultan, &c. It has, however, proved worthless in this country, and is now scarcely in cultivation.

Cultural Notes.—Requires heat equal to Muscat of Alexandria to ripen it thoroughly.

Season.—Late.

Merits.—Worthless.

CIOTAT (24).—A round white Sweetwater Grape. — *Synonyms:* Malmsey Muscadine, Parsley-leaved.

Vine.—Growth free and vigorous, producing small, but always well-ripened wood, very fruitful. *Leaves* rather small, bright green, very deeply cut or laciniated, giving it a very distinct appearance.

Fruit.—Bunches small and thin, but setting freely. *Berries* small, round. *Skin* thin, transparent white. *Flesh* firm, sweet, and pleasant.

History, &c.—A very old sort, apparently a sport from Royal Muscadine, which it resembles in every respect but the deeply-cut leaves, and probably rather smaller berries.

Cultural Notes.—This vine is very frequently grown as a purely ornamental variety for the beauty of the foliage. It fruits freely on open walls, and also in cool greenhouses.

Season.—Early.

Merits.—Second-rate in quality; not worthy of cultivation, excepting as a curiosity.

CRANFORD MUSCAT.—A synonym of Chasselas Musqué: which see.

CUMBERLAND LODGE.—A synonym o Black Hamburgh: which see.

CURRANT.—A synonym of Black Corinth: which see.

—A. F. BARRON.

THE CULTURE OF WALL FRUITS.

CHAPTER XXII.—THE PLUM (*Concluded*).

A FEW words on aspects may be useful. I consider that the trees should be about equally divided between eastern and western aspects, or those which approach nearest to them. It often occurs at this place, when the spring happens to be characterised by unusually biting and severe easterly winds, that we get scarcely any fruit on the eastern aspects, whilst on the western the reverse is the case, the trees carrying heavy crops; in fact, I do not remember a season in which both aspects have failed entirely, and sometimes, as in the present season, they both carry heavy crops. I have tried a few trees on the north wall, but it is a waste of space and labour. A few trees of some of the best early dessert Plums planted against a south wall will generally be found useful towards keeping up an unbroken succession for the table.

Where the fan-shaped system of training is adopted for Plums on walls, there must be a much larger space allowed for the proper development of the branches, and, therefore, fewer varieties can be obtained from the space; but given the requisite space, the system is calculated to produce a large amount of very fine fruit and well furnished walls. The trees also, from being less restricted in their growth, become rapidly furnished with fine, strong, healthy wood, which will form the foundation of branches to carry a fruitful growth in after-seasons, and also the basis of very handsome and well furnished trees, but which, at the same time, are not so easily and quickly brought into a fruit-bearing state as when they are subjected to a more rigorous system of restriction of root and branch; yet I am compelled to admit that so managed, that is, more in accordance with natural conditions, the trees are more healthy and longer-lived, and that although it is generally some years before they become very fruitful, yet, when such is the case, the very act of fruit-bearing, judiciously regulated, forms the natural restrictive power through which we are enabled to maintain the balance between fruit-bearing and wood-development, so as to keep the tree in a healthy and fruitful state for a long series of years.

In order to derive the full advantage which the system offers, we must adopt a combination of spurring-in most of the superfluous shoots, and training in those properly placed for fruiting purposes. These spurs should not be left too thickly on the main branches, and in the course of time should be removed, when they project so far from the wall as to interfere with the young wood—the supply, for purposes to be presently mentioned, to be kept up on succeeding main branches. It is to the young wood which is annually trained in that we have to look for the best quality and greatest quantity of fruit, and therefore spurring is subordinate to it; at the same time, it is useful, not only as carrying a fair proportion of fruit, but by giving the trees a well-furnished appearance, and by securing additional foliage assisting in sheltering the main branches from the direct rays of the sun, which, when acting directly and powerfully on the exposed branches, is frequently very injurious, by hardening the bark, and preventing its due expansion on all sides. A little reflection will, however, convince the intelligent observer that such a practice—exposing the branches—is directly opposed to the operations of Nature, where trees have free room for development. In the case of these, it would appear that the natural design has been to throw the stem and main branches into the shade as much as possible, and to make them the medium of exposing as much foliage as possible to the influence of light and heat; and, considering the important part which the foliage plays in the economy of growth, it is obvious that the exposure of an abundant and healthy development of it is quite as much to be studied in the management of fruit-trees as the production of fruit. Of course, the latter is the ultimate object; but I am convinced that the more attention is bestowed upon the former, the more satisfactory will be the results. We cannot place trees in an artificial condition by training them out on hot walls, and at the same time neglect those precautions which the trees themselves would develope under purely natural conditions. The retention, therefore, of sufficient foliage during the summer becomes important; and in the case of Plums, is greatly assisted by the retention of a sufficient number of spurs on the main branches to secure that object.

And now, with regard to the training-in of young shoots for future fruit-bearing purposes, we have to remember that although such shoots will occasionally produce fruit-buds on the first year's growth, yet they are only exceptions, and caused by some extraneous pressure opposed to nature; and that, as a rule, the young shoots will only form fruitful buds the year succeeding that in which they are laid in. Here comes a very important consideration in the art of pruning. It is often recommended by the clever, practical men of the day to keep the trees thin of wood, and this is perfectly legitimate and good advice, because the practice affords a proper scope for the two series of young shoots —viz., those which are to produce fruit this year, and the young growth to succeed in due course. Hence it is obvious that pruning is not the hap-hazard affair which many affect to believe, but is capable of being reduced to scientific principles, in the carrying-out of which we have to study and maintain those which are indispensable, and make those conditions which are inevitable subservient to them. Such are pruning, training, washing, and attention to the roots, the latter an important consideration in the case of fan-trained Plum trees, well furnished, and occupying large spaces of walls, which will bear a large amount of surface-dressing with great advantage. On this subject I hope to enter rather more at large in my next paper, in which I purpose to treat of the CHERRY as a wall fruit. —JOHN COX, *Redleaf.*

JASMINUM SAMBAC FLORE-PLENO.

AMONGST sweet-smelling plants, there are few that possess such an exquisite perfume as this Jasmine. Its scent is not so powerful as that yielded by some things, but there is a delicacy about it held by many people to be unequalled. It has not been so generally met with in gardens where there exists the means for growing stove plants as might be expected, the reason for which may be set down to its not being so showy-looking as many subjects, which, on this account, get the preference. There has, however, recently been a disposition evinced by many cultivators to select plants more in accordance with their intrinsic merits, than simply for their general appearance, however taking to the eye that may happen to be. This is evidently the right course, for although bright colours and pleasing forms will always, as they ought, be held in due estimation, yet it seems an anomaly to find, as is not unfrequently the case, whole houses full of plants, with very few that possess perfume worth the name.

This plant, like the single form of *Jasminum Sambac*, comes from India, and on that account requires a considerable amount of warmth. It has a somewhat straggling spare habit of growth, never occupying nearly so much space as many things—a decided gain, where room is an object. One advantage it presents is that though it never carries such a head of bloom at once, as many plants do, its flowers are produced in succession over so long a period that all can be used for cutting, for which purpose it is well adapted. In bouquet work it is particularly useful. In size the flowers are not unlike those of a Tuberose, white in colour, and produced from almost every bit of growth that is formed. When a shoot bearing bloom is cut, the plant at once pushes young wood from the joint below, which in turn sets buds, when it has extended a few joints. It is a spare rooter, never requiring nearly so much room as the stronger-growing species, and is best adapted for training up a pillar in the stove or intermediate house, in which position it may either have its roots confined in a pot or be planted out, but in the latter case it should only have a limited space for its roots.

JASMINUM SAMBAC FLORE-PLENO.

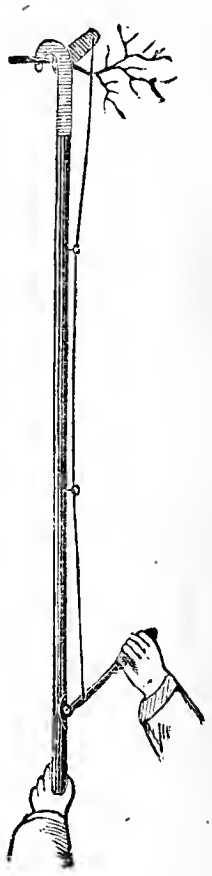
I have found this species to grow more freely in good fibrous loam than in peat, with some fully rotten manure, and sand added proportionate to the nature of the loam. Cuttings may be struck at any time they can be obtained, but blooming almost continuously more or less during the season of growth, especially in the summer, there is often a difficulty in getting young shoots that are not disposed to flower, and on that account not well adapted for growing freely after they have formed

roots. About the end of March, or the beginning of April, old plants will generally have made some young growths that are not so much inclined to bloom as later on. If these are taken off with a heel when some 4 in. or 5 in. long, and inserted in small pots, well drained, and half filled with a mixture of sand and loam, the space above all sand, kept moderately close, moist, and shaded, under a propagating-glass in a temperature of 70°, they will root in a few weeks; when they should gradually be inured to do without the glass, and as soon as they are fully established moved into 3-in. or 4-in. pots, using good soil, such as already advised. Place them where they will get plenty of light, giving them air in the middle of the day, and as the sun gets more powerful, a little shade also will be an advantage. Syringe daily overhead, and stop the points when they have reached 10 in. or 12 in. in height. As the weather gets warmer, give more heat; they will bear as much as most ordinary stove-plants. At the beginning of July give them 6-in. pots, again stopping the shoots. Continue to treat as above directed until the autumn approaches, when shading and syringing must be discontinued, and a little more air given. As the season advances reduce the temperature, which may be 60° right through the winter. Again increase the heat in the spring, and when the roots show signs of requiring more room, move into pots 2 in. or 3 in. larger, treating them in the matters of heat, moisture, and shade as during the previous summer, and giving another shift when it seems to be required. If wanted to cover a pillar or rafter, the plants may be placed in position during the summer; but if they are to be trained as pot specimens, they will require several tall sticks, which should be inserted near the outside of the ball, winding the shoots round them, and simply stopping any that are inclined to outgrow the rest. All that is further required is to give such additional root-room as may be needed, and to regulate the shoots to the position they occupy.

So treated, the plants will last for a good many years, care being taken not to overpot, or allow the soil to get too wet, for the roots are more delicate than those of many stove-plants. They are liable to the attacks of the insects that infest heat-requiring plants. These must be kept down by syringing and sponging, particularly in the summer, being mindful not to injure the leaves, as this is more prejudicial in its effects to this species of Jasminum than to stronger-growing things.—T. BAINES, *Southgate*.

THE STANDARD TREE-PRUNER.

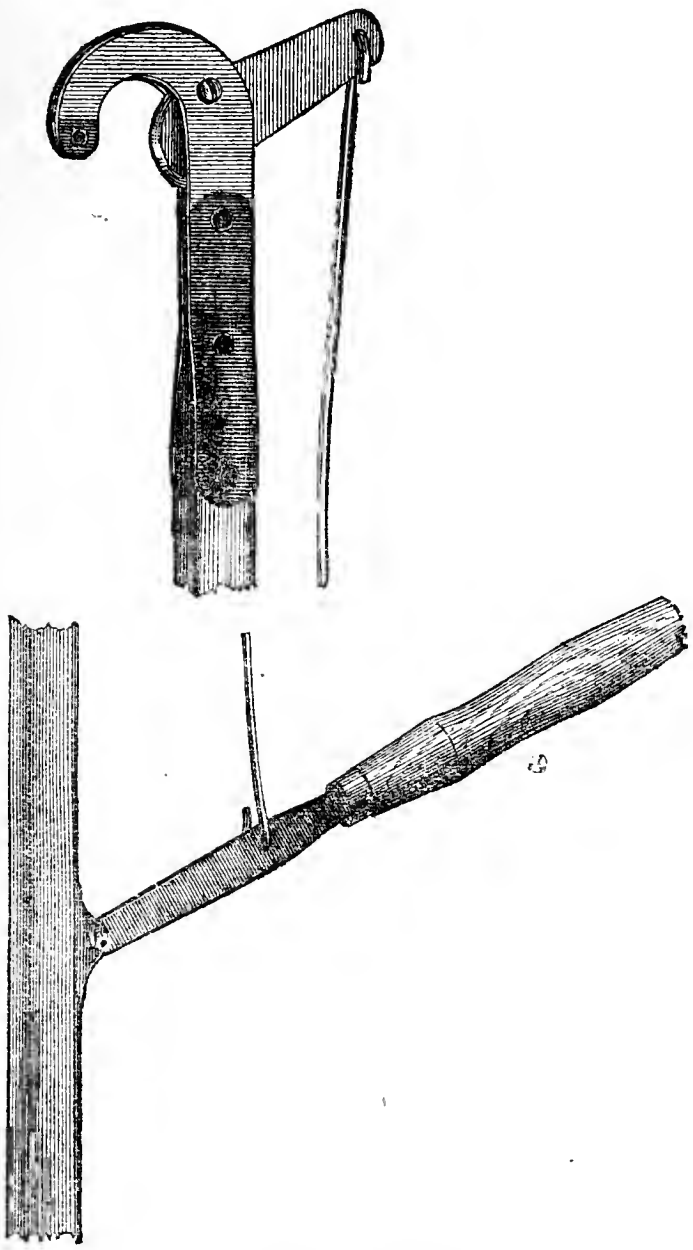
AT this season of the year, when pruning operations will require attention, we are glad to have the opportunity of recommending a very useful garden implement, called the Standard Tree-pruner, which will be clearly understood from the accompanying illustrations and description. It has the great merit of strength and rigidity, combined with lightness, a pruner 10 ft. long weighing but 4½ lb.,; it has the further merits of being simple in its action and thoroughly efficient; and, being worked with a metal rod, it makes a clean cut, and is not liable to get out of order, like other implements of the same character whose cutting-gear is worked by a cord.



The Standard Tree-pruner has, we have said, the merit of simplicity of action. This will be seen by a reference to the figures. It consists of a pole, hook, metal rod, lever, and blade. "The peculiar construction of the hook will at once commend itself to a practical eye; it is of the best steel, and is made double, so that the knife works in the hook. The benefit thus gained is twofold, viz., it affords the knife, which is also of the best steel, a support on both sides, and likewise permits it to be made very thin, thereby reducing the resistance of the wood, and making an easier and smoother cut than is possible by any other device. The knife being connected with and operated upon by a metal rod attached to the lever, it will readily be seen that the power afforded is immense, and infinitely greater than is possible to be obtained by an implement worked by a cord or spring, whilst the branch, being encircled by the hook is altogether under the control of the operator, and cannot escape until the portion to be removed is severed."

One great recommendation of the implement will be, that up to a height of 12 ft. or 14 ft. it does away with the necessity for steps and ladders, and thus greatly facilitates the execution of the work. In using it, the hook should be placed over the twig or branchlet to

be cut, and the lever drawn down; and in this way, wood 1 in. in diameter may be easily cut, without crushing or splintering. It is also claimed for it that it may be usefully adopted for pruning wall or standard Pear and other fruit trees, without the use of ladders or steps; and where the trees are planted a short distance from the path, the pruning can be done without requiring the operator to step upon the border. It may also be used for lopping off low-growing or superfluous branches along carriage-drives and avenues, the serious damage and inconvenience resulting to valuable trees from the use of ladders being entirely obviated. The smaller sizes may be used for pruning Raspberry, Gooseberry, and Rose bushes, the thorns of which are annoying, as well as for trimming Holly Bushes, Laurels, and other ornamental trees. It will be seen that the cutting portion of the blade is that which works within the curve of the hook, this part being brought upwards by pulling down the lever. We can add, from personal experience, that the implement does its work in a thoroughly efficient manner.—T. Moore.



Standard Tree-pruner.

MODEL FORM FOR A TULIP.

WHETHER from defective memory or imperfect acquaintance with the literature and history of the Tulip, I know not, but Mr. Hepworth, in his paper on this subject (see p. 171), so strangely perverts the facts, that in the interests of the present generation of florists, I crave your permission to correct his errors. Stated in brief, Mr. Hepworth tells us that thirty years ago, the form of the Tulip was a subject of warm but friendly dispute. Mr. Butler, Mr. Glenny, Mr. Slater, and finally, Dr. Hardy, took part in the battle of words, the conclusion being that Glenny's model was "considered to be the best," Glenny having declared "that the correct shape of cup for a good Tulip, when sufficiently in bloom for the exhibition stage, was just one-half of a hollow ball, and no more."

On this I have to remark that this is not Mr. Glenny's standard at all. Mr. Glenny's standard—set out by him in the *Gardener's Gazette* in 1841, and subsequently reproduced in the *Gardener and Practical Florist* for 1843—was this:—"The cup [of the Tulip] should form, when quite expanded, one-third of a hollow ball;" and he reasoned for this form at length, and with considerable force, in the paper of 1843. True, at a later date, in the *Gardener's Almanack* for 1847, Mr. Glenny, instead of condemning the half of a hollow globe, as he had done in 1841 and 1843, contended "that one-third to one-hal of a hollow ball is *alike good all* through.' But even if a standard, admitting such a latitude of judgment, were not utterly objectionable, Mr. Glenny had propounded another condition, which made it impossible, and entirely at variance with the harmony of Nature. He required that the petals should be *level on the margin*, and his diagrams represented a "straight-margined cup."

Dr. Hardy demonstrated with a power and lucidity of reasoning beyond all question, that this requirement was in opposition to the laws

of Nature, as seen in the organisation of the petals of the Tulip; and from the hour of the publication of his masterly essay (*Midland Florist*, 1847, pp. 105, 141), I never heard a question raised as to the standard of perfect form in the Tulip, at any meeting of the National Tulip Society or elsewhere, by any one with the least pretension to speak with authority. My late most intimate friend, Mr. John Frederick Wood, editor of the *Midland Florist*, himself a writer on the Tulip, and possessed of an experience inferior to no one of his day, and a judge at every meeting of the National Tulip Society, from its institution until he left England in 1855, was the first to proclaim his adhesion to the "Hardy standard,"—a standard, indeed, so symmetrical, harmonious, and consistent with reason and cultivated taste, that fault could not be found in, or exception taken to it, and everywhere, where the qualification I have noted existed, it was adopted with acclamation. Summarised, the Hardy standard was as follows, viz.:—

1. "Every Tulip, when in its greatest perfection, should be circular in its outline throughout; its depth being equal to half its width across from the tip, or highest point, of one petal to the tip of the other immediately opposite."

2. "It should be composed of six petals, three inner and three outer, which shall all be of the same height, and have such a form as will enable them to preserve this circular outline; their edges being even, stiff, and smooth; and their surfaces free from shoulder, or inequality of every kind."

3. "The breadth of the petals shall be amply sufficient to prevent any interstices being seen between them, so long as the flower retains its freshness."

4. "There should be exact uniformity between the outline of the cup and the outline of the upper margin of the petal, which should form an arc or curve, whose radius is equal to half the diameter, or whole depth of the flower."

In later years Dr. Hardy completed his work by contributing papers on the "Markings of the Tulip," and "What Constitutes the Leading Property of the Tulip," papers of which, at some future day, if health and strength admit and I have your permission, I will endeavour, in the interest of younger florists, to make abstracts, as, like the essays by the Rev. George Jeans, recently published by you, they demonstrate, in the clearest and most simple form, the laws on which the properties of florists' flowers rest, and form a rule and guide for the beginner beyond all question or mistake.—E. S. DODWELL.

SUBURBAN GARDENING.

DECEMBER.—November has proved a very changeable month, with alternations of fog and clear skies, heat and cold, keen north winds and warm south-westerly gales. The leaves that hung thickly on the trees at the beginning of the month are ankle-deep in woodland ways; autumn and winter have compounded, the former will soon hand over the reins of government to the latter.

Kitchen Garden.—It appears superfluous to advise the gardener to lose no opportunity of trenching every spare yard of ground devoted to vegetable culture while the weather is favourable, but it is very important to do so. Now also is the time to plant *Seakale*, *Rhubarb*, and *Asparagus* for forcing; and if beds of these can be made in a vinery, providing a gentle bottom-heat by means of leaves and a little dung, early crops can be secured. Those who have *Lettuces*, *Cauliflower*, &c., in frames will need to watch for slugs; while the weather is mild they will be very active, and work much harm. Advantage should be taken of frosty weather to prune *Currant* and *Gooseberry* trees, and if it be necessary to make new plantations of these, the ground should be prepared by trenching it fully two feet deep, adding a good dressing of suitable manure, or any decayed vegetable matter that may have accumulated. Those who sow *Beans* in the autumn should use the *Seville Longpod*, and not the Early Mazagan, as is sometimes recommended, the latter not being so early as is generally supposed; and for a *Pea*, *Laxton's William I.*, instead of Sangster's No. 1.

Fruit Garden.—Those who have to deal with Suburban villa gardens discovered long ago that the garden walls are built up with mortar of the worst description, and that when nails are driven into it it comes away, leaving openings in which insects secrete themselves and take up their winter quarters. Villa gardeners know to their sorrow what a nuisance these pests are in summer. At this time of the year, it is a good plan to draw all the nails, destroy the shreds, and place the nails in boiling water and then in linseed oil, before using them again, and to have the walls pointed over with good mortar. If it is thought inadvisable to do the pruning of *Fruit-trees* too early, they should be gone over, and any cross shoots and branches cut out, so that air can circulate freely among them. Any fruit-trees infected

M. H. Fitch, del.

Chromo P. Sarcobant, Chent

Raspberry Baumforth's Seedling

with scale, American blight, &c., should be dressed over with an insecticide like Gishurst Compound, and a good coating given. Such mulching of and digging about the trees as may be desirable, should be done while the weather is dry and open.

Flower Garden.—With the opening of December comes the time of year when but little flower remains in the garden. It is well, perhaps, that there is a pause in the great floral revelation bountiful Nature so generously brings before the vision of the children of men. It allows of time for alterations and improvements, and for re-arranging the subjects when necessary to do so. A good background of shrubs is often a great improvement to a flower border, and now is the time to plant any new additions. The shrubbery and grass-plat form parts of the Flower Garden, and as the former suffers from exhaustion of the stimulating properties in the soil, a dressing of dung should occasionally be added to replenish it. The turf occasionally needs levelling and relaying, and it is now that this should be done. The grass-plat should be swept and rolled at intervals. All these attentions have much to do with the provision of a smooth velvety lawn.

Cold Frames.—The subjects found here at this season of the year need constantly looking over, to remove decaying leaves and stir the surface-soil. When the weather is mild, and light soft rains are falling, a shower will do no harm, if the lights are taken off for a time. A sprinkling overhead of this kind helps to keep green-fly in check, while it materially refreshes the plants. A few more *Hyacinths*, *Narcissi*, and *Tulips* may be potted for succession, also some of the Cape bulbs, such as *Ixias*, *Sparaxis*, *Tritonia*, *Babiana*, &c. Seedling *Primroses*, *Polyanthuses*, *Auriculas*, &c., should be pricked off into pans, or pots, if large enough to handle, as it will encourage them to grow into size, and they will flower all the sooner and better. The glass of the frames should be kept clean, so that as much light as possible may fall on the plants, and air should be given at all times, except when the weather is frosty.

Greenhouse.—*Chrysanthemums* are late, on the whole, this year, and in a house that can be warmed with a little artificial heat, blooms can be had till Christmas, as there are both early and late varieties. In the case of a cold house, it should be kept as dry as possible in damp weather, as a moist atmosphere damages the flowers in foggy chilly weather. A cold house is of necessity a dreary place in mid-winter, but a house to which a little artificial heat can be applied by means of a flue or hot-water apparatus, can be made to smile all through the winter with cheerful expressions of floral beauty. We may mention such useful subjects as *Erica gracilis*, and *hyemalis*, *Epacrises*, *Chinese Primroses*, *Cyclamens*, *Roman Hyacinths*, *Solanums* in berry, &c., as showing what can be had in flower in December. In a cold house but little water will be necessary, except the day be warm and dry; the pots should be kept clean, the surface soil stirred and kept fresh, and all decaying leaves removed. When water is given, it should be before noon, so that the soil may drain somewhat, and the shelves become dry before nightfall.—SUBURBANUS.

RASPBERRY BAUMFORTH'S SEEDLING.

[PLATE 528.]

IN the course of last summer, we received from Mr. E. P. Dixon, of Hull, some remarkably fine fruit of a new Raspberry, which has now been named Baumforth's Seedling. Subsequently, Mr. Dixon forwarded the bearing branches, from which our figure was drawn; but, as the fruit was then a little past its best, they were individually smaller than in the sample originally received, some of which measured as much as an inch and one-eighth in diameter. It is a vigorous growing sort, and a very free bearer, the large, handsome fruits being remarkable for their broad, roundish, rather than conical outline. The colour of the drupes, which are of large size (three-sixteenths of an inch across), and very juicy, is of a deep lake-crimson; and the flavour is rich and full, with a fine aroma. Altogether, the merits of this variety entitle it to a front-rank position.

We learn from Mr. Dixon that the variety now figured, and which is being distributed this season, was selected about fifteen years ago from a batch of seedlings of Northumberland Fillbasket. The stock has, since then, been carefully grown, and each season has been well tested. It has been repeatedly exhibited at the leading shows in Yorkshire, and has invariably taken first prizes. The plant is of a stronger constitution than its parent, and more prolific, the fruit being about ten days earlier, and, at least, one-third larger—that is, broader, more uniform in shape and size, and of a deeper and richer crimson colour, while the separate succulent carpels or drupes, of which the fruit is composed, are large and prominent. The plants frequently bear fruit in the autumn from the current season's growth.

The raiser of this Raspberry was Mr. John

Baumforth, of Pontefract, who states that he was led to select it from a batch of Northumberland Fillbasket Seedlings, from its being of a most remarkably vigorous constitution, and producing very large, dark-coloured foliage. The two sorts were grown together by him for several years, and he always found the seedling to be about ten days earlier than the parent, and to continue bearing later in the season. During this period he had ample proof of its being not only a distinct variety, but superior in all points to Northumberland Fillbasket. Our figure shows that it is both handsome and prolific, and from having seen and tasted it, we can endorse what has been said above respecting its size and quality.—T. MOORE.

RASPBERRY GROWING.

THIS native fruit has such a delicious aroma that one could tell of its presence in the fruit-room even though blindfolded. In the various combinations, with sugar, vinegar, &c., in which it is met with in every day life, it needs no recommendation, being so thoroughly well-known. Here, in Manchester, it is usually brought to market in cabbage-leaves, and, being gathered without the core, is the worst fruit to change hands that comes to market, so much so that I have had to buy a jar to put my purchased Raspberries in, for their own weight pressed the juice out of the fruit. This, however, is easily remedied if we only leave the core in its place till the fruit is side by side with the preserving-pan. Yet I have little faith in ever seeing this method of marketing the fruit adopted, so difficult is it to root out old customs, although the change would benefit the buyer as well as the seller, there being then no more guessing, but honest weight and measure. The goods, too, being exposed for sale in the ordinary fruit-baskets (punnets) could be easily carried from town to town. Where the fruit is grown in one's own garden, the cabbage leaf will do very well, becausc there would be little handling; but the Raspberry differs from most fruits in its management after it is ripe and ready for the still-room. I am not sufficiently well up in kitchen lore to say who takes credit for being author, or more likely authoress, of that sage remark, the text of all genuine cookery, "First catch your hare," and that being done consult the cookery-book for the next step towards dining on hare soup; but in like manner, it may be said, first get fine fruit, and then preserve it.

If one accidentally happens to take up a treatise on fruit-growing, we shall find such instructions for Raspberries as the following:—"Dig about them." This is sufficient to mark the value of the advice, for the next year's crop is borne upon the young wood, and, therefore, the plants must not be "*dug about*," as the young shoots grow snugly under the surface, unlike the Strawberry, which is all exposed in its travels. The suggestion of Mercy pleading for the unfruitful Fig-tree, does not admit of a literal application to the Raspberry, to "dig about it and dung it;" for although the manuring would be just what is wanted, the digging would be ruinous to its creeping stolons and its fine fibrous roots. In an ancient burial-ground at Tor Abbey, Devon, the graveyard of the community was in my time planted with the smooth-cane, double-bearing Raspberry, and it grew to a fishing-rod size, but whether from the fine climate of Torquay, or from the native guano of the monks there returned to dust, I know not; but such canes and such clusters of large fruit I have never seen equalled. Barnet was once famous for fine plants of Raspberries, as a nurseryman there made them a speciality. It was only the other day that I saw some drains opened, and where the drainage was shallow and worked sluggishly the Raspberry plants languished, showing that a water-logged medium was not suited for them.

In planting, the rows should be wide apart, because the bearing wood must be tied to stakes or wire rods upright, while the young shoots for next year straggle and must be confined within bounds, yet so as to have plenty of air and light. Although the small kinds may be propped with stakes 4 ft. high, the large, smooth caned sorts will reach 6 or 7 ft. The Antwerps, red and white, attain as large a size, and often bear a crop in autumn in good situations. Plant on raised ridges, so as to have depth enough; lay plenty of old dung on the line of ridge, and on the top of that place the plants to your satisfaction, and cover in lightly say 4 in. of soil, and as the plants are cheap, put in plants for immediate effect.

There are only some five or six sorts worth

growing, but of these some come in early and some late, and are thereby useful to be cultivated as auxiliaries to the main crop. In fine autumns and mild winters, in the Home Counties, Raspberries have ripened in November.—ALEX. FORSYTH, *Salford.*

GARDEN GOSSIP.

THE Annual Exhibition of Apples and Pears held at Hereford, by the Woolhope Naturalists' Field Club, took place on October 27th. Nearly 2,000 dishes of fruit were exhibited, and the greater portion of the exhibits were of the highest possible excellence. In the first division, set apart for "professional" exhibitors, the first prize, for a collection of dessert Apples, went to Mr. Lewis Killick, Maidstone, whose collection consisted of twenty-eight dishes, all good, and many of them handsome and highly coloured. The sorts were—Duchess of Oldenburg, Worcester Pearmain, Blenheim Pippin, Golden Knob, Mattot's Pearmain, Aromatic Russet, Cox's Orange Pippin, Yellow Ingestre, Border Pippin, Hubbard's Pearmain, Ribston Pippin, King of the Pippins, Dungay, Sturmer Pippin, Duchess of Gloucester, Golden Russet, Royal Russet, Court-pendu-plat, Wyken Pippin, Wanstall, Mannington's Pearmain, Lady Derby, Bordeaux Reinette, Sharp's Pippin, Scarlet Nonpareil, Margil, Court of Wick, and Fearn's Pippin. The first prize for a collection of culinary Apples was also taken by Mr. Killick, with thirty-four dishes of large, handsome, excellent fruits, including Northern Greening, French Crab, Wellington, Seely's, Tower of Glamis, Ecklinville Seedling, Yorkshire Greening, Cox's Pomona, Lord Derby, Woodcock, Lord Suffield, Royal Russet, Golden Noble, King of the Pippins, White Apple, Lucombe's Seedling, Hoary Morning, Bedfordshire Foundling, Stone's or Loddington Seedling, Blenheim Pippin, Golden Spire, Winter Quoining, French Royal, Hanwell Souring, Beauty of Kent, Mère de Ménage, Warner's King, Queen Charlotte, Cellini, Graham, Gooseberry Pippin, Norfolk Beefing, New Hawthornden, and Winter Nonesuch. In the second division for amateurs, the 1st prize, for a collection of dessert Pears, was won by Sir H. Seudamore Stanhope, Bart., with a superb collection of 24 dishes, every fruit a perfect typical specimen; this was, taken altogether, the most interesting collection in the exhibition, and the whole of the fruits were grown on the cordon trees at Holm Lacy. The collection consisted of Doyenné Gris, Easter Beurré, Beurré Bachelier, Glou Morceau, Beurré d'Aremberg, Doyenné Blanc, Doyenné d'Alençon, Duchesse d'Angoulême, Beurré Diel, Triomphe de Jodoigne, Beurré Superfin, Beurré Sterekmans, Van Mons, Zéphirin Grégoire, Beurré Clairgeau, Doyenné du Comice, Doyenné Boussoch, Columbia, Marie Louise, Duchesse d'Orleans, Monarch, Beurré Bosc, General Todtleben, Joséphine de Malines. In the classes staged "for present flavour," the best Apples were Cox's Orange Pippin and Margil, which were placed equal; and the best Pears were Thomson's, Seckle, and Fondante d'Automne, ranged in the order named. The heaviest dish of five Apples (Warner's King) weighed 7 lb. 3 oz., the heaviest Apple (Gloria Mundi), 1 lb. 12 oz.; the heaviest dish of five Pears (Uvedale's St. Germain), 7 lb. 14 oz.; the heaviest Pear (one of the same kind), 1 lb. 12 oz.

— THE ROYAL BOTANIC SOCIETY has arranged to hold the following exhibitions next year:—Spring shows on March 30 and April 27; Summer shows on May 25 and June 22; and an evening fête on June 15.

— AT the exhibition of the PEEBLES LEEK CLUB on October 21st (34th competition), the six heaviest Leeks, entire, blanched not less than 6 in., were shown by J. M'Cormick, Hay Lodge, Peebles, who was awarded 1st prize, and whose six leeks weighed 16 lb. 6 oz.; 2nd, John Johnston, Bridgend, Peebles, 16 lb. 5 oz.; 3rd, George Ballantyne, Kingsmuir Hall, Peebles, 15 lb. 9 oz.; 4th, John Elder, St. Mary's Mount, 15 lb. 1½ oz.; 5th, Alex. Wood, Neidpath, 14 lb. 8 oz.; 6th, D. M'Farlane, Kingsmeadows, 13 lb. 14 oz.; 7th, Robert Johnston, Springwood, 12 lb. 13½ oz.; 8th, George Steele, Barns, 12 lb. 2 oz.; 9th, George Brown, Merlindale, 11 lb. 9 oz.; 10th, Alex. Walker, Peebles, 11 lb. 7 oz. Mr. M'Cormick also came in 1st for the heaviest one Leek, which weighed 3 lb. 12½ oz.; and also for the heaviest six Onions, which weighed 8 lb. 6 oz. The 1st place for the heaviest late Cabbage was gained by Mr. George Brown, Merlindale, the weight being 22 lb. 8 oz.

— WE learn from Mr. Anthony Waterer that the hardy double-flowered AZALEA GRAAF VON MERAN is one of the most brilliant of its race in the autumn tints of its foliage. Many of the hardy Azaleas are remarkable for the glowing hues which the dying leaves assume, and this variety is one of the most effective. The colour they take on is a rich bright crimson.

— WE are indebted to Mr. A. Clapham for samples of PROTHALLIA from a crested form of *Athyrium Filix-fœmina*, from the upper surface of which small tufts or rosettes of green scales —buds, in fact, similar to the gemmæ of mosses— have sprung up, and which will probably grow up into crested Ferns, and possibly reproduce the variety from which they spring. On the lower surface of the original prothallium were to be found numerous archegonia, but no antheridia. The supplementary scales bore no trace of sexual organs. This form of reproduction by means of buds produced by the prothallia was first observed by Farlow, and has been included by De Bary under the head of Apogamy.

— ACCORDING to *Harper's Weekly*, it is estimated that the AMERICAN APPLE crop of the present year will amount to two hundred millions of barrels, but thousands of these will rot in the orchards. It seems a great pity that so much fruit must be thus wasted in the year of plenty.

— SOME NEW SINGLE DAHLIAS, of the coccinea type, have blossomed this year in the Chelsea Botanic Garden. *Amaranth* seems to be quite a new colour in this race, and is both dwarf and free-flowering, the florets a bright amaranth, deep golden-yellow towards the base, so that this colour forms a distinct ring around the brighter yellow disk. *Mulberry* is also a novelty, the colour in this case being a deep velvety-maroon, purple at the back, so as to acquire in some lights a good deal of the hue of the Mulberry fruit. *Morning Star* is a very rich and brilliant crimson-scarlet, with broad and overlapping florets. The variety called *Yellow Dwarf*, distributed last year by Mr. Cannell, the only one of the set planted out at Chelsea this year, has fully maintained its character as a decorative or

bedding plant, a dense bush, three feet high, having had on it within a few days of the October frost no fewer than fifty of its bright yellow blossoms.

— THE REV. C. WOLLEY DOD, writing concerning HARDY LILIES, from Edge Hill, Malpas, Cheshire, remarks:—In the Midland and Northern counties, lilies which flower in June and July have a better chance than those which flower in September and October, and there are many which do fairly well here. Besides L. croceum, L. bulliferum and their varieties, and the old-fashioned Turk's Cap, L. Martagon, yellow, purple, and scarlet, there are the many forms of L. elegans; there are L. carniolicum, L. pomponium, L. Szovitzianum, and L. testaceum, or excelsum, a fine and vigorous Lily. The American L. Humboldtii, too, flowers from year to year without deteriorating, and L. pardalium and its varieties flower freely and increase rapidly. Others, as L. candidum, L. superbum, and L. canadense, are more uncertain, being hard to please in the matter of soil. L. tigrinum, of which the double form is very beautiful, requires a warm summer to develope its full growth.

— WE learn from *Nature* that the most remarkable CAMOENSIA MAXIMA, the most striking of the leguminous plants known, has flowered for the first time in cultivation, in the Botanic Gardens, Trinidad, to which it was sent two years ago from Kew. Welwitsch found it abundantly in the forests of Angola. The flowers are nearly 1 ft. long, with a reddish calyx and cream-coloured petals, bordered with gold. The standard is 3 in. or 4 in. broad, which gives some idea of the scale of the other parts. There are living plants also at Kew, but it has not yet flowered there.

— THE American TUBEROSE, THE PEARL, is described as a most desirable variety, which may be grown in small pots, one bulb in a pot, and, by this method of culture, attains the height of about 2 ft., with from 20 to 24 flowers on a spike. The flowers are double, of a beautiful waxy white, and very fragrant. They are most useful for button-holes and bouquets, or for grouping with other plants for decorative purposes. Mr. Vertegans, of Birmingham, is growing this variety rather extensively.

— UNDER the name of NEW DWARF GOLDEN FEATHER, *Pyrethrum aureum compactum selaginoides*, Mr. B. S. Williams has introduced a very handsome dwarf form of this popular bedding-plant, that is likely to supersede the varieties now in cultivation. It is quite dwarf, with a singularly dense and compact habit; while the elegantly-cut leaves have, as indicated by the name, something the effect of a Selaginella. This is decidedly the best of the dwarf forms.

— A NEW bedding plant, now being sent out by Messrs. Veitch and Sons, the ALTERNANTHERA PARONYCHIOIDES MAJOR AUREA, has been a special feature during the past season in the brilliant "carpet" bedding in Battersea Park. The plant has the dwarf, dense habit and robust constitution of the well-known A. paronychioides major, with foliage of a bright golden yellow, which colour it retains throughout the season. Our correspondent, Mr. Westland, gardener to Earl Dudley, at Witley Court, having thoroughly tested it, and finding that its brilliant yellow colouring—a kind of reddish or golden yellow—is sustained throughout the season, recommends it as the most splendid variety in the section of decorative plants to which it belongs. The habit of the plant is compact and pleasing, and in every respect it is most satisfactory.

— M. LECART, a French explorer on the banks of the Niger, has discovered a NEW VINE, which promises to be of great economical value. According to the *Times*, the roots of this plant are tuberous and perennial, its branches annual, its fruit excellent and abundant, and its cultivation as easy as that of the Dahlia. He had found the large Grapes produced by it to be excellent, and suggests that its culture ought to be attempted in all Vine-growing countries, as a possible remedy against the Phylloxera. M. Lecart is sending home seeds for experimont both in France and Algeria, and will bring home specimens of the plant at all stages.

— DR. ERNST mentions the case of a FASCIATED POMPON ROSE, in which the stem, which was two inches broad, produced 156 blossoms, which were gradually developed.

In Memoriam.

— MR. JAMES COCKER, Sen., of the Morningfield Nursery, Aberdeen, died on October 22, at the age of 74. He was the senior partner in the firm of Messrs. James Cocker and Sons, of Aberdeen, and commenced his gardening career by serving an apprenticeship at Castle Forbes. In 1835 he came to Aberdeen, and commenced business as a market gardener at Porthill, removing after a few years to Sunny Park, and entering on the more extensive occupation of a nurseryman. For the past twenty years Mr. Cocker's name has been intimately associated with all matters relating to horticulture, and he always took a leading position among exhibitors at the shows held not only in Aberdeen, but throughout Scotland. Mr. Cocker was a thorough florist, and was the first to introduce into Aberdeen, on a large scale, Dahlias, Pansies, and other objects of the florist's care.

— MR. H. MAY, of the Hope Nurseries, Bedale, Yorkshire, died suddenly on November 3rd, at the age of 53. He was driving to Bedale Market on the previous day, and from some cause or other either fell or was thrown from his vehicle, and was so seriously injured that death ensued. He was known as a keen and successful exhibitor of Roses, Pelargoniums, and Dahlias at the principal Northern shows; indeed, with Roses and Dahlias he not unfrequently came South, and generally won a good position on the prize lists.

— THE Rev. T. C. BRÉHAUT, of Richmond House, Guernsey, died on November 4th, in his 61st year. Mr. Bréhaut, who was chaplain to the prison of the island, was an ardent horticulturist, and did good service in bringing under the notice of English gardeners the French system of pruning the Peach, as described in his *Modern Peach Pruner*. He was a frequent contributor to the horticultural journals, and was, in private life, a man of culture, amiable, and sympathetic. Latterly, his name has been connected with some seedling show Pelargoniums of high merit.